

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of Storm Protection Plan,
pursuant to Rule 25-6.030, F.A.C., Florida
Power & Light Company

Docket No. 20220051-EI

Filed: May 13, 2022

**FLORIDA POWER & LIGHT COMPANY'S RESPONSE
IN OPPOSITION TO THE OFFICE OF PUBLIC COUNSEL'S
MOTION TO COMPEL DISCOVERY AND MOTION TO ENLARGE DISCOVERY
DEADLINES, TESTIMONY DUE DATES AND HEARING DATE**

Florida Power & Light Company ("FPL"), pursuant to Rule 1.280(b)(1), Florida Rules of Civil Procedure, Rules 28-106.204(1) and 28-106.206, Florida Administrative Code ("F.A.C."), and this Commission's Order Establishing Procedure PSC-2022-0119-PCO-EI ("OEP"), submits the following Response in Opposition to the Office of Public Counsel's ("OPC") Motion to Compel to Discovery and Motion to Enlarge Discovery Deadlines, Testimony Due Dates, and Hearing Date (collectively "OPC Motion"). The discovery requests that are the subject of OPC's Motion seek information that is beyond the scope of this proceeding, irrelevant and immaterial to FPL's 2022-2023 Storm Protection Plan ("2023 SPP"), and not reasonably calculated to lead to the discovery of admissible or relevant evidence in this proceeding. As explained below, OPC has failed to demonstrate any causal connection between the information sought and the possible evidence relevant to the issues to be decided in this pending proceeding. Notwithstanding these facts, OPC's motion is also moot for all intents and purposes because, subject to FPL's ongoing objections, FPL has provided or is providing OPC the information that it has requested. For these reasons, as further explained below, OPC's Motion should be promptly denied.

I. BACKGROUND

1. On June 27, 2019, the Governor of Florida signed CS/CS/CS/SB 796 addressing Storm Protection Plan Cost Recovery, which was codified in Section 366.96, Florida Statutes

("F.S."). Therein, the Florida Legislature directed each investor owned utility ("IOU") to file a transmission and distribution ("T&D") SPP that covers the immediate 10-year planning period and explains the systematic approach the utility will follow to achieve the legislative objectives of strengthening electric utility infrastructure to withstand extreme weather conditions by promoting the overhead hardening of transmission and distribution facilities, the undergrounding of certain electrical distribution lines, and vegetation management. *See* Section 366.96, F.S.

2. On March 22, 2022, OPC served its First Set of Interrogatories and First Request for Production of Documents, which included OPC's First Request for Production of Documents No. 1 ("POD No. 1") that is pertinent to OPC's Motion.

3. On April 11, 2022, FPL filed its 2023 SPP (Exhibit MJ-1) in this docket together with supporting testimony and schedules. Pertinent to this response, the 2023 SPP proposed to implement the following two new transmission and distribution ("T&D") hardening programs: the Distribution Winterization Program and the Transmission Winterization Program (hereinafter, collectively the "SPP Winterization Programs"). As explained in FPL's 2023 SPP and supporting testimony, these new SPP Winterization Programs were proposed in the 2023 SPP to enhance FPL's grid resiliency and help mitigate the potential for power outages due to extreme cold weather events similar to the power outages that occurred in Texas during February 2021 as a result of Winter Storm Uri.

4. On April 14, 2022, FPL served its response to OPC POD No. 1, which is provided as "**Appendix A.**"¹ FPL did not file any specific objections to OPC POD No. 1.

5. On April 15, 2022, OPC served its Second Set of Interrogatories and Second Request for Production of Documents, which included OPC's Second Set of Interrogatories No.

¹ The attachments to POD No. 1 include voluminous raw data and Excel file analyses, as well as confidential information subject to a Request for Confidential Classification granted by Order No. PSC-2022-0148-CFO-EI, and have not been reproduced in Appendix A.

13 (“INT No. 13”) and Second Request for Production of Documents No. 6 (“POD No. 6”) that are the subject of OPC’s Motion.

6. On May 5, 2022, FPL served its objections and responses to OPC’s Second Set of Interrogatories and Second Request for Production of Documents, which included both partial objections and responses to OPC INT No. 13 and POD No. 6. FPL’s objections to OPC INT No. 13 and POD No. 6 are attached as “**Appendix B**” and FPL’s responses to OPC INT No. 13 and POD No. 6 are attached as “**Appendix C.**”

7. On May 10, 2022, FPL informally provided OPC, subject to a standing objection on relevancy, with: (a) an electronic copy of FPL’s 2022 TYSP; (b) FPL’s responses to Staff’s First Data Request (Nos. 93-94) and Second Data Request (Nos. 1-18) regarding winterization for the 2022 TYSP; and (c) a PowerPoint deck that was presented to Commission Staff in November 2021, which lead to the development of the final non-SPP winterization measures. FPL’s informal response is provided on pages 1-94 of the attached “**Appendix D.**” FPL also offered to answer discovery related to the SPP Winterization Programs, including questions about the underlying analysis and support for these programs, the relationship or inter-dependency of these programs to the non-SPP winterization programs, and the expected frequency or occurrence of a winter-type event that is being addressed by the proposed SPP Winterization Programs. FPL’s offer to answer additional discovery is provided on pages 1 and 95 of the attached “**Appendix D.**”

8. On May 11, 2022, OPC served its Motion to Compel to Discovery and Motion to Enlarge Discovery Deadlines, Testimony Due Dates, and Hearing Date.

9. Pursuant to 28-106.206, F.A.C., FPL herein submits its Response in Opposition to OPC’s Motion. For the reasons explained below, OPC’s Motion should be denied in its entirety.

II. STANDARD FOR DISCOVERY

10. Rule 28-106.206, F.A.C., governs discovery in administrative proceedings and incorporates Rule 1.280 - 1.400 of the Florida Rules of Civil Procedure. Pursuant to Rule 1.280(b)(1), Florida Rules of Civil Procedure, “[p]arties may obtain discovery regarding any matter, not privileged, that is relevant to the subject matter of the pending action.... It is not ground for objection that the information sought will be inadmissible at the trial if the information sought appears reasonably calculated to lead to the discovery of admissible evidence.” Fla. R. Civ. P. 1.280(b)(1) (emphasis added).

11. The scope of discovery under the Florida Rules of Civil Procedure is liberal. This standard is not, however, without limit. *In re: Complaint of Mad Hatter Utility, Inc., and Paradise Lakes Utility, LLC against Verizon Florida, Inc.*, Docket No. 20090313-PU, Order No. PSC-2010-0021-PCO-PU, 2010 Fla. PUC LEXIS 53 at *2-3 (Fla. P.S.C. Jan, 7, 2010). Indeed, discovery should be denied when it has been established that the information requested is neither relevant to any pending claim or defense nor will it lead to the discovery of admissible evidence. *In re: Petition for rate increase by Tampa Electric Company*, Docket No. 2030040-EI, Order No. PSC-2013-0415-PCO-EI, 2013 Fla. PUC LEXIS 259 at *4 (Fla. P.S.C. Sept. 6, 2013) (citing *Poston v. Wiggins*, 112 So.3d 783, (Fla. 1st DCA 2013)).

12. It is well settled that the burden of establishing relevance is on the questioner. *See, Calderbank v. Cazares*, 435 So.2d 377 (Fla. 5th DCA, 1983). The standard placing the burden on the questioner was clearly explained by the court in the *Calderbank* decision:

A reasonably “calculated” causal connection between the information sought and the possible evidence relevant to the issues in the pending action must “appear” from the nature of both or it must be demonstrated by the person seeking the discovery. If a logical connection is not readily apparent, the questioner should make it apparent by pointing out to the court his reasoning process based on facts and inferences demonstrating how he calculates that the sought information will “reasonably” lead to admissible

evidence. The mere fact that an inquiry that appears to be irrelevant “might” lead to evidence that is relevant and admissible to the issues in the pending suit is not sufficient. Such a rule would place no limitation on the authority of any litigant to invade, by questions, the privacy of a witness.

Id., 379 (emphasis added). This standard has been consistent applied by the Commission.²

13. As explained in detail below, OPC has failed to demonstrate that the discovery requests that are the subject of its Motion to Compel are relevant to FPL’s 2023 SPP or the Commission’s review and determination of whether the 2023 SPP is in the public interest. Therefore, OPC’s Motion should be denied.

III. RESPONSE

A. Response to OPC’s Motion to Compel Discovery

14. OPC INT No. 13 and OPC POD No. 6 request the following information:

INT 13 Please identify the individual(s) primarily responsible for developing the company’s “entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies” and the “holistic approach to winterization” (to the extent it is different from the aforementioned “suite” and which the SPP Winterization Hardening Program is referenced as being “part of”) (as identified on pages 10-12 of 63 in your 2023-2025 Storm Protection Plan). Please also identify the individual(s) primarily responsible for presenting said suite or holistic approach for management and executive review and for receiving authorization to proceed (including expenditure authorization) with such “entire suite” and “approach.”

² See also, *In re: Review of 2020-2029 Storm Protection Plan pursuant to Rule 25-6.030, F.A.C., Gulf Power Company*, Docket No. 20200070-EI, Order No. PSC-2020-0161-PCO-EI, 2020 FLA. PUC LEXIS 270 at *17-18 (Fla. P.S.C. May 18, 2020); *In re: Request for arbitration concerning complaint of Intermedia Communications, Inc. against BellSouth Telecommunications, Inc. for breach of terms of interconnection agreement under Sections 251 and 252 of the Telecommunications Act of 1996, and request for relief*, Docket No. 19991534-TP, Order No. PSC-2000-2035-PCO-TP2000, Fla. PUC LEXIS 706 at *4-5 (Fla. P.S.C. June 13, 2000); *In re: Petition of BellSouth Telecommunications, Inc. to remove interLATA access subsidy received by St. Joseph Telephone & Telegraph Company*, Docket No. 19970808-TL, Order No. PSC-1998-0465-FOF-TL, 1998 Fla. PUC LEXIS 631 at *14 (Fla. P.S.C. March 31, 1998).

POD 6 Please provide each document, and all supporting workpapers of each such document, that fully describes the company’s “entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies” and the “holistic approach to winterization” (to the extent it is different from the aforementioned “suite” and which the SPP Winterization Hardening Program is referenced as being “part of”) (as identified on pages 10-12 of 63 in your 2023-2025 Storm Protection Plan). This includes but is not limited to all of the documents prepared for management and executive review and for receiving authorization to proceed (including expenditure authorization) with such “entire suite” and “holistic approach”.

15. OPC INT No. 13 and POD No. 6 seek detailed information regarding FPL’s “entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies.”

16. To the extent they request information beyond the SPP Winterization Programs actually proposed in FPL’s 2023 SPP, FPL objected to OPC INT No. 13 and POD No. 6 on the basis that they are beyond the scope of this proceeding, irrelevant, immaterial, and not reasonably calculated to lead to the discovery of admissible or relevant evidence. **See Appendix B.**

17. Notwithstanding these objections, FPL nevertheless answered OPC INT No. 13 and POD No. 6 and provided responses that included information and data for the SPP Winterization Programs. **See Appendix C.**

18. With respect to POD No. 6, FPL directed OPC to see FPL’s response to OPC POD No. 2, which provided all the analyses and support documents prepared in support of FPL’s 2023 SPP and supporting testimony. Pertinent to the SPP Winterization Programs, FPL’s response to POD No. 2 included the following documents, which are summarized below:

- “2010 FPL Outages” – includes the raw data and analysis of the outages that occurred on the FPL T&D system during the January 2010 winter event, which was prepared and used by FPL’s Power Delivery Group in the development of the SPP Winterization Programs included in the 2023 SPP.
- “2010 Gulf Outages” – includes all the raw data and analysis of the outages that occurred on the Gulf T&D system during the January 2010 winter

event, which was prepared and used by FPL's Power Delivery Group in the development of the SPP Winterizations Program included in the 2023 SPP.

- “FPL v2_Gulf_Consolidated 1989 Winter Scenario” – includes raw data and an overall winterization analysis of a 1989 winter-type event and its forecasted impacts on the FPL, Gulf, and consolidated systems, which was prepared by FPL's Integrated Resource Planning Group and provided to and used by FPL's Power Delivery Group in the development of the SPP Winterizations Program.
- “FPL Winter Extreme Evaluation 2021” – includes the analysis of the impacts of a 1989 winter-type event that was prepared and used by FPL's Power Delivery Group in the development of the Distribution Winterization Program.
- “Transmission Study Winterization Impacts 8_2021 (CONFIDENTIAL)” – includes the analysis of the impacts of a 1989 winter-type event that was prepared and used by FPL's Power Delivery Group in the development of the Transmission Winterization Program.
- “Winterization 2010 070121” – a presentation that explains the results of the analysis of the 2010 winter event on the FPL and Gulf Power T&D systems.
- “Winterization_PD_MOPR (REDACTED)” – a management presentation that provides the results and recommendations from FPL's Power Delivery Group for the T&D system for extreme winter events.

19. FPL notes that upon receipt of OPC's Motion and upon further discussion with OPC, FPL determined that the “Winterization_PD_MOPR” provided as an attachment to OPC INT POD No. 1 was incorrectly redacted. Upon agreement with OPC, FPL provided an unredacted version to OPC on May 11, 2022, which is attached as “**Appendix E.**” Thus, OPC's motion, which attaches this presentation as an exemplar of why it should be granted, is rendered moot on this point.

20. In its Motion, OPC asserts that FPL's responses to INT No. 13 and POD No. 6 are not responsive because they provide information and data only for the SPP Winterization Programs proposed in FPL's 2023 SPP and do not include information and data for FPL's entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution

systems, fuel procurement systems, supply, and procurement strategies (hereinafter, referred to as “non-SPP winterization measures”). OPC’s argument is fundamentally flawed and should be rejected for multiple reasons.

21. OPC first argues that the entire suite of FPL’s non-SPP winterization measures is relevant and fair game for discovery because FPL noted in its 2023 SPP that the proposed SPP Winterization Programs are only one part of FPL’s overall holistic approach to winterization. Based thereon, OPC surmises that these SPP Winterization Program are “interconnected” and “related” to the non-SPP winterization measures and, therefore, the entire suite of non-SPP winterization measures is relevant to this proceeding. *See* OPC Motion, p. 6.

22. Had OPC even performed a cursory review of the documents that FPL informally provided, it would have been clear to OPC that these documents address non-SPP winterization initiatives FPL is considering, such as:

- Winterization enhancements to the fossil & nuclear generation fleets.
- Acquisition of Power Purchase Agreements for the Winter of 2021/2022.
- Retention of Manatee 1 & 2 through 2030 for use only with very cold Winter conditions.
- Installation of 790 MW of Winter only generation capacity upgrades over several years.
- Conduct pilot testing of ITRON RIVA meters in 2022 to –among other objectives -evaluate increasing feeder rotation capability.

See Appendix D, p. 7.

23. OPC’s request would also facially call for documents, analysis, and information on future large scale battery investments that FPL may or may not make in the 2030s to provide generation capacity options in an extreme cold weather event. **See Appendix D, pp. 39-44, 54.** Any argument that these potential actions are relevant to SPP projects offered by FPL in this case is facially absurd.

24. Importantly, FPL's 2023 SPP does not present or seek approval of the entire suite of winter weather emergency preparedness measures FPL is considering across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies. Rather, FPL's 2023 SPP only seeks approval of two limited winterization hardening programs, the Distribution Winterization Program and the Transmission Winterization Program, as clearly laid out in Sections IV(I) and IV(J) of the FPL's 2023. The fact that FPL transparently and properly represented in the 2023 SPP that the SPP Winterization Programs are a part of a suite winterization measures and FPL's holistic approach to winterization does not, as OPC suggests, somehow make the non-SPP winterization measures relevant to the issues to be decided in this proceeding.

25. In fact, OPC's own Motion concedes that the non-SPP measures are not relevant to supporting the 2023 SPP. On page 8 of its Motion, OPC contends that FPL's response to POD No. 6 that references to the documents produced in "POD No. 1 is inadequate since that request only sought the workpapers supporting the SPP." Thus, OPC's Motion admits that it requested materials relevant to supporting the SPP in POD No. 1, which were provided as explained above, and that it now seeks information beyond those supporting the SPP.

26. The scope and purpose of this proceeding is for the Commission to review the programs actually proposed in the 2023 SPP and make a finding and determination of whether those programs are in the public interest. The Commission's findings and determination in this proceeding will not and, as a matter of due process and evidentiary requirements, cannot include a disposition of programs that are not proposed to be included in the 2023 SPP. Simply stated, the non-SPP winterization measures are not relevant to the issues and findings to be decided in this proceeding. To hold otherwise, as suggested by OPC, would imply that FPL's generation winterization measures are relevant to and should be addressed in this proceeding. Not only would such a result be nonsensical, but it would also be manifestly contrary to Section 366.96, F.S., which

limits SPP only to T&D facilities and vegetation management.

27. Furthermore, as OPC acknowledges on page 5 of its Motion, FPL fully disclosed that the non-T&D winterizations measures are included in and the subject of FPL's 2022-2031 Ten Year Site Plan ("2022 TYSP") filed with the Commission on April 1, 2022. The 2022 TYSP is currently pending before and being reviewed by Staff, and FPL has responded to and is continuing to respond to numerous data requests from Staff regarding these non-SPP winterization measures, which have been provided informally to OPC. **See Appendix D, pp. 54-94.** Thus, there is clearly an available and ongoing forum for the review and analysis of the non-SPP winterization Measures, including an upcoming workshop on June 1, 2020.

28. In a further attempt to assert that the non-SPP winterization measures are relevant to the issues to be decided in this proceeding, OPC next argues that the SPP Winterization Programs are "parts of a holistic suite of projects that are part of a comprehensive program it will seek to receive cost recovery for" and the "Commission and intervenors are entitled to understand the nature of the specific winterization program by reference to the whole if FPL is to receive cost recovery for the proposed expenditures." See OPC Motion, p. 6. OPC goes on to argue multiple times in its Motion that that the information requested about the non-SPP winterization measures is relevant to the eligibility for cost recovery through the Storm Protection Plan Cost Recovery Clause ("SPPCRC") or base rates. See OPC Motion, pp. 8, 9-10.

29. OPC's reliance on cost recovery is misplaced and further highlights why the non-SPP winterization measures are not relevant to the issues to be decided in this case. First, cost recovery for programs and projects included in a SPP, including whether those costs are to be recovered in base rates or through the SPPCRC, are addressed in the annual SPPCRC dockets and not the SPP dockets. See Order No. PSC-2020-0162-PCO-EI, issued May 18, 2020, Docket No. 20200070-EI. Second, even assuming, *arguendo*, that cost recovery is to be addressed in the SPP

docket, which it is not, FPL has not proposed to recover any costs associated with the non-SPP winterization measures through either the SPPCRC or base rates. Indeed, because the non-SPP winterization measures are not included in FPL's 2023 SPP, they definitionally are not eligible for recovery through the SPPCRC. *See* Rule 25-6.031(6), F.A.C. Thus, the non-SPP winterization measures cannot be relevant to the SPP costs to be recovered through the SPPCRC.

30. OPC next argues that it is entitled to the information requested on the non-SPP winterization measures to determine whether the proposed SPP Winterization Programs are driven by FPL's "operation of the system on a day-to-day basis" and "being proposed for 'business as usual' or for other reasons unrelated to the availability of the SPP." *See* OPC Motion, pp. 9-10. OPC's argument is a proverbial red herring. To the extent that OPC seeks to test whether the SPP Winterization Programs are needed for day-to-day reliability or to improve resiliency from extreme weather events, OPC can seek such information about the SPP Winterization Programs actually proposed in the 2023 SPP.

31. FPL has fully described the SPP Winterization Programs in its 2023 SPP and supporting testimony and provided all the underlying data and analyses used to develop and support the SPP Winterization Programs in its response to OPC POD No. 1. There is nothing in FPL's 2023 SPP or the responses to OPC INT No. 13 and POD No. 6 to suggest that either the Distribution Winterization Program or the Transmission Winterization Program are needed for day-to-day reliability or are otherwise dependent upon or inter-related to the non-SPP winterization measures. To this end, FPL offered to answer additional discovery related to the SPP Winterization Programs proposed in FPL's 2023 SPP, including questions about the underlying analysis and support for the SPP Winterization Programs, the lack of any relationship or inter-dependency of these SPP Winterization Programs to the non-SPP winterization Programs, and the expected frequency or occurrence of a winter-type event that is being addressed by the

proposed SPP Winterization Programs. See **Appendix D, pp. 1, 95.**” Rather than speculating that the SPP Winterization Programs are inter-related to and dependent on the non-SPP winterization measures, OPC could have simply asked FPL to address this contention through discovery questions. Instead, OPC chose to file a 47-page motion to compel, thereby creating the potential for delay of which it now complains.

32. Also misplaced is OPC’s reliance on a statement made to investors. Specifically, OPC contends that because a NextEra Energy, Inc. executive stated that some of FPL’s winterization efforts were “designed to support potential increased customer load” and that FPL’s “planned targeted investments for winterization were identified as a result of our detailed assessment of our fleet,” OPC is now allowed to litigate all aspects of FPL’s winterization plan in this SPP docket without regard to whether they are SPP-qualifying or not. See OPC Motion, pp. 8-9. Simply because a public statement made to investors mentioned a general plan for winterization investments without differentiating between SPP and non-SPP winterization measures does not somehow make the non-SPP winterization measures relevant to the issues to be decided in this case. Under OPC’s flawed logic, FPL’s plan to work with generation fuel supply vendors in advance of winter months to ensure adequate delivery of natural gas in an extreme cold weather event was suddenly made an active issue in this docket due to the aforementioned statements. This, of course, defies common sense on its face.

33. It clearly appears that OPC wants to litigate the non-SPP winterization measures and their associated costs. However, FPL is not presenting or requesting approval of any non-SPP winterization measures as part of the FPL 2023 SPP, and OPC’s Motion fails to demonstrate any causal connection between the information sought and the possible evidence relevant to the issues to be decided in this pending proceeding. To the extent OPC wants to litigate the reasonableness and prudence of the non-SPP winterization measures and their associated costs, the appropriate

remedy is for OPC to raise such issues in FPL's next base rate case or other applicable proceeding where FPL actually seeks cost recovery for the non-SPP winterization measures.

34. Finally, even though it is not relevant to the issues to be decided in this case as explained above, FPL has informally provided OPC with the information it has requested. **See Appendix D.** Additionally, FPL offered to promptly provide responses to additional discovery related to the SPP Winterizations Program, including questions about the underlying analysis and support for the SPP Winterization Programs, the lack of any relationship or inter-dependency of these SPP Winterization Programs to the non-SPP winterization measures, and the expected frequency or occurrence of a winter-type event that is being addressed by the proposed SPP Winterization Programs. **See Appendix D, pp. 1, 95.** Further, FPL has agreed to make representatives available for deposition to respond to questions regarding the proposed SPP Winterization Programs, as well as the non-SPP winterization measures subject to FPL's standing objection on relevancy. Thus, OPC's motion to compel is moot for all intents and purposes and should be denied if it is not withdrawn.

35. To be clear, FPL has no objection to providing information regarding the non-SPP winterization measures to OPC, which it has done as noted above, or for OPC to review and challenge such measures provided it is done in an appropriate proceeding. FPL's only objection is to providing information regarding and litigating the non-SPP winterization measures in this docket because they are not relevant to what has been proposed in the 2023 SPP or the issues to be decided in this case.

36. Based on the foregoing, and for the reasons further explained below, OPC has failed to meet its burden to demonstrate that there is a logical connection between the information requested in OPC INT No. 13 and POD No. 6 related to the non-SPP winterization measures, and the issues to be decided in this SPP docket. Accordingly, OPC's Motion to Compel should be

promptly denied in its entirety.

B. Response to OPC Motion to Enlarge Discovery Deadlines, Testimony Due Dates, and Hearing Date

37. OPC requests that the discovery deadline be delayed if the information requested about the non-SPP winterization programs is not produced in a timely fashion. See OPC Motion, p. 12. Putting aside the fact that OPC has not requested a specific discovery deadline or explained why that deadline is appropriate, OPC's request to delay or enlarge the discovery deadline is flawed for multiple reasons. First, as explained above, OPC has failed to meet its burden to demonstrate that there is a logical connection between the information requested in OPC INT No. 13 and POD No. 6 related to the non-SPP winterization measures, and the issues to be decided in this SPP docket. For this reason alone, OPC's request to modify the discovery deadline should be denied. Second, as of the date of this response, OPC has served over 300 interrogatives, including subparts, which vastly exceeds the limit of 200 interrogatories, including subparts, authorized by the OPE in this docket. Of these requests, only 8 interrogatories (35 total requests including subparts) have specifically requested information about FPL's winterization programs. Based on these facts, OPC cannot credibly assert that it needs additional time for discovery on FPL's winterization programs and, in particular, where the discovery OPC seeks is not relevant to the SPP Winterization Programs actually proposed in this proceeding. Further, rather than availing itself to the reasonable compromises that FPL has offered as described in paragraph 7 above, OPC has instead chosen to waste its time filing its motion to compel rather than engaging in meaningful discovery, so its claims of delay and prejudice are unmovable.

38. OPC also requests that the due date for intervenors' testimony, which is currently scheduled for May 31, 2022, "be delayed one day for each day beyond May 5, 2022 when FPL began to improperly delay producing the documents." OPC request to modify the due date for intervenors' testimony is flawed in that it incorrectly assumes that FPL failed to produce

information related to the non-SPP winterization measures. For the reasons explained above, OPC has failed to meet its burden to demonstrate that there is a logical connection between the information requested in OPC INT No. 13 and POD No. 6 related to the non-SPP winterization measures, and the issues to be decided in this SPP docket. Furthermore, the service date of FPL's objections to OPC INT No. 13 and POD No. 6 was in full compliance with Rule 1.340 and Rule 1.350, Florida Rules of Civil Procedure, Rule 28-106.206, Florida Administrative Code, and Order No. PSC-2022-0119-PCO-EI.

39. OPC also requests that the hearing date be delayed commensurate with its request to delay the due date for intervenors' testimony. Again, OPC's request is flawed because OPC has failed to meet its burden to demonstrate that there is a logical connection between the information requested in OPC INT No. 13 and POD No. 6 related to the non-SPP winterization measures, and the issues to be decided in this SPP docket. Additionally, the Commission is statutorily required to reach a final decision within six months of the date the 2023 SPP was filed. Any delay in the hearing date could jeopardize the Commission's ability to meet this statutory requirement. Further, delaying the final decision on the 2023 SPP could also impact the issues and disposition of the SPPCRC currently pending in Docket No. 20220010-EI. OPC makes no effort to explain or address how the Commission can reach a decision in the SPPCRC docket if the hearing in the SPP docket is delayed and the Commission has not reached a final decision on FPL's 2023 SPP until after the hearing on the SPPCRC docket. Indeed, if the Commission rejects or modifies any portion of FPL's 2023 SPP in this proceeding, FPL is required to file a new SPPCRC within 15 days. See Rule 25-6.031(2). Thus, even assuming, *arguendo*, that a delay in the hearing date is warranted in this docket, which it is not, the Commission must carefully measure and balance the impacts that any such delay may have on its statutory obligation to reach a final decision within six months and any potential impact on the SPPCRC docket.

40. OPC further requests, in the alternative, that the Commission strike the winterization portions of FPL's Petition if FPL is not ordered to immediately produce the requested information on the non-SPP winterization measures. The flawed premise underlying OPC's alternative relief can be summed as follows: if FPL won't produce information and data to support programs and measures that are not proposed in the 2023 SPP, then the Commission should strike FPL's petition and testimony regarding the programs that actually are proposed in the 2023 SPP. FPL has clearly provided testimony and exhibits in support of the SPP Winterization Programs that are included in the 2023 SPP, as well as responses to discovery "supporting the SPP" as requested by POD No. 1. See OPC Motion, p. 8. The Commission can and will review and weigh this evidence when it is offered into the record and decide whether it is sufficient to meet FPL's burden to demonstrate that the SPP Winterization Programs are in the public interest.

41. Finally, OPC's request for a hearing to consider its Motion is entirely unnecessary and will only further delay this proceeding. The issue to be decided in this case is simple: are non SPP initiatives relevant to the issues to be decided in this case. FPL submits that the merits of OPC's Motion and associated requests can and should be fully decided on the pleadings and supporting materials filed by the parties and, therefore, OPC's request for a hearing should be denied.

IV. CONCLUSION

For the reasons explained above, to the extent they seek information or data regarding any non-SPP measures, OPC INT No. 13 and POD 6 are irrelevant to FPL's 2023 SPP, beyond the scope of this proceeding, and unlikely to lead to admissible evidence in this proceeding.

WHEREFORE, FPL respectfully requests that the Commission promptly deny OPC's Motion to Compel to Discovery and Motion to Enlarge Discovery Deadlines, Testimony Due Dates, and Hearing Date in their entirety.

Respectfully submitted this 13th day of May 2022,

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Appendix A

Florida Power & Light Company
Docket No: 20220051-EI FPL
OPCs First Set of Production of Documents
Request No: 1

QUESTION:

Produce all analyses and source documents prepared in support of the Company's application, testimony, and expert reports in this proceeding before or contemporaneous with its filing, including all Excel workbooks in live format with all formulas intact in searchable and unlocked format.

RESPONSE:

Please see the attached responsive documents, including one confidential document:

- "2010 FPL Outages"
- "2010 Gulf Outages"
- "FPL SPP Factor Calculation 2022 Plan Filing - FINAL 2023-2025"
- "FPL v2_Gulf_Consolidated 1989 Winter Scenario"
- "FPL Winter Extreme Evaluation 2021"
- "SPP – Annual Rev Req Calculation 2023-2032"
- "Transmission Study Winterization Impacts 8_2021 (CONFIDENTIAL)"
- "Winterization 2010 070121"
- "Winterization_PD_MOPR (REDACTED)"

Please note that non-responsive information has been redacted from one of the documents produced in response to this request for production of documents.

Appendix B

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of Storm Protection Plan,
pursuant to Rule 25-6.030, F.A.C., Florida
Power & Light Company

Docket No. 20220051-EI

Served: May 5, 2022

**FLORIDA POWER & LIGHT COMPANY’S OBJECTIONS AND RESPONSES TO
OFFICE OF PUBLIC COUNSEL’S SECOND SET INTERROGATORIES (9-13) AND
SECOND SET OF REQUESTS FOR PRODUCTION OF DOCUMENTS (6)**

Florida Power & Light Company (“FPL”) hereby serves the following Objections and Responses to Office of Public Counsel’s Second Set of Interrogatories (Nos. 9-13) and Second Set of Requests for Production of Documents (No. 6) pursuant to Rule 1.340 and Rule 1.350, Florida Rules of Civil Procedure, Rule 28-106.206, Florida Administrative Code, and Order No. PSC-2022-0119-PCO-EI.

I. General Objections

1. FPL objects to each and every discovery request that calls for information protected by the attorney-client privilege, the work product doctrine, the accountant-client privilege, the trade secret privilege, or any other applicable privilege or protection afforded by law, whether such privilege or protection appears at the time the response is first made or is later determined to be applicable for any reason. FPL in no way intends to waive any such privilege or protection. The nature of the documents, if any, will be described in a privilege log prepared and provided by FPL.

2. FPL is a large corporation with employees located in many different locations. In the course of its business, FPL creates numerous documents that are not subject to Florida Public Service Commission or other governmental record retention requirements. These documents are kept in numerous locations and frequently are moved from site to site as employees change jobs or as business is reorganized. Therefore, it is possible that not every relevant document may have been consulted in developing FPL’s responses to the discovery requests. Rather, these responses

provide all of the information that FPL obtained after a reasonable and diligent search conducted in connection with these discovery requests. To the extent that the discovery requests propose to require more, FPL objects on the grounds that compliance would impose an undue burden or expense on FPL.

3. FPL objects to each discovery request to the extent that it seeks information that is duplicative, not relevant to the subject matter of this docket, and is not reasonably calculated to lead to the discovery of admissible evidence.

4. FPL objects to each and every discovery request to the extent it is vague, ambiguous, overly broad, imprecise, or utilizes terms that are subject to multiple interpretations but are not properly defined or explained for purposes of such discovery requests. Any responses provided by FPL will be provided subject to, and without waiver of, the foregoing objection.

5. FPL objects to each and every discovery request to the extent it calls for FPL to prepare information in a particular format or perform calculations or analyses not previously prepared or performed as unduly burdensome and purporting to expand FPL's obligations under applicable law.

6. FPL objects to each and every discovery request to the extent it calls for FPL to conduct legal research or provide a legal conclusion or analysis.

7. FPL objects to providing information to the extent that such information is already in the public record before a public agency and available through normal procedures or is readily accessible through legal search engines.

8. FPL objects to each and every discovery request that calls for the production of documents and/or disclosure of information from NextEra Energy, Inc. and any subsidiaries and/or affiliates of NextEra Energy, Inc. that do not deal with transactions or cost allocations between FPL and either NextEra Energy, Inc. or any subsidiaries and/or affiliates. Such documents and/or

information do not affect FPL's rates or cost of service to FPL's customers. Therefore, those documents and/or information are irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. Furthermore, FPL is the party appearing before the Florida Public Service Commission in this docket. To require any non-regulated entities to participate in irrelevant discovery is by its very nature unduly burdensome and overbroad. Subject to, and without waiving, any other objections, FPL will respond to the extent the request pertains to FPL and FPL's rates or cost of service charged to FPL's customers. To the extent any responsive documents contain irrelevant affiliate information as well as information related to FPL and FPL's rates or cost of service charged to its customers, FPL may redact the irrelevant affiliate information from the responsive documents.

9. Where any discovery request calls for production of documents, FPL objects to any production location other than the location established by FPL, at FPL's Tallahassee Office located at 134 W. Jefferson Street, Tallahassee, Florida, unless otherwise agreed by the parties.

10. FPL objects to each and every discovery request and any instructions that purport to expand FPL's obligations under applicable law.

11. In addition, FPL reserves its right to count discovery requests and their sub-parts, as permitted under the applicable rules of procedure, in determining whether it is obligated to respond to additional requests served by any party.

12. FPL expressly reserves and does not waive any and all objections it may have to the admissibility, authenticity, or relevance of the information provided in its responses.

II. Specific Objections

13. To the extent it calls for a legal conclusion, FPL objects to OPC's Second Set of Interrogatories No. 12.

14. To the extent it seeks information beyond FPL's proposed Distribution

Winterization Program and Transmission Winterization Program, FPL objects to OPC's Second Set of Interrogatories No. 13 on the basis that it is beyond the scope of this proceeding, irrelevant, immaterial, and not reasonably calculated to lead to the discovery of admissible or relevant evidence. OPC's Second Set of Interrogatories No. 13 seeks information regarding FPL's "entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies." FPL's 2023-2032 Storm Protection Plan, which is the subject of this proceeding, does not present or seek approval of the entire suite of winter weather emergency preparedness measures FPL is considering across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies. Rather, FPL's 2023-2032 Storm Protection Plan only seeks approval of two limited winterization hardening programs, the Distribution Winterization Program and the Transmission Winterization Program, as clearly laid out in Sections IV(I) and IV(J) of the FPL's 2023-2032 Storm Protection Plan.

15. To the extent it seeks information beyond FPL's proposed Distribution Winterization Program and Transmission Winterization Program, FPL objects to OPC's Second Requests for Production of Documents No. 6 on the basis that it is beyond the scope of this proceeding, irrelevant, immaterial, and not reasonably calculated to lead to the discovery of admissible or relevant evidence. OPC's Second Requests for Production of Documents No. 6 seeks information regarding FPL's "entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies." FPL's 2023-2032 Storm Protection Plan, which is the subject of this proceeding, does not present or seek approval of the entire suite of winter weather emergency preparedness measures FPL is considering across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies. Rather, FPL's

2023-2032 Storm Protection Plan only seeks approval of two limited winterization hardening programs, the Distribution Winterization Program and the Transmission Winterization Program, as clearly laid out in Sections IV(I) and IV(J) of the FPL's 2023-2032 Storm Protection Plan.

III. Responses

16. Attached hereto are FPL's non-confidential responses to OPC's Second Set of Interrogatories (Nos. 9-13), consistent with its objections.

17. Attached hereto are FPL's non-confidential responses to Second Request for Production of Documents (No. 6), consistent with its objections.

18. Confidential documents, if any, will be made available for review subject to the procedures set forth in FPL's Confidentiality Agreement and as agreed by the parties.

Respectfully submitted this 5th day of May 2022,

Christopher T. Wright
Senior Attorney
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408-0420
Phone: 561-691-7144
Fax: 561-691-7135
Email: christopher.wright@fpl.com



Christopher T. Wright
Authorized House Counsel No. 1007055

Attorney for Florida Power & Light Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by Electronic Mail to the following parties of record this 5th day of May 2022:

<p>Walter Trierweiler, Esquire Theresa Lee Eng Tan, Esquire Jacob Imig, Esquire Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399 wtrierwe@psc.state.fl.us jimig@psc.state.fl.us ltan@psc.state.fl.us <i>For Commission Staff</i></p>	<p>Office of Public Counsel c/o The Florida Legislature 111 West Madison Street, Room 812 Tallahassee, FL 32399-1400 Gentry.richard@leg.state.fl.us rehwinkel.charles@leg.state.fl.us morse.stephanie@leg.state.fl.us wessling.mary@leg.state.fl.us christensen.patty@leg.state.fl.us <i>For Office of Public Counsel</i></p>
<p>J. Jeffrey Wahlen Malcolm M. Means Ausley McMullen Post Office Box 391 Tallahassee, Florida 32302 jwahlen@ausley.com mmeans@ausley.com</p> <p>Ms. Paula K. Brown Regulatory Affairs P. O. Box 111 Tampa FL 33601-0111 regdept@tecoenergy.com <i>For Tampa Electric Company</i></p>	<p>Dianne M. Triplett Deputy General Counsel Duke Energy Florida, LLC 299 First Avenue North St. Petersburg, FL 33701 Dianne.Triplett@Duke-Energy.com</p> <p>Matthew R. Bernier Robert L. Pickels Stephanie A. Cuello 106 E. College Avenue, Suite 800 Tallahassee FL 32301 FLRegulatoryLegal@duke-energy.com matthew.bernier@duke-energy.com robert.pickels@duke-energy.com stephanie.cuello@duke-energy.com <i>For Duke Energy Florida, LLC</i></p>
<p>Beth Keating Gunster, Yoakley & Stewart, P.A. 215 South Monroe St., Suite 601 Tallahassee, FL 32301 BKeating@gunster.com</p> <p>Mr. Mike Cassel 208 Wildlight Ave. Yulee FL 32097 (904) 491-4361 mcassel@fpuc.com <i>For Florida Public Utilities Company</i></p>	<p>James W. Brew/Laura Wynn Baker Stone Law Firm 1025 Thomas Jefferson St., NW, Eighth Floor, West Tower Washington DC 20007 (202) 342-0800 (202) 342-0807 jbrew@smxblaw.com lwb@smxblaw.com <i>For PCS Phosphate – White Springs</i></p>

s/ Christopher T. Wright
 Christopher T. Wright
 Fla. Auth. House Counsel No. 1007055

Attorney for Florida Power & Light Company

Appendix C

Florida Power & Light Company
Docket No. 20220051-EI
OPC's Second Set of Interrogatories
Interrogatory No. 13
Page 1 of 1

QUESTION:

Please identify the individual(s) primarily responsible for developing the company's "entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies" and the "holistic approach to winterization" (to the extent it is different from the aforementioned "suite" and which the SPP Winterization Hardening Program is referenced as being "part of") (as identified on pages 10-12 of 63 in your 2023-2025 Storm Protection Plan). Please also identify the individual(s) primarily responsible for presenting said suite or holistic approach for management and executive review and for receiving authorization to proceed (including expenditure authorization) with such "entire suite" and "approach."

RESPONSE:

Please see FPL's objections filed on May 5, 2022. Subject to and without waiver of said objections, please see the response provided below:

The Distribution and Transmission Winterization Programs included in FPL's 2023-2032 Storm Protection Plan were developed by the Power Delivery business unit in consultation and coordination with FPL's Resource Planning team.

The Power Delivery team primarily responsible for the development of these Distribution and Transmission Winterization Programs were FPL's General Manager – Performance Diagnostic Center, and Sr. Manager - Distribution Planning.

The individuals primarily responsible for presenting these Distribution and Transmission Winterization Programs for management and executive review/authorization were FPL's General Manager – Performance Diagnostic Center, and Vice President of Transmission and Substation.

Florida Power & Light Company
Docket No. 20220051-EI
OPC's Second Request For Production of Documents
Request No. 6
Page 1 of 1

QUESTION:

Please provide each document, and all supporting workpapers of each such document, that fully describes the company's "entire suite of winter weather emergency preparedness measures across its generation, transmission, distribution systems, fuel procurement systems, supply, and procurement strategies" and the "holistic approach to winterization" (to the extent it is different from the aforementioned "suite" and which the SPP Winterization Hardening Program is referenced as being "part of") (as identified on pages 10-12 of 63 in your 2023-2025 Storm Protection Plan). This includes but is not limited to all of the documents prepared for management and executive review and for receiving authorization to proceed (including expenditure authorization) with such "entire suite" and "holistic approach".

RESPONSE:

Please see FPL's objections filed on May 5, 2022. Subject to and without waiver of said objections, please refer to the documents provided in FPL's response to OPC's First Request for Production of Documents, No. 1.

Appendix D

Wright, Christopher

From: "Wright, Christopher"
Sent: Tuesday, May 10, 2022 1:02 PM
To: Rehwinkel, Charles; Morse, Stephanie
Subject: FPL SPP - Follow-up on Winterization Objections (Informal Response)
Attachments: 20220000 TYSP - FPL's Responses to Staff's 1st & 2nd Data Requests.pdf; 2021 Winter Analysis Presentation to FPSC Staff Final.pdf

Hi Stephanie and Charles,

I am following up on our conversations on 5/5 and 5/6 regarding FPL's objections in the SPP docket to OPC's Second Set of Interrogatories No. 13 and OPC's Second Requests for Production of Documents No. 6 regarding the non-SPP winterization measures or initiatives.

As discussed, FPL maintains its objections that information related to non-SPP winterization measures and initiatives is not relevant because FPL's 2023-2032 Storm Protection Plan does not present or seek approval of any non-SPP winterization measures, initiatives, or strategies. Rather, FPL's 2023-2032 Storm Protection Plan only seeks approval of two limited winterization hardening programs, the Distribution Winterization Program and the Transmission Winterization Program. That being said, FPL is willing to provide this informal response in an effort to reach a compromise on the discovery dispute

I am informally providing, subject to maintaining our objections, the attached information related to FPL's non-SPP winterization measures. The attached information includes the following:

- A PowerPoint deck that was presented to PSC Staff in November 2021, which led to the development of the final winterization measures
- FPL's responses to Staff's First Data Request (Nos. 93-94) and Second Data Request (Nos. 1-18) regarding winterization for the 2022 Ten-Year Site Plan (note: excluded responses that are not applicable to winterization)

Details regarding FPL's non-SPP winterization measures, initiatives, and strategies are provided in the foregoing and in FPL's 2022 Ten-Year Site Plan, which is available at: <http://www.psc.state.fl.us/ElectricNaturalGas/TenYearSitePlans>.

Further, FPL is willing to respond to a formal discovery request explaining whether the SPP winterization measures included in FPL's 2023-2032 Storm Protection Plan are inter-dependent to the non-SPP winterization measures. If this is agreeable and needed, please send me a formal discovery request and we will promptly provide a response.

I am hopeful that the foregoing will help resolve the outstanding discovery dispute. Please let me know if you have any questions or wish to further discuss.

With best regards,
-Chris Wright

Christopher T. Wright
Senior Attorney
Florida Power & Light Company

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Planning for Severe Winter Peak Loads:

A Presentation to the FPSC Staff

Integrated Resource Planning

November 23, 2021

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- **The Preliminary Winter Analyses**
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Executive Summary

- **Both FPL’s 2020 and 2021 Ten-Year Site Plan (TYSP) resource plans show Winter reserve margins that exceed 20% during their 10-year reporting periods, but which also show declining Winter reserves over the 10 years**
- **This trend was recognized by FPL prior to the February 2021 extreme Winter cold front in Texas and neighboring states**
- **These two factors prompted FPL to review its projected ability to meet a very cold Winter event with the resource plan presented in FPL’s 2021 TYSP**
- **There have been three severe cold events in FPL’s service territory over the past 45 years: 1977, 1989, and 2010 (of these three events, the 1989 event impacted FPL’s customers the most)**
- **As part of its review, FPL examined 3 potential very cold load forecast scenarios:**
 - A forecast based on 2010 actual temperatures
 - A forecast based on 1989 actual temperatures
 - An “extreme” forecast w/ temperatures ~ 10 degrees colder than in 1989

Executive Summary (Continued)

- **FPL conducted Winter analyses** (using the 1989 Actual temperatures to develop the primary forecast) **and focused on two periods: (i) 2022-2025, and (ii) 2022-2030**
- **The analyses projected that, with this Winter peak forecast, FPL would not be able to serve all customers in any year in 2022-2030 with the 2021 TYSP resource plan**
- **The analyses then examined what additional resources would be needed to allow FPL to serve all customers w/ this forecast, along with the projected CPVRR costs**
- **Two approaches were used:**
 - The 1st approach meets the LOLP criterion all years even with the higher Winter load forecast
 - The 2nd approach uses another quantitative approach that examines projected hourly MWh load not served each year with this Winter forecast

Based on results of these analyses, FPL is making certain resource changes, and is also planning to change its Winter load forecast; all of these changes will be reflected in FPL's 2022 TYSP

Executive Summary (Continued)

- **The changes that FPL is making in regard to its 2022 TYSP include:**
 - Winterization enhancements to the fossil & nuclear generation fleets
 - Acquire 315 MW of PPAs for the Winter of 2021/2022
 - Retain Manatee 1 & 2 through 2030 for use only with very cold Winter conditions
 - Install ~ 790 MW of Winter only generation capacity upgrades over several years
 - Conduct pilot testing of ITRON RIVA meters in 2022 to – among other objectives - evaluate increasing feeder rotation capability
 - Use a 1989 Actual temperature-based load forecast for January only, with a P50 forecast for all other months in its IRP work
- **Then, using the new Winter forecast and these resource changes, perform optimization analyses with the AURORA model that seeks to eliminate or reduce projected customer outages during very cold Winter events**

FPL seeks to inform the FPSC Staff of these changes prior to filing its 2022 TYSP and discuss any questions/concerns the Staff may have

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FPL has projected declining Winter total reserve margins in both its 2020 and 2021 TYSP resource plans

Projected Winter Total Reserve Margins (%) (using a P50 forecast for Winter Peaks)

	2020 TYSP	2021 TYSP
2022	41.3%	40.7%
2023	46.0%	44.0%
2024	39.5%	35.8%
2025	39.1%	34.0%
2026	38.5%	32.2%
2027	37.0%	30.6%
2028	35.9%	28.6%
2029	36.1%	28.0%
2030	--	27.8%

The primary changes in the 2021 TYSP vs the 2020 TYSP are: (i) forecasted higher Winter load, and (ii) reduced unit upgrades

These projected Winter reserve margin values all exceed the minimum 20% total reserve margin criterion, but show a trend of declining Winter reserves over the 10-year periods

In February 2021, Texas experienced a Winter storm of unprecedented severity

2021 Texas Record Cold

- **Record-setting, multiple day sub-freezing temperatures across Texas**
 - A similar cold weather event occurred in Texas in 2011
- **Approximately 48.6% of generation (52,300 MW) was unavailable**
 - Majority of unit issues associated with fossil generation and fuel supply
 - “Winterization” of plants a central issue
- **Customer outages were implemented to prevent statewide blackouts**
 - Maximum at one time of ~ 20,000 MW (4 to 4.5 MM customers) load unserved with ~ 10,000 to 12,000 MW shed on average
 - Outages lasted for three days
- **In addition, a number of customer outages were “non-surgical”**
 - Critical accounts, including natural gas pumping stations, were among those experiencing outages

As a result of this event, FERC issued a report with a series of recommendations for improving reliability under severe weather events (one of which, # 9, addressed resource planning)

FERC Recommendation # 9

“Planning Coordinators should reconsider some of the inputs to their publicly-reported winter season anticipated reserve margin calculations for their respective BA footprints so that the reported reserve margins will better predict the reserve levels that the BAs could experience during winter peak conditions” (emphasis added)

BA= Balancing Authority

NERC: February 2021 Cold Weather Grid Operations: Preliminary Findings and Recommendations, September 23, 2021

FPL is planning changes such as this in its IRP work regarding being able to meet very cold Winter loads



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In the past 45 years there have been three major cold weather events in Florida (1977, 1989, and 2010)

Florida Cold Fronts

- **January 2010 event characterized by a cold front the week before, temperatures staying cool for the next several days, and then a deep arctic front on January 9th**
 - Peak demand of 24,486 MW (FPL’s 2009 TYSP P50 forecasted Winter load for 2010 was ~ 18,800)
 - Very cold temperatures throughout the state (Miami was 35 degrees), Skies overcast, event affected all entities in Florida and in the SE US, limiting purchases or imports
- **December 1989 event was during the Christmas holiday**
 - Temperatures in Miami appear to be approximately 5 degrees colder than in 2010, also with overcast skies: Southeast US also experienced very high loads limiting Florida imports
- **January 1977 event - - “the day it snowed in Miami”**
 - Similar to the 1989 event in terms of temperatures

Of these three events, 1989 had the most severe impact on FPL’s customers who experienced rotating outages over a two-day period

In order to analyze the impact of a future very cold Winter event, 3 new forecasts were developed largely based on these historical Winter events

3 New Winter Peak Forecasts

- **A P50 Winter forecast has typically been used in FPL’s IRP work** (which is based on a system average temperature of ~ 39 degrees F)
- **Three new Winter peak forecasts were developed for these analyses:**
 - 1) **A “2010 Actual temperature” forecast** (w/ a system average temperature of ~ 33 degrees F.)
 - 2) **A “1989 Actual temperature” forecast** (w/ a system average temperature of ~ 29 degrees F.)
 - 3) **An “Extreme” forecast** (w/ a system average temperature of ~ 19 degrees F.)

The intent was to develop forecasts for Winter conditions that FPL had already experienced, plus a “Texas-like” extreme cold weather event

All three of the new load forecasts were developed using a similar methodology

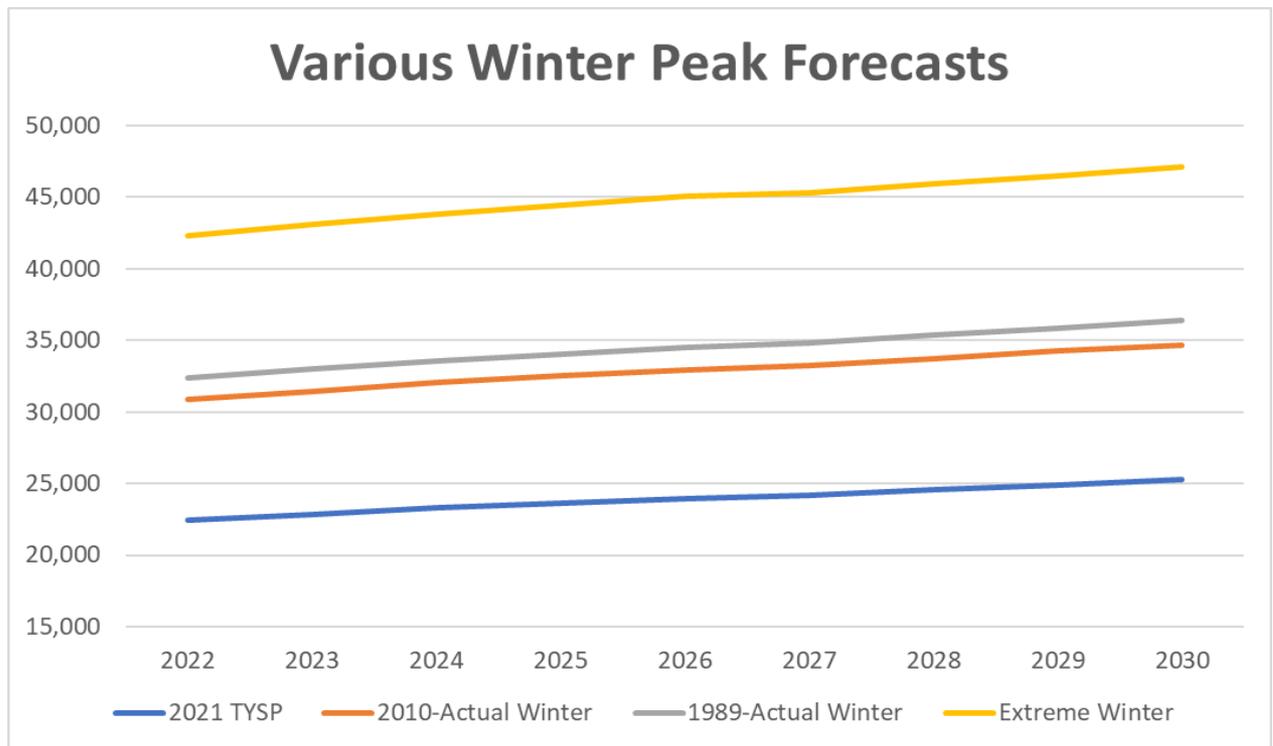
How the New Winter Peak Forecasts Were Developed

- **The first two forecasts were based on the actual temperatures experienced during the 2010 and 1989 cold fronts**
- **The third forecast used temperatures that were 10 degrees colder than experienced during the 1989 event**
- **The hourly daily pattern for the three forecasts were based on the 2010 event (accurate hourly loads for the 1989 event were not available due to the rotating outages)**
- **All load forecasting parameters (such as number of customers, etc.), other than temperatures, were unchanged from the P50 Winter forecast developed for the 2021 TYSP**

All three new forecasts resulted in peak loads that were significantly higher than with the current P50 forecast (see next slide)

Each of the 3 new Winter forecasts have peaks that are at least 40% higher than the P50 2021 TYSP forecast

New Winter Forecasts vs 2021 TYSP Forecast



About 88%
higher than
2021 TYSP

About 40-44%
higher than
2021 TYSP

2021 TYSP

See Appendix for table showing annual MW values for each forecast



Why the 1989 Actual Forecast Was the Focus of FPL's Analyses

- **Comparing the 2010 Actual forecast vs the 1989-Actual forecast showed that the 1989 Actual forecast's peak load was ~ 1,600 MW higher than the 2010 Actual forecast (and FPL had already experienced the colder temperatures associated with the 1989-Actual forecast)**
- **Preliminary analyses using the Extreme forecast resulted in projections of massive problems in meeting customer load (see the Appendix for the results for the years 2025 & 2030)**
 - However, this extreme load in Florida was viewed as very unlikely
 - In addition, the projected amount of load unable to be served in those years exceeds 12,000 MW, thus making it very expensive to attempt to prepare for such a load

For these reasons, FPL's focus in its preliminary analyses was the 1989 Actual forecast

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Using the 1989 Actual as the primary forecast, FPL undertook preliminary analyses of its ability to serve all customers

FPL's Preliminary Winter Analyses*

- **These analyses first concentrated on the near-term (2022-2025) period**
 - The analyses identified whether FPL would be able to serve all customer load in this period
- **The analyses then proceeded to analyze the longer-term (2022-2030) period**
 - This portion of the study used the same approach as was used for the near-term period
 - The additional MW needed to be able to meet the unserved load for all years were identified and resource plans that include these additional MW were analyzed

**These analyses are preliminary for two reasons: (i) the resource plan shown in the 2021 TYSP was used, and (ii) forecasts & other data from the 2021 TYSP were also used*

FPL's primary objective in undertaking the analyses was to determine how many additional resources would be needed to serve all customer load if a 1989 Actual Winter load occurred

FPL's Winter Study Methodology

- **Approach # 1 (LOLP): (w/ the TIGER model)**
 - Determine the projected LOLP with the 1989 Actual forecast using the 2021 TYSP resource plan
 - Then determine how many additional MW would be needed to lower each year's LOLP below the 0.1 criterion
- **Approach # 2 (Hourly): (w/ an alternate quantitative approach)**
 - Examine hourly loads and capabilities to determine hourly unserved energy plus projections of customer outages
 - Then determine how many additional MW would be needed each year to serve the projected unserved energy
- **Then, for both approaches, use the AURORA model to determine the projected CPVRR costs of resource plans based on each approach vs the 2021 TYSP resource plan**

FPL also performed reliability analyses using the 2010-temperature and the Extreme forecasts (These results are shown in the Appendix)

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Approach # 1 first examined the projected LOLP values for each year using the TIGER model

Annual LOLP Results with the TIGER Model 1989 Actual Winter Forecast: 2022-2025

Assumptions	Case 1: w/ 1989-Actual Forecast & Revised LC
2021 TYSP resource plan with 1989-Actual Load Forecast	X
LC - Use Summer MW values as a proxy for LC capabilities w/ very cold temps	X
Projected Annual LOLP	
2022	5.486
2023	4.092
2024	5.871
2025	6.537

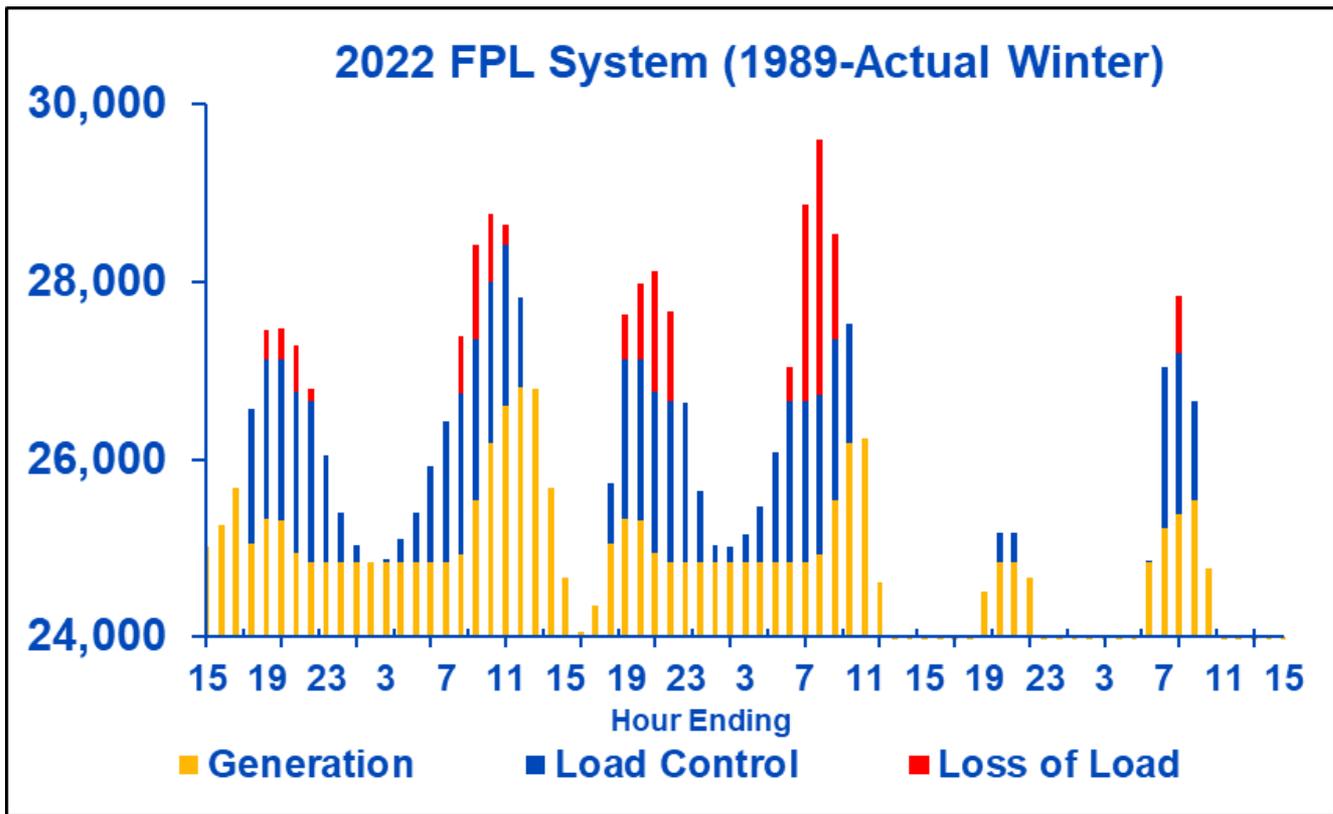
LOLP criterion is a maximum of 0.1 day per year

This analysis assumed the 2021 TYSP resource plan w/ no additional generation resources

The LOLP criterion is projected to be violated in each year of the 2022-2025 period w/ the 1989 Actual forecast

Approach # 2 examined hourly loads and capabilities & confirmed the projected inability to serve all load in 2022

Projected Loss of Load Based on 1989 Actual Forecast For the Year 2022 (FPL Only)



These preliminary analyses assumed the 2021 TYSP resource plan w/ no additional resources

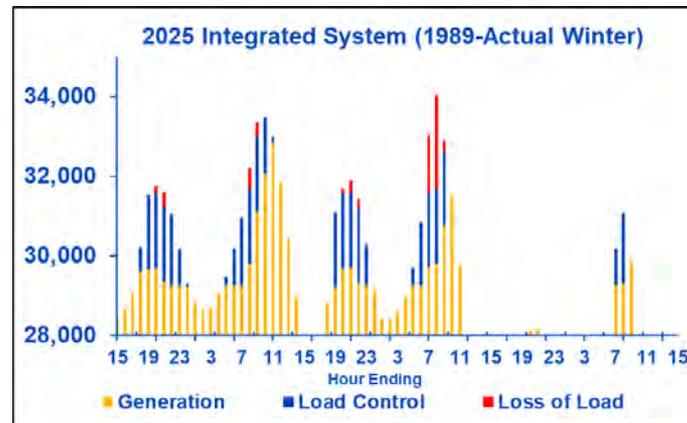
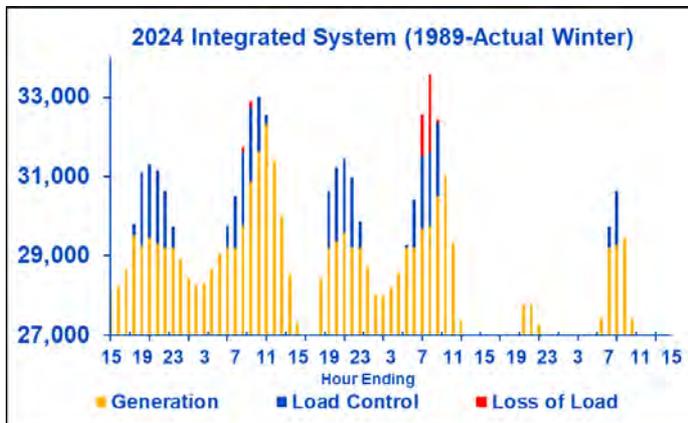
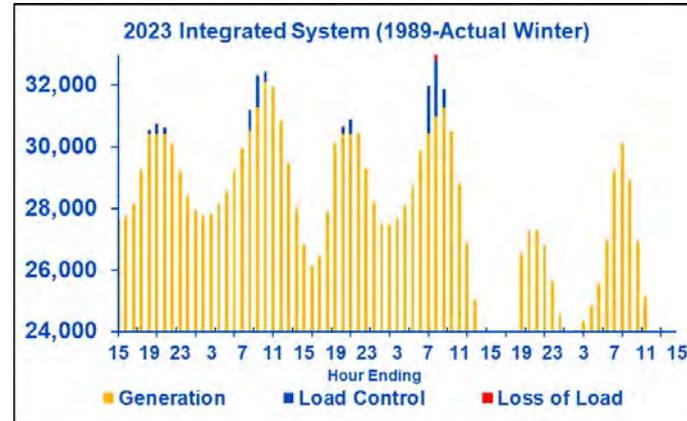
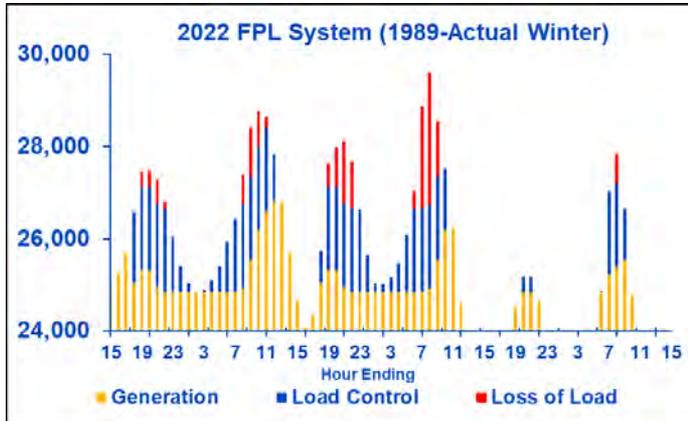
Note: At this point in the analyses using Approach # 2, no generation forced outages are assumed

The loss of load projected for 2022 is ~ 2,400 MW at the worst hour and 15,000 MWh of unserved energy over the 3 days



Projections improve for 2023 (due to the integration of FPL & Gulf and Dania Beach), but problems are again projected for 2024 & 2025

Projected Loss of Load based on 1989 Actual Forecast For the Years 2022-2025



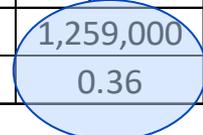
These preliminary analyses assumed the 2021 TYSP resource plan w/ no additional resources (and no generation forced outages)

The projected unserved energy values were converted to outage times for the subset of customers whose feeders can be rotated

Projected Customer Outages Over the 3-Day Period (assuming no addl. resources & no generation forced outages)

Number of Rotation Eligible Customers* = 3,500,000

	2022	2023	2024	2025
Assumed Generation Forced Outages (MW)	0	0	0	0
Shortage in Peak Hour (MW)	2,402	168	1,971	2,484
Total Loss of Load over the cold-front period (MWh)	15,027	168	3,382	6,295
# of Customer Outages (30 minutes each)	3,005,400	33,600	676,400	1,259,000
# of Outages per Rotation Eligible Customer	0.86	0.01	0.19	0.36



*"Rotation eligible" customers are customers who are served by feeders that can be switched off in extreme conditions (*i.e.*, feeders which do not have any identified critical customers such as hospitals and police stations). Currently, there are ~ 3.5 million such customers on FPL's system.

The next slide shows how these outage projections change if 1,000 MW or 2,000 MW of generation forced outages are assumed

The condensed table below shows how projected outage times increase if generation forced outages are assumed

Projected Customer Outages: 2022-2025 (assumes no addl. resource & 3 levels of generation forced outages)

Number of Rotation Eligible Customers* = 3,500,000

	2022	2023	2024	2025
Assumed Generation Forced Outages (MW)	0	0	0	0
# of Customer Outages (30 minutes each)	3,005,400	33,600	676,400	1,259,000
# of Outages per Rotation Eligible Customer	0.86	0.01	0.19	0.36
Assumed Generation Forced Outages (MW)	1,000	1,000	1,000	1,000
# of Customer Outages (30 minutes each)	7,480,120	281,573	3,485,036	4,805,329
# of Outages per Rotation Eligible Customer	2.14	0.08	1.00	1.37
Assumed Generation Forced Outages (MW)	2,000	2,000	2,000	2,000
# of Customer Outages (30 minutes each)	14,447,062	1,187,254	7,645,237	9,350,204
# of Outages per Rotation Eligible Customer	4.13	0.34	2.18	2.67



Note: the derivation of the 1,000 MW and 2,000 MW forced outage assumptions is discussed in the Appendix

The projected number of outages increases significantly if non-zero generation forced outages are assumed

To address these projected impacts, FPL is currently enhancing the “winterization” of its fossil and nuclear generation fleets

Generation Winterization Efforts

- Each year FPL’s power plants execute a winterization preventive maintenance process to verify physical plant readiness for Winter operations, including insulation condition assessment & operator refresher training
- These efforts are now being enhanced by activities that include the following:
 - Heat tracing & insulation on critical piping
 - Insulation and/or heated enclosures for critical equipment that could result in mis-operation if frozen
 - Shelters for critical valves that could be exposed to freezing rain
 - Wind barriers for critical valves

A 1/01/2022 completion of this work is projected for the 4 nuclear units plus the Sanford, Okeechobee, Cape Canaveral, Manatee, & West County plants. Others to be completed by 5/01/2022

FPL is also planning for adequate fuel supply w/ very cold Winter events & for potential gas supply interruptions

Fuel Supply Planning Efforts

- **Regarding natural gas use and supply, FPL:**
 - Consumes ~ 1.8 million MMBTU/day of natural gas on average
 - Has more than 2.6 million MMBTU/day of firm gas transportation capacity across 3 delivery pipelines, plus ~ 0.6 million MMBTU/day of additional firm gas transportation capacity on several upstream pipelines that provide access to additional natural gas supply points
 - Has ~ 5 million MMBTU of gas storage capacity in Mississippi & Alabama
- **Regarding distillate fuel oil for back up fuel:**
 - ~ 65% of FPL's CC & CT generation can use distillate fuel oil
 - FPL will store sufficient distillate to allow ~ 80 continuous hours of full load operation for ~ 13,000 MW of CC & CT generation, and uses multiple fuel oil suppliers for potential resupply of stored fuel

In addition, several near-term generation enhancements are underway

Near-Term Capacity Increases That Can Help Address Projected Loss-of-Load Thru 2025

- 1) Short-term capacity purchases for the 2021 – 2022 Winter months only totaling ~ 315 MW
- 2) Winter upgrades to CC units over several years (no Summer MW increases):
 - Adds up to ~ 790 MW of Winter (only) capacity (*MW value subject to change*)
- 3) Retaining the Manatee 1 & 2 units for limited operation only during high Winter load periods (see next slide)
 - Retain ~ 1,600 MW of Winter (only) capacity

In the analyses that followed, FPL assumed that each of these near-term resources were added

The Manatee 1 and 2 units will be available for use only during forecasted very cold Winter events

Manatee 1 and 2 units in Inactive Reserve-Winter Capable” Status

- System operators typically plan for high Winter peak loads several days before occurrence, thus allowing advance warning regarding the need for the Manatee units to be operational
- When a very cold front is forecast, personnel will be transferred from other plants to Manatee for the duration of the high load period (the Manatee units will be unmanned by operators at all other times)
- Retaining the capability to utilize Manatee in this way will add about 1,600 MW of Winter peak capability that can run on oil (thus preserving the ability of the rest of the fossil generation system to utilize all available natural gas)

FPL currently plans to maintain the Inactive Reserve-Winter Capable status for Manatee 1 & 2 through 2030

With Approach # 1, the LOLP criterion is still not projected to be met even after these near-term resources are added

Annual LOLP Results with the TIGER Model 1989 Actual Winter Forecast: 2022-2025

Assumptions	Case 1: w/ 1989-Actual Forecast & Revised LC	Case 2: Case 1 plus near-term resource additions
2021 TYSP resource plan with 1989-Actual Load Forecast	X	X
LC - Use Summer MW values as a proxy for LC capabilities w/ very cold temps	X	X
Short Term Winter 2022 PPAs (315 MW)		X
Winter Upgrades (794 MW)		X
Manatee 1 & 2 Retained - Winter Capacity Only (1,600 MW)		X
Projected Annual LOLP		
2022	5.486	2.416
2023	4.092	1.690
2024	5.871	2.493
2025	6.537	3.939

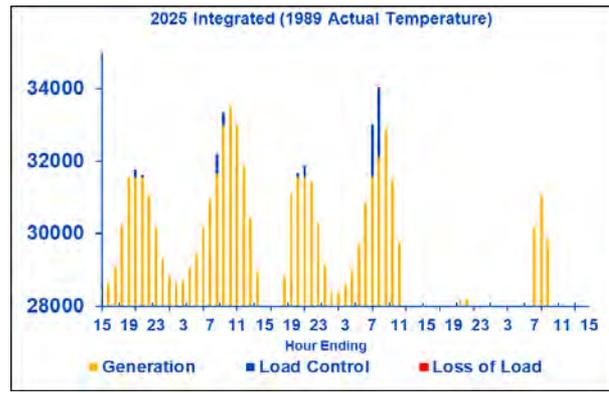
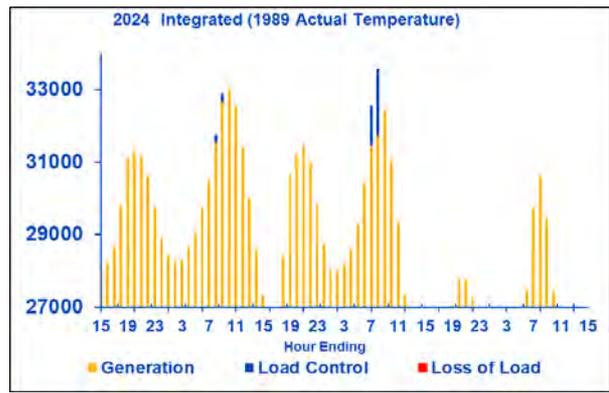
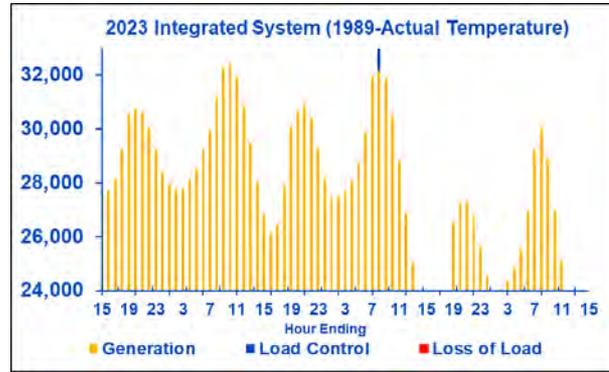
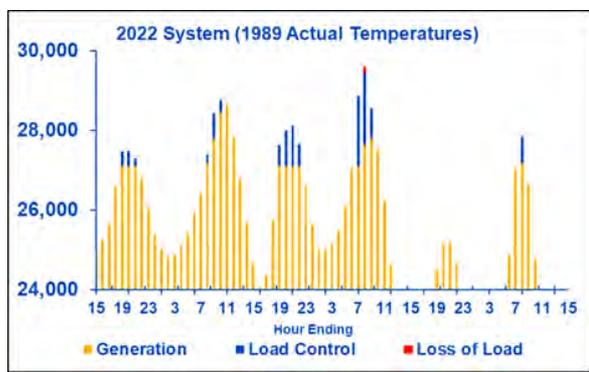
LOLP criterion is a maximum of 0.1 day per year

This analysis assumed the 2021 TYSP resource plan w/ no additional resources except for the near-term resources

Additional resources would be needed to meet the LOLP criterion in the near-term with Approach # 1

With Approach # 2, most of the problems are addressed by the near-term additions (assuming no forced outages)

Projected loss of load based on 1989 Actual Forecast 2022- 2025 (with near-term resource additions)



These preliminary analyses assumed the 2021 TYSP resource plan w/ the near-term additional resources (and no generation forced outages)

The previously projected inability to meet load is now addressed for 2023 & 2024 (w/ small amount of projected loss of load for one hour in 2022 and 2025)



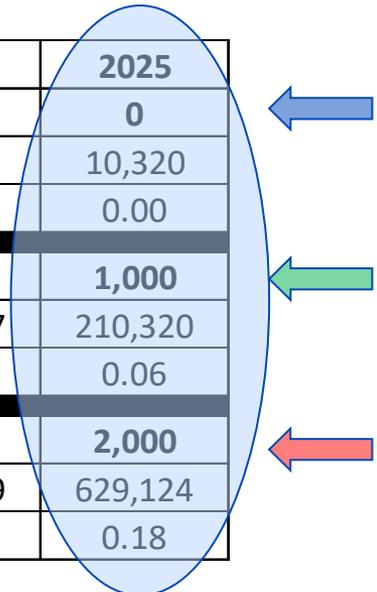
The table below shows revised customer outage projections assuming the near-term additions are in place

Projected Customer Outages: 2022-2025

(assumes near-term additions & 3 levels of generation forced outages)

Number of Rotation Eligible Customers* = 3,500,000

	2022	2023	2024	2025
Assumed Generation Forced Outages (MW)	0	0	0	0
# of Customer Outages (30 minutes each)	30,869	0	0	10,320
# of Outages per Rotation Eligible Customer	0.01	0.00	0.00	0.00
Assumed Generation Forced Outages (MW)	1,000	1,000	1,000	1,000
# of Customer Outages (30 minutes each)	328,745	0	123,577	210,320
# of Outages per Rotation Eligible Customer	0.09	0.00	0.04	0.06
Assumed Generation Forced Outages (MW)	2,000	2,000	2,000	2,000
# of Customer Outages (30 minutes each)	2,056,570	8,496	458,939	629,124
# of Outages per Rotation Eligible Customer	0.59	0.00	0.13	0.18



The near-term additions are projected to significantly reduce the number of customer outages (for example, from ~ 9.43 million to ~ 630,000 in 2025 assuming 2,000 MW of generation forced outages)



With a 1989 Actual Winter occurrence , FPL projects problems in being able to meet load in 2022 through 2025

Summary of Results from Near-Term Analyses: 2022-2025

- Using a 1989 Actual temperature forecast for Winter peak load, and assuming no changes to FPL's 2021 TYSP resource plan, FPL is projected to not be able to meet customer load under either an LOLP perspective or an hourly perspective in any of these 4 years
- Assuming the winterization efforts for generation and fuel supply, plus the addition of the previously described 3 types of near-term resource additions (310 MW of PPAs for 2021/2022, ~ 790 MW of Winter upgrades, and retaining Manatee 1 & 2's 1,600 MW for use in very cold Winter conditions only), the results improve, but the projected problems are not eliminated:
 - Projected LOLP values are reduced by (roughly) a factor of 2
 - The hourly analysis shows customer outages are projected to still occur, but to a lesser degree

FPL's analyses then expanded to examine the years 2026 through 2030

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With Approach # 1, the projected LOLP values get worse as the years 2026 thru 2030 are accounted for

Annual LOLP Results with the TIGER Model 1989 Actual Winter Forecast: 2022-2030

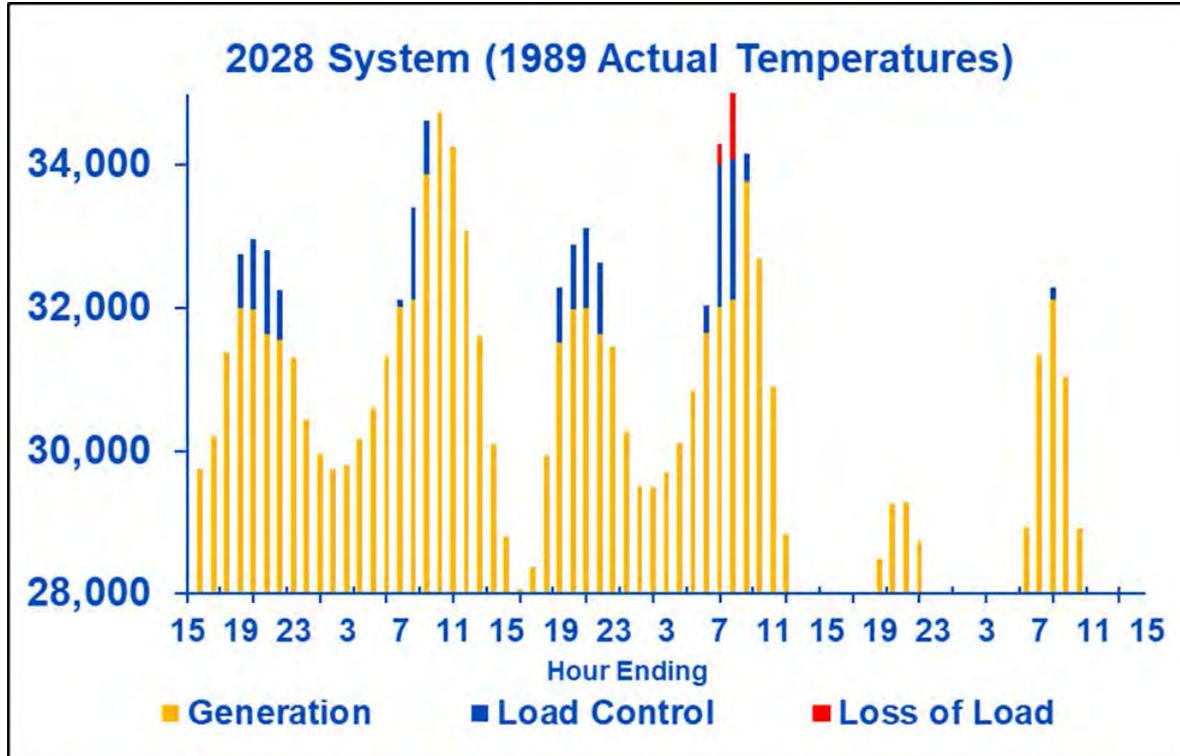
Assumptions	Case 1: w/ 1989-Actual Forecast & Revised LC	Case 2: Case 1 plus near-term resource additions
2021 TYSP resource plan with 1989-Actual Load Forecast	X	X
LC - Use Summer MW values as a proxy for LC capabilities w/ very cold temps	X	X
Short Term Winter 2022 PPAs (315 MW)		X
Winter Upgrades (794 MW)		X
Manatee 1 & 2 Retained - Winter Capacity Only (1,600 MW)		X
Projected Annual LOLP		
2022	5.486	2.416
2023	4.092	1.690
2024	5.871	2.493
2025	6.537	3.939
2026	6.529	3.915
2027	7.032	4.862
2028	7.293	5.428
2029	7.204	5.257
2030	7.090	5.155

LOLP criterion is a maximum of 0.10 day per year

Includes the near-term resource additions previously discussed

Approach # 2 again projects an inability to meet all load in the 2026-2030 period (the graph below shows the results for 2028 only)

Projected Loss of Load based on 1989 Actual Forecast For the Year 2028



These preliminary analyses assumed the 2021 TYSP resource plan w/ near-term resource additions and no generation forced outages

The next slide examines projected customer outages with the same 3 generation forced outage levels used earlier



Approach # 2 again quantified the amount of expected unserved energy and resulting customer impacts

Projected Customer Outages: 2026-2030

(includes the near-term resources & 3 levels of generation forced outages)

Number of Rotation Eligible Customers* = 3,500,000

	2026	2027	2028	2029	2030
Assumed Generation Forced Outages (MW)	0	0	0	0	0
# of Customer Outages (30 minutes each)	78,092	153,304	309,295	374,445	402,861
# of Outages per Rotation Eligible Customer	0.02	0.04	0.09	0.11	0.12
Assumed Generation Forced Outages (MW)	1,000	1,000	1,000	1,000	1,000
# of Customer Outages (30 minutes each)	363,871	513,441	802,024	1,090,181	1,967,514
# of Outages per Rotation Eligible Customer	0.10	0.15	0.23	0.31	0.56
Assumed Generation Forced Outages (MW)	2,000	2,000	2,000	2,000	2,000
# of Customer Outages (30 minutes each)	1,109,847	2,043,446	3,645,483	4,660,002	5,522,585
# of Outages per Rotation Eligible Customer	0.32	0.58	1.04	1.33	1.58

Even with the near-term additions, significant numbers of customer outages are still projected in the 2026 thru 2030 time period – additional resources will be needed to address this

The next step was to determine how many MW of new resources are needed to meet the LOLP criterion each year

Approach # 1: Resource MW Needed Thru 2030

- Although the TIGER model is often used to project LOLP values for a given resource plan, it can also be used to determine how many MW of new resources would need to be added to a resource plan to allow that plan to meet the LOLP criterion
- Assuming no new resources can be added until 2023, the TIGER results call for 6,000 MW of additional resources (beyond the 2021 TYSP plan plus near-term resources) thru 2030 as follows:

Year	Addl. MW Needed	Resulting LOLP
2023	2,200	0.098
2024	1,200	0.090
2025	1,300	0.098
2026	100	0.087
2027	700	0.091
2028	500	0.097
2029	0	0.082
2030	0	0.076

Total = 6,000

LOLP values are lower in 2029 & 2030 due to the addition of batteries (300 MW in 2029 and another 400 MW in 2030) in the 2021 TYSP resource plan

Also with Approach # 2, the next step was to determine how many MW of new resources are needed

Approach # 2: Resource MW Needed thru 2030

Using the previously introduced forced outage values (1,000 MW & 2,000 MW) for each year, the projected amounts of incremental MW (beyond the near-term additions) that were projected to allow FPL to serve the previously determined unserved load are shown in the tables below:

1,000 MW out	
Year	Addl. MW Needed
2024	1,400
2025	0
2026	100
2027	300
2028	500
2029	200
2030	100
Total =	2,600

2,000 MW out	
Year	Addl. MW Needed
2024	2,400
2025	0
2026	0
2027	400
2028	500
2029	300
2030	500
Total =	4,100

For both approaches, the AURORA model was then used to project the CPVRR cost impact of these additional resources

AURORA Modeling Approach

- The P50 load forecast for each year used in the 2021 TYSP work was modified by substituting the 1989-Actual forecast for January only (with no changes to other 11 months)
- The following assumptions for resource options were used:
 - All resource additions in the 2021 TYSP were assumed as a “given”
 - The near-term resource additions were also assumed as a “given”
 - The additional needed MW developed in each approach were assumed (for purposes of this analysis only) to be 4-hour batteries and these were also a “given” (later optimization analyses will determine the best resource(s) to add)
- AURORA then developed a new “re-optimized” resource plan for each approach for 2031-on to account for the impact of the new resources on the number and timing of 2031-on filler units

A comparison of the new plan for each approach, versus the 2021 TYSP resource plan, are presented on the next slides

The resulting resource plan for Approach # 1 is shown below

Comparison of “New” Resource Plan vs 2021 TYSP Plan: Resource Additions, Summer RM, & CPVRR Costs

2021 TYSP Resource Plan		
Year	Resource Additions	Summer RM%
2022	596 MW Solar	25.5
2023	745 MW Solar	21.6
2024	894 MW Solar	20.02
2025	894 MW Solar	20.07
2026	969 MW Solar	20.0
2027	969 MW Solar	20.0
2028	1,192 MW Solar	20.0
2029	1,192 MW Solar 3 x 100 MW Battery	20.0
2030	1,192 MW Solar 4 x 100 MW Battery	20.0
Solar MW Additions thru 2030 =		5,513
Storage MW Additions thru 2030 =		700
CPVRR \$ millions thru 2068 =		82,026

CPVRR Difference (millions) =

Resource Plan with Additional Batteries to Meet LOLP Criterion	
Resource Additions	Summer RM%
596 MW Solar	25.5
745 MW Solar 22 x 100 MW Battery	26.9
894 MW Solar 12 x 100 MW Battery	27.3
894 MW Solar 13 x 100 MW Battery	29.3
969 MW Solar 1 x 100 MW Battery	29.3
969 MW Solar 7 x 100 MW Battery	30.2
1,192 MW Solar 5 x 100 MW Battery	30.8
1,192 MW Solar 3 x 100 MW Battery	30.6
1,192 MW Solar 4 x 100 MW Battery	30.4
Solar MW Additions thru 2030 = 5,513	
Storage MW Additions thru 2030 = 6,700	
CPVRR \$ millions thru 2068 = 85,990	
3,964	

Battery additions shown in **bold black font** have been added to address the 1989-Actual Winter load

The two new resource plans for Approach # 2 are shown on the following slides

The resulting resource plan for Approach # 2 (assuming 1,000 MW of forced outages) is shown below

Comparison of “New” Resource Plan vs 2021 TYSP Plan: Resource Additions, Summer RM, & CPVRR Costs

2021 TYSP Resource Plan		
Year	Resource Additions	Summer RM%
2022	596 MW Solar	25.5
2023	745 MW Solar	21.6
2024	894 MW Solar	20.0
2025	894 MW Solar	20.1
2026	969 MW Solar	20.0
2027	969 MW Solar	20.0
2028	1,192 MW Solar	20.0
2029	1,192 MW Solar 3 x 100 MW Battery	20.0
2030	1,192 MW Solar 4 x 100 MW Battery	20.0
Solar MW Additions Thru 2030 =		5,513
Storage MW Additions Thru 2030 =		700
Total CPVRR (\$Millions):		82,026

CPVRR Difference (\$Millions) =

Resource Plan with Add'l Batteries to Meet Load with 1,000 MW of Forced Outages	
Resource Additions	Summer RM%
596 MW Solar	25.5
745 MW Solar	21.6
894 MW Solar 14 x 100 MW Battery	23.7
894 MW Solar	23.7
969 MW Solar 1 x 100 MW Battery	23.8
969 MW Solar 3 x 100 MW Battery	24.3
1,192 MW Solar 5 x 100 MW Battery	25.2
1,192 MW Solar 3 x 100 MW Battery 2 x 100 MW Battery	25.6
1,192 MW Solar 4 x 100 MW Battery 1 x 100 MW Battery	25.4
Solar MW Additions Thru 2030 =	5,513
Storage MW Additions Thru 2030 =	3,300
Total CPVRR (\$Millions):	83,443
1,417	

Battery additions shown in **bold black font** have been added to address the 1989-Actual Winter load

The resulting resource plan for Approach # 2 (assuming 2,000 MW of forced outages) is shown below

Comparison of “New” Resource Plan vs 2021 TYSP Plan: Resource Additions, Summer RM, & CPVRR Costs

2021 TYSP Resource Plan		
Year	Resource Additions	Summer RM%
2022	596 MW Solar	25.5
2023	745 MW Solar	21.6
2024	894 MW Solar	20.0
2025	894 MW Solar	20.1
2026	969 MW Solar	20.0
2027	969 MW Solar	20.0
2028	1,192 MW Solar	20.0
2029	1,192 MW Solar 3 x 100 MW Battery	20.0
2030	1,192 MW Solar 4 x 100 MW Battery	20.0
Solar MW Additions Thru 2030 =		5,513
Storage MW Additions Thru 2030 =		700
Total CPVRR (\$Millions):		82,026
CPVRR Difference (\$Millions) =		

Resource Plan with Add'l Batteries to Meet Load with 2,000 MW of Forced Outages		
Resource Additions	Summer RM%	
596 MW Solar	25.5	
745 MW Solar	21.6	
894 MW Solar 24 x 100 MW Battery	25.6	
894 MW Solar	25.6	
969 MW Solar	25.5	
969 MW Solar 4 x 100 MW Battery	26.1	
1,192 MW Solar 5 x 100 MW Battery	26.8	
1,192 MW Solar 3 x 100 MW Battery 3 x 100 MW Battery	27.2	
1,192 MW Solar 4 x 100 MW Battery 5 x 100 MW Battery	27.7	
Solar MW Additions Thru 2030 =		5,513
Storage MW Additions Thru 2030 =		4,800
Total CPVRR (\$Millions):		84,302
2,276		

Battery additions shown in **bold black font** have been added to address the 1989-Actual Winter load



Another option is under consideration: utilizing new smart meter technology to increase the number of rotation eligible customers

Overview of Smart Meters in FPL and Gulf

- **FPL’s legacy service area is served by ITRON smart meters**
 - Current meters have only limited ability to communicate with each other leaving feeder rotation as the only practical way to currently deal with a situation in which firm load is greater than available generation
- **Gulf’s legacy area is served by ~ 480,000 Sensus smart meters**
 - Only ~ 60,000 Sensus meters are capable of remote disconnect
- **Advanced smart meters now offer a number of advantages including (but not limited to):**
 - Enhanced storm restoration capability, particularly in Gulf’s area, thru ability to “ping” meters to identify if premise is receiving electric service
 - Future capability to communicate with specific appliances in homes (in conjunction with smart electric panels)
 - Enhanced ability for ITRON’s RIVA meters to communicate meter-to-meter, thus moving away from the current capability in which FPL can only send the same signal sent to all meters on a specific feeder

FPL will be conducting pilot testing of the ITRON RIVA meters in 2022



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FPL is making certain changes regarding resources, and planning to use a 1989 Actual Winter load forecast, in its 2022 IRP work that will be reflected in its 2022 TYSP

Changes

- **FPL is proceeding with the following resource changes and/or enhancements to better enable FPL to serve customers during very cold Winter events:**
 - Winterization enhancements to the fossil and nuclear generation fleets (see Appendix for more information)
 - Acquire the 315 MW of PPAs for the Winter of 2021/2022
 - Retain Manatee 1 & 2 through 2030 for use only with very cold events
 - Install ~ 790 MW of Winter only generation capacity upgrades (over several years)
 - Conduct pilot testing of ITRON RIVA meters in 2022 to – among other objectives – evaluate increasing feeder rotation capability
- **In addition, FPL is planning to use a 1989 Actual temperature-based load forecast for Winter in its IRP work:**
 - Use a 1989 Actual forecast for January only, and the same P50 forecast for all other months

With these changes to resources and the forecast, perform resource planning to address both Summer & Winter peaks

Changes (Continued)

- In regard to Summer load, perform analyses of resource plans that meet the 20% total reserve margin and 10% generation reserve margin criteria (business as usual)
- In regard to the 1989 Actual Winter load forecast, perform analyses based on Approach # 2 that seeks to eliminate or reduce customer outages assuming a specific forced outage MW level (that has yet to be determined)
- The AURORA optimization model will be used in these analyses
- The resource planning work is just beginning

FPL seeks to inform the FPSC Staff of these changes prior to filing its 2022 TYSP and discuss any questions/concerns the Staff may have

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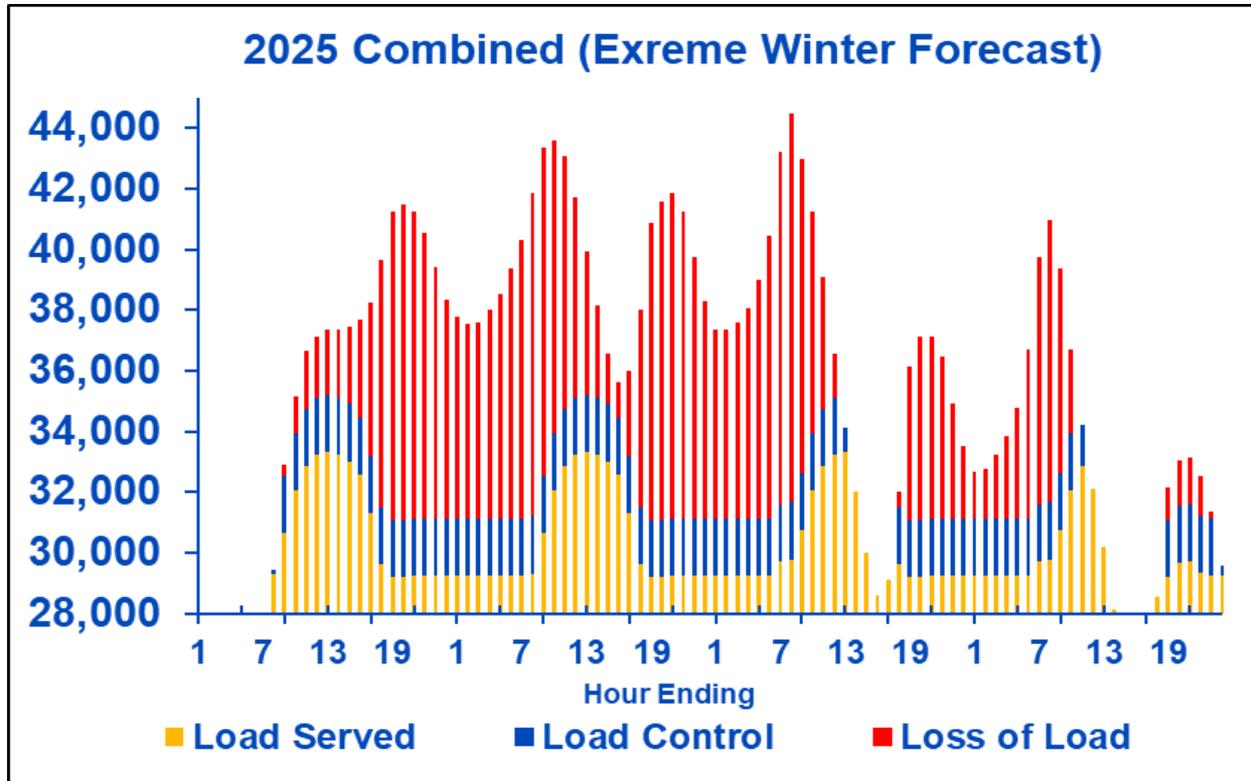
Winter Peak Forecasts (MW)

Winter Peak MW Forecasts

Year	2021 TYSP (P50)	2010-Actual	1989-Actual	Extreme Winter
2022	22,461	30,909	32,388	42,310
2023	22,869	31,475	32,978	43,079
2024	23,287	32,047	33,574	43,851
2025	23,624	32,507	34,053	44,470
2026	23,957	32,961	34,525	45,080
2027	24,199	33,285	34,861	45,344
2028	24,552	33,758	35,354	45,930
2029	24,916	34,246	35,861	46,521
2030	25,289	34,739	36,372	47,101

Hourly projections with the Extreme Winter forecast in 2025 are shown below

High Load Hours w/ Extreme Winter Forecast: 2025



Projections for these 96 hours are: (i) LC is used for 78 hours and (ii) load is not served in 74 hours



Two projections of “expected” values for generation forced outages were developed for use with Approach # 2

“Expected” Values for Generation Forced Outage MW

- **The first projection was based on the value that FPL’s System Operations group uses in planning annual maintenance schedules**
 - This projection is based on an assumption of having largest nuclear unit (St. Lucie 2) out, plus other fossil generation capacity out
 - For Winter, this total value is ~ 1,975 MW (which is slightly greater than the size of FPL’s largest unit, Ft. Myers 2)
- **A second projection was based on a MW-weighted forced outage value for the generation fleet**
 - Each unit’s Winter MW value was multiplied by that unit’s FOR (for example, a 1,000 MW unit with a FOR of 3% would yield an expected forced outage value of 30 MW for that unit)
 - The values for each unit were developed, then summed, to derive a fleet projection of ~ 1,000 MW

As a result, the analyses used two forced outage values: 1,000 MW and 2,000 MW

Florida Power & Light Company
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QUESTION:

Please identify and discuss steps, if any, that the Company has taken to ensure continued energy generation in case of a severe cold weather event.

RESPONSE:

FPL's Recommended Resource Plan presented in its 2022 Ten Year Site Plan includes a number of actions that FPL has already taken, and is planning to take, in order to prepare for extreme Winter events.

Regarding fossil generation, FPL has identified the following steps it intends to take in preparation for severe cold weather events if the Florida Public Service Commission finds that FPL's Recommended Resource Plan is suitable for planning:

- Adding the capability to burn backup distillate fuel oil at two Southwest Florida generating units (Manatee Unit 3 and Ft. Myers Unit 2);
- Utilizing two types of "near-term" capacity additions in the first half of the 2022-2031 period. The first of these near-term capacity additions is to delay the previously scheduled retirement dates of five generating units and, instead, repurpose them as Winter-only generating units that will be used only if extreme cold weather is forecast for FPL's service area. (These units are: Manatee Units 1 & 2, Gulf Clean Energy Center Units 4 & 5, and Lansing Smith Unit A. These five units, in total, comprise approximately 1,790 MW of Winter capacity). The second type of near-term capacity additions is to install upgrade packages to several of FPL's existing combined cycle generating units to increase their capacity during extreme cold weather events.

In addition, FPL has begun to achieve enhanced cooperation between FPL and suppliers of natural gas and backup distillate fuel oil. FPL's Recommended Resource Plan also shows the addition of 1,400 MW of additional battery storage facilities in latter half of the ten-year reporting period of the 2022 Ten Year Site Plan to enable FPL to better maintain system reliability during an extreme Winter event.

FPL also took similar winterization steps for its fossil generation like nuclear generation described below. For additional details, see FPL's response to Staff's Second Data Request No. 4.

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Regarding nuclear generation, FPL has completed the following items in preparation for severe cold weather events:

- St. Lucie and Turkey Point nuclear sites performed an extensive engineering evaluation to identify any vulnerabilities based on the 2021 Texas severe cold weather event.
- Summarized below are the actions taken based on the engineering evaluation:

The St. Lucie evaluation identified the following needs:

- ~ 15,000 linear feet of heat trace and insulation on various instrument and process lines. To date, FPL is approximately 50% complete and will be 100% complete by October 1, 2022.

The Turkey Point evaluation identified the following needs:

- ~ 10,000 linear feet of heat trace and insulation on various instrument and process lines. To date, FPL is approximately 30% complete and will be 100% complete by October 1, 2022.

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QUESTION:

Please identify any future winterization plans, if any, the Company intends to implement over the current planning period.

RESPONSE:

Regarding fossil-fueled and nuclear generation facilities, please see FPL's response to Staff's First Data Request No. 93.

Regarding Transmission and Distribution ("T&D") facilities, FPL will be taking a multi-pronged approach for mitigating extreme weather loads. This includes T&D new construction in the FPL service area (base) and two T&D Winterization Programs (SPP clause) to upgrade the capacity of certain existing critical T&D facilities to better meet the forecasted increase in demand associated with an extreme cold weather event as described in FPL's Storm Protection Plan filed on April 10, 2022 (Docket No. 20220051-EI) which is located at: <http://www.floridapsc.com/library/filings/2022/02358-2022/02358-2022.pdf>.

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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.

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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.

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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).

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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

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- 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.

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		FPL	Gulf
1.	<p>If your organization owns fossil-fired units, do you conduct surveys with fuel suppliers for delivery of fuel during extreme cold weather?</p> <p>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</p>	A	A
		FPL	Gulf
1a.	<p>If your answer to (1) was (A), (B), or (C): Which entities do you or will you communicate the results with?</p> <p>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)</p>	D	D
		FPL	Gulf
1b.	<p>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?</p> <p>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)</p>	A	A
		FPL	Gulf
1c.	<p>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?</p> <p>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)</p>	A	A
		FPL	Gulf
2.	<p>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?</p> <p>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</p>	A	A

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		FPL	Gulf
3.	<p>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)?</p> <p>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</p>	A	A
		FPL	Gulf
4.	<p>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:</p> <p><input checked="" type="checkbox"/> Wellhead freezing history/projections <input checked="" type="checkbox"/> Compressor loss history/projections <input checked="" type="checkbox"/> Back-up options if electric service is dropped (e.g. propane heaters, battery/electric storage) <input checked="" type="checkbox"/> Processing plant and gas treatment facility performance history/projections</p> <p>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</p>	A	A
		FPL	Gulf
5.	<p>If you own fossil-fired units, has your organization surveyed the unit weatherization and availability for the following factors:</p> <p><input checked="" type="checkbox"/> Minimum temperature and time needed for the resources to start <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> Seasonal emissions/environmental surveys <input checked="" type="checkbox"/> Minimum alternate fuel burning procedures <input checked="" type="checkbox"/> Water-related vulnerabilities</p> <p>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</p>	A	A
		FPL	Gulf
6.	<p>If you own solar-powered units, has your organization surveyed the unit weatherization and availability for the following factors:</p> <p><input checked="" type="checkbox"/> De-icing capability <input checked="" type="checkbox"/> Low and High Ambient Temperature Constraints <input checked="" type="checkbox"/> Actions for snow cover <input checked="" type="checkbox"/> Unit maintenance schedule <input checked="" type="checkbox"/> Evaluate increasing likelihood of forced outages and de-rates under extreme conditions</p> <p>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</p>	A	A

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		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

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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.

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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.

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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.

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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.

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- 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.

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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.

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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

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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 original contract documents
- No additional demineralized water make-up trailers or oil deliveries included in analysis

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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.

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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.

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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.

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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.

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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.

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- 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.

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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.

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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.

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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

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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).

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

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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.

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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



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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.

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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>

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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.

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e. None.

f. None.

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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.

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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" (50th 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.

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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.

Wright, Christopher

From: "Wright, Christopher"
Sent: Wednesday, May 11, 2022 10:37 AM
To: Rehwinkel, Charles; Morse, Stephanie
Subject: RE: FPL SPP - Follow-up on Winterization Objections (Informal Response)

Charles and Stephanie,

Thank you for the response. I am sorry to hear that our informal response and offer do not resolve the discovery dispute regarding the non-SPP winterization programs.

My client continues to maintain its position and objection that the that information related to non-SPP winterization measures and initiatives is not relevant in this proceeding because FPL's 2023-2032 Storm Protection Plan does not present or seek approval of any non-SPP winterization measures, initiatives, or strategies. The non-T&D winterization measures are the subject of and being addressed as part of FPL's 2022 Ten-Year Site Plan that has been separately filed with the Commission and is currently being reviewed by Staff.

However, as previously discussed and offered, FPL remains willing to answer discovery related to the Distribution Winterization Program and the Transmission Winterization Program proposed in FPL's 2023-2032 Storm Protection Plan, including questions about the underlying analysis and support for the SPP winterization programs, the relationship or inter-dependency of these SPP winterization programs to the non-SPP winterization programs, and the expected frequency or occurrence of a winter-type event that is being addressed by the proposed SPP winterization programs. To the extent that OPC has any such discovery requests and promptly serves them on FPL, we will endeavor to answer the requests as soon as practical and strive to provide the responses prior to the due date of intervenors' testimony in this docket.

Thank you for your efforts to try and resolve this discovery dispute. Please do not hesitate to contact me if you wish to further discuss.

With best regards,
-Chris Wright

Christopher T. Wright

Senior Attorney

Florida Power & Light Company

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Juno Beach, Florida 33408

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Admitted in Pennsylvania; Florida Authorized House Counsel



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From: Rehwinkel, Charles <REHWINKEL.CHARLES@leg.state.fl.us>
Sent: Tuesday, May 10, 2022 1:41 PM
To: Wright, Christopher <Christopher.Wright@fpl.com>; Morse, Stephanie <MORSE.STEPHANIE@leg.state.fl.us>
Subject: RE: FPL SPP - Follow-up on Winterization Objections (Informal Response)

Caution - External Email (rehwinkel.charles@leg.state.fl.us)

[Report this Email](#) [Quick response](#) [Emergency response](#) [Tips](#)

Chris:

Thank you very much for the response and for seeking a compromise. I only yesterday was able to get some clarity internally and we have decided that we need the broader comprehensive discovery and short of that to have the Commission decide this issue. As I mentioned last week we intend to notice a deposition in advance of the testimony deadline and to effectively do that we need to have to complete picture of the winterization plan.

I am happy to talk further in person to avoid filing a motion but we are running out of time.

Thank you,
Charles

From: Wright, Christopher <Christopher.Wright@fpl.com>
Sent: Tuesday, May 10, 2022 1:02 PM
To: Rehwinkel, Charles <REHWINKEL.CHARLES@leg.state.fl.us>; Morse, Stephanie <MORSE.STEPHANIE@leg.state.fl.us>
Subject: FPL SPP - Follow-up on Winterization Objections (Informal Response)

Hi Stephanie and Charles,

I am following up on our conversations on 5/5 and 5/6 regarding FPL's objections in the SPP docket to OPC's Second Set of Interrogatories No. 13 and OPC's Second Requests for Production of Documents No. 6 regarding the non-SPP winterization measures or initiatives.

As discussed, FPL maintains its objections that information related to non-SPP winterization measures and initiatives is not relevant because FPL's 2023-2032 Storm Protection Plan does not present or seek approval of any non-SPP winterization measures, initiatives, or strategies. Rather, FPL's 2023-2032 Storm Protection Plan only seeks approval of two limited winterization hardening programs, the Distribution Winterization Program and the Transmission Winterization Program. That being said, FPL is willing to provide this informal response in an effort to reach a compromise on the discovery dispute

I am informally providing, subject to maintaining our objections, the attached information related to FPL's non-SPP winterization measures. The attached information includes the following:

- A PowerPoint deck that was presented to PSC Staff in November 2021, which led to the development of the final winterization measures
- FPL's responses to Staff's First Data Request (Nos. 93-94) and Second Data Request (Nos. 1-18) regarding winterization for the 2022 Ten-Year Site Plan (note: excluded responses that are not applicable to winterization)

Details regarding FPL's non-SPP winterization measures, initiatives, and strategies are provided in the foregoing and in FPL's 2022 Ten-Year Site Plan, which is available at: <http://www.psc.state.fl.us/ElectricNaturalGas/TenYearSitePlans>.

Further, FPL is willing to respond to a formal discovery request explaining whether the SPP winterization measures included in FPL's 2023-2032 Storm Protection Plan are inter-dependent to the non-SPP winterization measures. If this is agreeable and needed, please send me a formal discovery request and we will promptly provide a response.

I am hopeful that the foregoing will help resolve the outstanding discovery dispute. Please let me know if you have any questions or wish to further discuss.

With best regards,
-Chris Wright

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Appendix E



Power Delivery Winterization Update

Power Delivery has completed detailed analysis of system capacity and philosophy for extreme winter scenarios

Executive Summary

- **Transmission and Distribution detailed system analysis yielded overall reduction in extreme winter mitigation costs from original estimate**
 - Five year execution plan - \$467MM (2022-27)
- **Aligning operating and design philosophies between FPL and Gulf provide both operational efficiencies and reliability benefits**
- **Distribution system review highlighted opportunities for alignment and upgrades - \$353MM**
 - Feeder and Lateral operating philosophy alignment
 - Field transformer loading philosophy alignment and upgrades
- **Transmission system review highlighted opportunities for alignment and upgrades - \$114MM**
 - Power Transformer emergency ratings alignment
 - Regulator/Reactor upgrades
 - Transmission Line Upgrades

Power Delivery has completed detailed analysis of system capacity and philosophy for extreme winter scenarios

Executive Summary

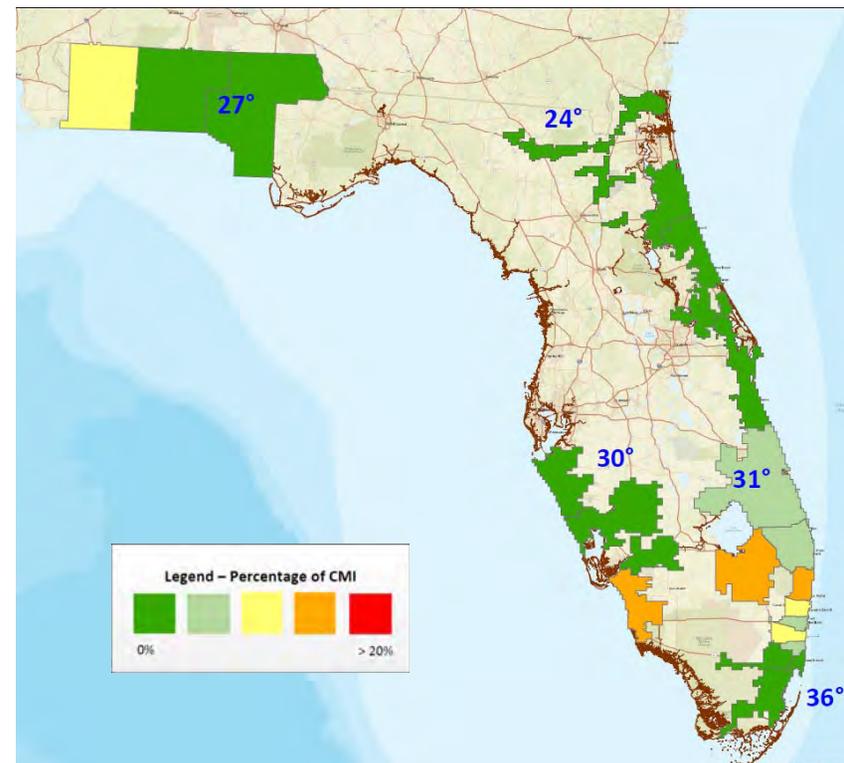
- **After internal capital adjustments no incremental increase required for Winterization in Power Delivery, however requires year over year budget shifts**
 - Options available to recover via SPP or include in base rates

Power Delivery analyzed impact from January 2010¹ with current design and cold weather operating philosophy

January 2010 Reliability Impact

- Major reliability impact due to temperatures below average for a prolonged period
 - Record – 5 days of high temperatures below 60 deg
 - Avg 12-day temp – 49.9°F
- Largest reliability impacts regionalized for both FPL and Gulf Power
 - South of Lake Okeechobee (FPL)
 - West (Pensacola – Gulf)
- System performance, operating, and design philosophies reviewed from the meter to the substation

CMI by Region



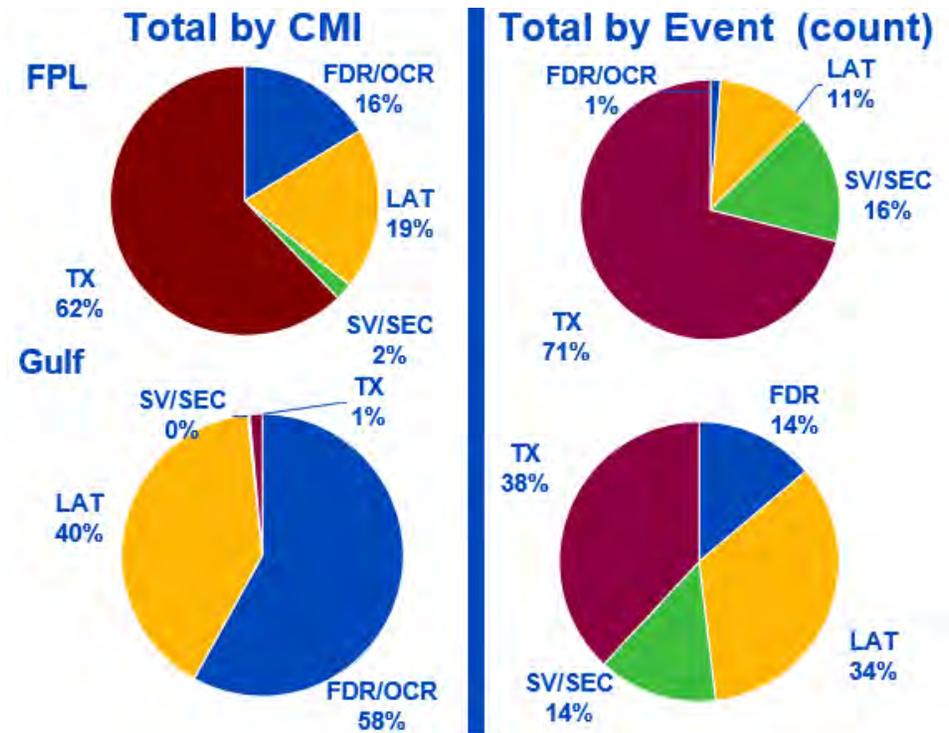
*1/10/10 actual low temperatures

1) 1989 detailed reliability information unavailable, 2010 impacts utilized as baseline for extreme cold-weather impact

Gulf and FPL's systems both had significant reliability impact, but responded differently to the event

2010 Review

- Significant CMI events for both operating companies
- Primary reliability drivers differed by company
 - FPL – Field Transformers (underground)
 - Gulf – OH Feeders
- Low temperature conditions emphasis for evaluation
 - Cold load pickup
 - Overload



Both FPL and Gulf saw major outlier events in January 2010

The 2010 winter reliability event impacted both FPL and Gulf's distribution system requiring review of philosophies

Distribution

- **Meter to transformer (secondary) – no change to philosophy**
- **Field Transformers – address reliability impacts at FPL**
 - Align initial loading and replacement criteria
 - 6,000 field transformers at FPL - \$33MM
- **Laterals – address overload scenarios at Gulf Power**
 - Accelerate completion of ALS installation at Gulf Power - \$6MM incremental 2022, reduce \$3MM/yr. 2023-24
 - Align lateral loading and fusing philosophies with FPL
 - Legacy system addressed by SSUP and CEMI programs
- **Feeders**
 - Align design and operating philosophies between FPL and Gulf
 - 87 Feeders, 9 Substations at Gulf - \$284MM
 - 11 Feeders, 1 Substation at FPL - \$36MM

Distribution upgrades require \$353MM to mitigate forecasted winter conditions



The 2010 winter reliability event proved little impact due to transmission/substation facilities

Transmission/Substation

- **Due to cold weather load forecast – portions of the transmission system must be addressed**
- **Transmission**
 - 36 miles of transmission upgraded at a cost of \$75MM – FPL only
- **Substation Power Transformers**
 - Align FPL and Gulf emergency rating philosophy
 - Increase Gulf capacity from 130% to 150% in winter
 - FPL total substation transformer capacity is ~ 56,000MVA, 4 transformers to be upgraded - \$8MM
 - Gulf total substation transformer capacity is ~3,100 MVA, 12 transformers to be upgraded - \$28MM
- **Substation Regulators and Reactors**
 - Cold weather load exceeds current capability on 90 regulators and 9 reactors - \$3M

Transmission/Substation upgrades require \$114MM to mitigate forecasted winter conditions



Power Delivery Winterization detailed evaluation resulted in a cost reduction from \$1,039MM to \$467MM

	Revised Forecast	FPL		Gulf		Total Cost
Substation Transformers	Replace/Install 16 transformers – align philosophy	4	\$8MM	12	\$28MM	\$36MM
Substation Equipment	Replace 90 Regulators and 9 Reactors	66 Regulators 9 Reactors	\$2.25MM	24 Regulators	\$0.75MM	\$3MM
New Feeders	Build 98 new feeders – align philosophy	11	\$20MM	87	\$140MM	\$160MM
New Substations¹	Build 10 new substations	1	\$16MM	9	\$144MM	\$160MM
Field Transformers	Replace 6,000 transformers – FPL only	6,000	\$33MM	0	0	\$33MM
Transmission	Upgrade 36 miles of transmission line	36	\$75MM	0	0	\$75MM
Laterals	Accelerate ALS program at Gulf from YE 2024 to YE 2022	0	0	Incremental 2022	\$6MM	\$6MM incremental 2022, reduction 2023-24
Total		\$154.25MM		\$312.75MM		\$467MM

- **Prior Estimated Costs**
 - Gulf: \$305MM - \$610MM
 - FPL: \$344MM - \$429MM
 - Total: \$649MM - \$1,039MM

Alignment of philosophies and detailed system review reduced estimated costs to \$467MM, a significant reduction from original estimate

1) New Substations required in support of new feeder construction

A portion of plan may be recoverable by SPP as currently defined

Clause/Base Split

	Revised Forecast	SPP* Units	SPP Cost	Base Units	Base Cost	Total Cost
Substation Transformers	Replace/Install 16 transformers – align philosophy	16	\$36MM			\$36MM
Substation Equipment	Replace 90 Regulators and 9 Reactors	60	\$1.9MM	30/9	\$1.1MM	\$3MM
New Feeders	Build 98 new feeders – align philosophy			98	\$160MM	\$160MM
New Substations	Build 10 new substations			10	\$160MM	\$160MM
Field Transformers	Replace 6,000 transformers – FPL only	4500	\$24.7MM	1500	\$8.3MM	\$33MM
Transmission	Upgrade 36 miles of transmission line	36	\$75MM			\$75MM
Laterals	Accelerate ALS program at Gulf from YE 2024 to YE 2022			1	\$6MM incremental 2022	\$6MM incremental 2022, reduction 2023-24
Total			\$137.6MM		\$329.4MM	\$467MM

*Requires 2023 SPP filing

Note: 2022 SPP Filing is complete, no new items included into 2022 SPP budget

- **Already included in SPP filing**
 - Feeder Hardening – 6 feeders at Gulf YE 2022
 - Power Transformers – 1 Increased Capacity – Philips Inlet (Gulf)

After internal capital adjustments, no incremental increase is required for winterization, year over year shift only

Winterization/SR 80/SR 70 Preliminary Capital - Yearly

	Items	# of Items	2022 (\$MM)	2023 (\$MM)	2024 (\$MM)	2025 (\$MM)	2026 (\$MM)	2027 (\$MM)	Capital Total
	Winterization		\$ 15.4	\$ 83.0	\$ 132.2	\$ 124.4	\$ 80.0	\$ 32.0	\$ 467.0
FPL	New Substations	1		\$ 16.0					\$ 16.0
	New Feeders	11		\$ 9.0	\$ 11.0				\$ 20.0
	Sub Power Transformers - Replacements	4		\$ 4.0	\$ 4.0				\$ 8.0
	Voltage Regulators - 3 per item	22	\$ 0.7	\$ 0.8	\$ 0.7				\$ 2.1
	Reactors - 3 per item	3	\$ 0.2						\$ 0.2
	Distribution Padmount Transformers	4000	\$ 5.5	\$ 5.5	\$ 11.0				\$ 22.0
	Distribution Aerial Transformers	2000	\$ 2.8	\$ 4.1	\$ 4.1				\$ 11.0
	Transmission Improvements			\$ 21.0	\$ 35.0	\$ 19.0			\$ 75.0
Gulf	New Substations	9			\$ 32.0	\$ 64.0	\$ 48.0		\$ 144.0
	New Feeders	87		\$ 16.0	\$ 28.0	\$ 32.0	\$ 32.0	\$ 32.0	\$ 140.0
	Sub Power Transformers - Increase Capacities	9		\$ 7.3	\$ 7.3	\$ 7.4			\$ 22.0
	Sub Power Transformers - Replacements	3		\$ 2.0	\$ 2.0	\$ 2.0			\$ 6.0
	Voltage Regulators - 3 per item	8	\$ 0.3	\$ 0.3	\$ 0.2				\$ 0.8
	ALS		\$ 6.0	\$ (3.0)	\$ (3.0)				\$ -
	State Road 80 Rebuild Project		\$ 3.0	\$ 144.0	\$ 223.0	\$ 7.0			\$ 377.0
	State Road 70 Rebuild Project		\$ 1.0	\$ 1.0	\$ 2.0	\$ 27.0	\$ 206.0	\$ 97.0	\$ 334.0
	Total - Winterization, SR70, SR80		\$ 19.4	\$ 228.0	\$ 357.2	\$ 158.4	\$ 286.0	\$ 129.0	\$ 1,178.0
	500 kV Loop (AFUDC)				\$ (445.4)	\$ (506.7)	\$ (535.2)		\$ (1,487.3)
	Gulf Power - Major Projects Budget			\$ (90.0)					\$ (90.0)
	Totals - Winterization/SR80/SR70 incl. Project adjustments		\$ 19.4	\$ 138.0	\$ (88.2)	\$ (348.3)	\$ (249.2)	\$ 129.0	\$ (399.3)
	Total Estimated Clause (SPP)			\$ (45.0)	\$ (64.2)	\$ (28.4)	\$ -	\$ -	\$ (137.6)
	Total Estimated Base		\$19.4	\$93.0	(\$152.4)	(\$376.7)	(\$249.2)	\$129.0	(\$536.9)

Capital budget shift from 2025 into 2023 and 2027 will allow existing budget to self-cover winterization

Plan execution requires modification to Power Delivery core practices

Next Steps

- **Modify Power Delivery annual system planning process to include extreme winter scenarios**
- **Adjust system standards and design criteria – change management process**
 - Engineering workshops
 - Documentation
- **Review reliability impacts related to new feeder construction**
 - 3 – 5 min reduction in SAIDI for Gulf Region

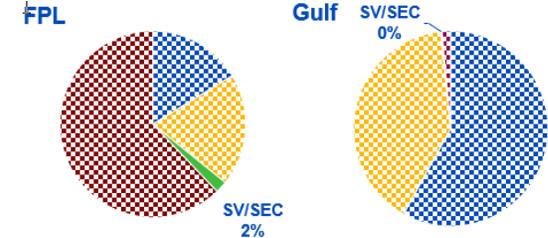


Appendix

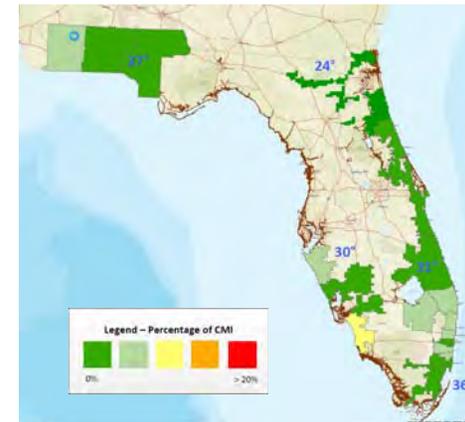
OH/UG Service Standards are aligned between Gulf and FPL

Meter to Transformer

- Gulf and FPL services are sized to meet the capability of home electrical panels
- Review of January 2010 proved limited overall impact - ~1% of total
 - Primary impacts driven by legacy conductors smaller than current design guidelines
 - Splices/connectors primary failure points
- Legacy conductor continues to be inherent risk and will be addressed by SSUP program
 - Small wire services
 - Open wire secondary



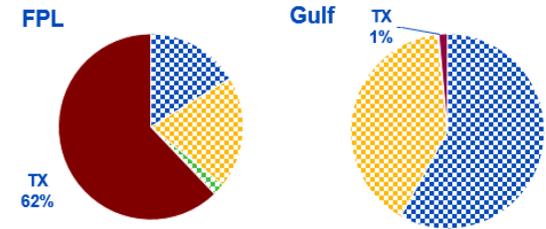
Service CMI



No recommended changes to service philosophy or mitigations required

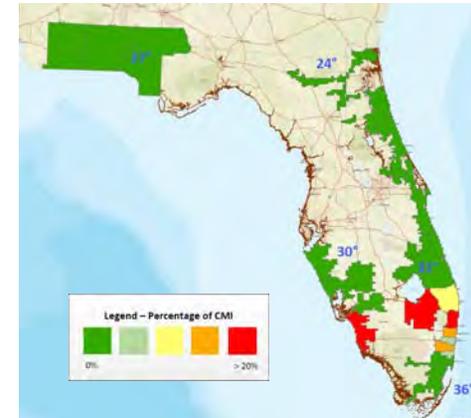
Field transformer outages drove overall reliability impact during January 2010's winter event for FPL

Field Transformers



- **Largest CMI contributor for FPL in 2010 – Underground units**
 - Failures primarily due to loading impacts
- **Regionalized impacts observed south of Lake Okeechobee**
 - Increased population (load) during winter in south – “Snowbirds”
 - More diversity in non-electric heating sources north of Lake (gas, fireplaces, etc.) – reduced loads
- **Recommendations:**
 - Align FPL and Gulf philosophies
 - Proactive replacement of 6,000 units - \$33.0MM

Transformer CMI



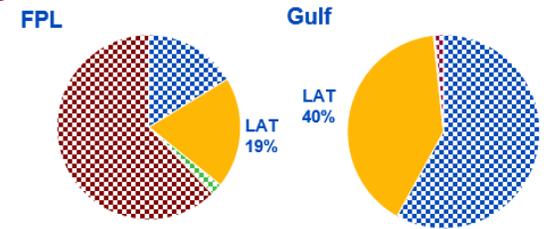
	FPL Existing		Gulf Existing		Proposed	
	Summer	Winter	Summer	Winter	Summer	Winter
Initial Loading	120%	200%	125%	140%	100%	120%
Changeout Loading	200%	200%	160%	180%	160%	180%



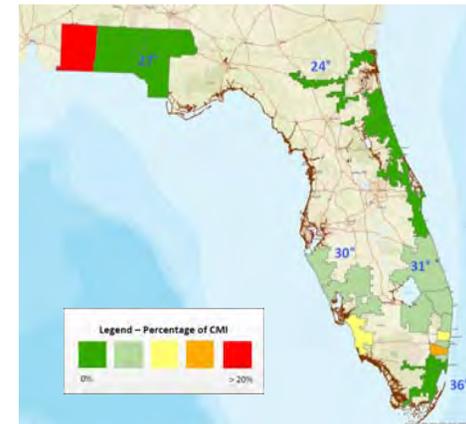
While lateral outages were an impact during the 2010 event, programs exist to mitigate exposure

Laterals

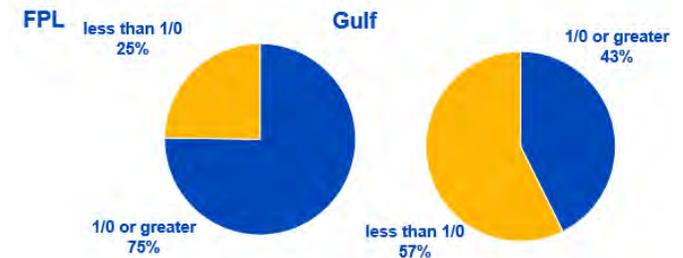
- During the January 2010 event, lateral outages were a challenge for both Gulf and FPL
 - 40% total CMI – Gulf, 20% total CMI – FPL
 - Overload – Gulf, Equipment Failure – FPL
 - Both main causes primarily on legacy “small wire” (conductor < 1/0)
 - Undersized fuse sizing drove outages at Gulf
- Existing programs will address small wire/ legacy fuse sizing concerns
 - ALS – minimize fusing variety, eliminate cold load pickup/overload, align fusing standards
 - Gulf planned completion YE 2024
 - SSUP – eliminate legacy OH laterals
 - CEMI – reactive program – problem laterals



Lateral CMI



Legacy Conductor



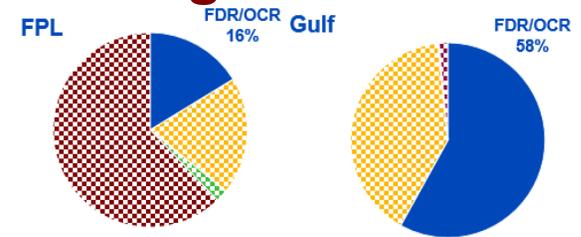
Gulf's ALS deployment can be accelerated from YE 2024 to YE 2022 for additional \$6MM incremental



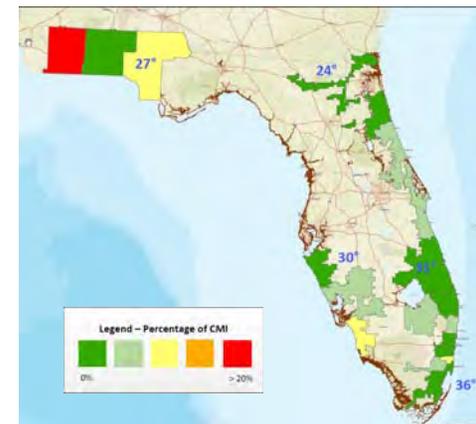
Review of 2010's winter event proved Feeder outages were a large impact at Gulf due to overload

Feeders

- Feeder performance differed between FPL and Gulf during the January 2010 event
 - Gulf – ~60% CMI, FPL – ~20% CMI
 - Gulf – overload, FPL – equipment failure
- Alignment of philosophies for winter loading of feeders will mitigate previous overload scenarios at Gulf Power
 - 720A (840A emergency), part of yearly planning and system expansion process
 - Mitigate cold load pickup/overload scenarios
- Reviewing forecasted loads/alignment criteria
 - FPL – 11 new feeders
1 new substation – \$36MM
 - Gulf – 87 new feeders
9 new substations - \$284MM



Feeder CMI



	FPL Existing		Gulf Existing		Proposed	
	Summer	Winter	Summer	Winter	Summer	Winter
Loading Criteria	600A	720A	600A	N/A	600A	720A
Construction (future alignment)	568 (600A)		795 (900A)		568	

Winterization efforts will require a \$320MM investment over the next five (5) years to reduce feeder loading



Team Recommendations differ from original estimates due to deeper analysis of philosophies and system capabilities and updated forecast information

Summary of Recommendations

	FPL	Gulf
Meter to Transformer	No recommended actions – maintain aligned philosophy	
Field Transformers	Change initial and change-out (capacity upgrade) criteria to align with Gulf: Initial: 100%/120%, Changeout 160%/180% (Summer/Winter) Replace 6,000 units with forecasted overload	Reduce initial loading criteria to align FPL and Gulf philosophies – 100%/120% (Summer/Winter)
Laterals	No recommended changes	Align philosophies with FPL – lateral fusing and standards guideline, accelerate ALS deployment
Feeders	No changes to philosophy – build 11 feeders	Address legacy feeders (pre-2017 philosophy), build 87 feeders
Regulators/Reactors	Replace 66 regulators, 9 reactors that are forecasted to exceed rated capabilities	Replace 24 regulators, that are forecasted to exceed rated capabilities
Substation Transformers	Replace 4 Power Transformers	Adopt FPL emergency rating philosophy (130% Summer, 150% Winter), Add 9 Transformers, Replace 3
Substations	1 New Substation	9 New Substations
Transmission	Upgrade ampacity on 6 Transmission Lines/Sections (~36 miles)	No recommended actions – Gulf transmission capable for forecasted loads

Reductions in estimated new substations and substation transformers reduces previously estimated overall costs

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by Electronic Mail to the following parties of record this 13th day of May 2022:

<p>Walter Trierweiler, Esquire Theresa Lee Eng Tan, Esquire Jacob Imig, Esquire Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399 wtrierwe@psc.state.fl.us jimig@psc.state.fl.us ltan@psc.state.fl.us <i>For Commission Staff</i></p>	<p>Office of Public Counsel c/o The Florida Legislature 111 West Madison Street, Room 812 Tallahassee, FL 32399-1400 Gentry.richard@leg.state.fl.us rehwinkel.charles@leg.state.fl.us morse.stephanie@leg.state.fl.us wessling.mary@leg.state.fl.us christensen.patty@leg.state.fl.us <i>For Office of Public Counsel</i></p>
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s/ Christopher T. Wright

Christopher T. Wright

Fla. Auth. House Counsel No. 1007055

Attorney for Florida Power & Light Company