

State of Florida



Public Service Commission

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-M-E-M-O-R-A-N-D-U-M-

DATE: March 27, 2017

TO: Office of Commission Clerk (Stauffer)

FROM: Division of Accounting and Finance (Barrett, Cicchetti) *MCB*
Office of the General Counsel (Brownless) *ASL* *ALM*

RE: Docket No. 170057-EI – Analysis of IOUs' hedging practices.

AGENDA: 04/04/17 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Brisé

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

Case Background

This docket is the result of a comprehensive review of hedging practices that began in Docket No. 150001-EI. Duke Energy Florida, LLC (DEF), Florida Power & Light Company (FPL), Tampa Electric Company (TECO), and Gulf Power Company (Gulf) (collectively, IOUs) use hedging practices to buy a portion of the fuels used in their generating plants.¹

¹Pursuant to Order No. PSC-16-0560-AS-EI, issued December 15, 2016, in Docket No. 160021-EI, *In re: Petition for rate increase by Florida Power & Light Company*, FPL agreed to a four-year moratorium on financial hedging through December 31, 2020. Pursuant to a settlement agreement approved in Order No. PSC-16-0547-FOF-EI, issued December 5, 2016, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*, DEF, TECO, and Gulf agreed to a one-year moratorium on financial hedging through December 31, 2017. However, pursuant to a settlement agreement filed March 20, 2017, in Docket No. 160186-EI, *In re: Petition for rate increase by Gulf Power Company*, Gulf has agreed to an extension of its existing moratorium on financial hedging through December 31, 2020. This agreement is the subject of a hearing scheduled for April 4, 2017.

Order No. PSC-15-0586-FOF-EI² (2015 Fuel Order) provided a robust background on how the Commission's policy on hedging has developed over time, and describes the key actions the Commission has taken regarding the hedging programs that Florida's four largest IOUs use today. The information in the 2015 Fuel Order is summarized below.

Financial hedging involves using swap contracts or options, or both, to fix the price of fuel at the time the hedge instrument is executed for fuel to be delivered at a future date. Physical hedging involves using long-term fixed price contracts with suppliers, or physical possession of fuel, to fix the price of fuel over a period. Hedging allows utilities to manage the risk of volatile swings in the price of fuel. In response to significant fluctuations in the price of natural gas and fuel oil during 2000 and 2001, the Commission raised issues regarding the utilities' management of fuel price risk as part of the 2001 fuel clause proceeding. The specific issues raised involved the reasonableness of financial hedging as a tool to manage fuel price risk and the appropriate regulatory treatment of hedging gains and losses. These issues were spun off to Docket No. 011605-EI for further investigation.

At the hearing for Docket No. 011605-EI, parties reached a settlement of all issues. By Order No. PSC-02-1484-FOF-EI (Hedging Order),³ the Commission approved the settlement of the issues. Specifically, the settlement provided a framework that incorporated hedging activities into fuel procurement activities. For natural gas, fuel oil, and purchased power, the settlement allowed Florida's generating IOUs to recover prudently incurred hedging costs through the fuel clause. The Hedging Order specified that the Commission would review each IOU's hedging activities as part of the annual fuel proceeding.

The Hedging Order required utilities to file risk management plans as part of their true-up filings. The intent of this requirement was to allow the Commission and parties to the fuel docket to monitor utility hedging activities. As part of the annual final true-up filings in the fuel docket, utilities were required to state the volumes of fuel hedged, the type of hedging instruments used, the average length of the term of the hedge positions, and the fees associated with hedging transactions.

Although the Hedging Order allowed utilities flexibility in the development of risk management plans, the order set forth guidelines utilities were to follow. For example, the order required that risk management plans identify the objectives of the hedging programs and the minimum quantities to be hedged. The order also required that plans provide mechanisms and controls for the proper oversight of hedging activities and for monitoring fuel price risk.

In tandem with Docket No. 011605-EI, staff conducted a review of internal controls for fuel procurement.⁴ This study examined the practices, procedures, controls, and policies these companies followed when purchasing fossil fuels and wholesale energy. The study period looked

²Order No. PSC-15-0586-FOF-EI, issued December 23, 2015, in Docket No. 150001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*.

³Order No. PSC-02-1484-FOF-EI (Hedging Order), issued October 30, 2002, in Docket No. 011605-EI, *In re: Review of investor-owned electric utilities' risk management policies and procedures*.

⁴Internal Controls of Florida's Investor-Owned Utilities for Fuel and Wholesale Energy Transactions, published in June 2002.

at data from 1998 through 2001. The study concluded that the Florida IOUs had engaged in physical hedging in fuel procurement but very limited financial hedging. At the time, the IOUs had not set up the proper controls to engage in extensive financial hedging. Also, for the period studied, TECO and Gulf had little exposure to the volatility of natural gas prices due to their respective generation mixes.

The Commission reviewed its policy on hedging again in 2007 as part of the annual fuel cost recovery docket. Parties raised questions regarding the period for which the Commission was determining the prudent costs of hedging activities. The Commission deferred its decision on the prudence of 2007 hedging activity costs to 2008 in order to allow for sufficient review of the matter.

Following the 2007 fuel hearing, staff initiated two audits of the IOUs' hedging programs. Staff conducted a management audit that reviewed the IOUs' hedging programs to assess the costs and benefits realized since the implementation of the Hedging Order. Staff also reviewed the IOUs' accounting treatment of 2007 hedging activities to determine compliance with the risk management plans filed in 2006.

The management audit assessed the current and historical strategies of the fuel procurement hedging programs within each company, evaluated hedging objectives set forth in each company's risk management plan, and quantified the net costs and benefits of each company's hedging program. Specifically, staff examined the structure and performance of hedging natural gas and fuel oil through the use of physical purchases and financial instruments for the years 2003 through 2007. Staff collected information from each company's policies and procedures, organizational charts, risk management plans, and historical hedging transactions, and provided an analysis of each company. In June 2008, Commission staff issued a report titled Fuel Procurement Hedging Practices of Florida's Investor-Owned Electric Utilities.

In its 2008 report, staff found that each company shared a universal goal of purchasing financial hedges for its fuel procurement, that is, to reduce the impacts of uncertain fuel prices on consumers. In their hedging activities, the companies were not attempting to speculate on price movements in the market. Rather, each was working to stabilize its annual fuel costs by initializing and settling financial hedging transactions through authorized financial counterparties. The volumes of gas and fuel oil hedged were less than the total volumes expected to be purchased. The balance of gas and fuel oil procured was purchased on the spot market. Overall, audit staff concluded that the use of financial hedges for fuel purchases provided a benefit to utility customers.

In response to the deferral of the determination of the prudent costs in the 2007 fuel hearing, on January 31, 2008, FPL filed a petition requesting that the Commission approve its proposed volatility mitigation mechanism (VMM) as an alternative to its then-current hedging program. The VMM proposal involved FPL collecting under recoveries of fuel costs over two years instead of one year, as is the current practice. On March 11, 2008, staff held a workshop to receive stakeholder input on this proposal.

By Order No. PSC-08-0316-PAA-EI,⁵ the Commission clarified its Hedging Order in several areas. IOUs were required to file a Hedging Information Report by August 15th of each year. The Commission also specified that it would make a determination of the prudence of hedging activities for the twelve month period ending July 31, 2008. Staff held additional workshops on June 9, 2008 and June 24, 2008, regarding FPL's VMM petition and guidelines for hedging programs. FPL withdrew its VMM petition on August 5, 2008.

Following the workshops, the Commission established guidelines for risk management plans by Order No. PSC-08-0667-PAA-EI.⁶ The Commission noted that its approval of the proposed guidelines demonstrated the Commission's support for hedging. The Commission also determined that utility hedging programs provide benefits to customers. The guidelines clarified the timing and content of regulatory filings for hedging activities, but allowed the IOUs flexibility in creating and implementing risk management plans. Each year in the fuel clause, staff auditors review utility hedging results for the twelve month period ending July 31 of the current year. In addition, each year the Commission approves the IOUs' risk management plans for hedging transactions the utility will enter the following year and beyond.

No other hedging-related orders have been issued to date, although since the issuance of these three orders, staff has presented hedging-related information to the Commission at Internal Affairs meetings.

Since the 1990s, natural gas-fired generation has become a large part of the generation mix of Florida's IOUs, and the increasing role for natural gas is expected to continue. Natural gas prices have been volatile over the years, with significant price spikes in 2000, 2003, 2005, and 2008. Since 2008, natural gas supply has increased significantly due to shale gas production. Since 2009, natural gas prices have averaged less than \$4.00 per million British Thermal Units.

In its 2015 Fuel Order, the Commission addressed the following issues:

- Issue 1D: Is it in the consumers' best interest for the utilities to continue natural gas financial hedging activities?
- Issue 1E: What changes, if any, should be made to the manner in which electric utilities conduct their natural gas financial hedging activities?

Within those issues were three, somewhat overlapping concerns: (1) the significant opportunity costs of hedging programs that the IOUs incurred as part of fuel costs paid by customers; (2) whether the volatility of natural gas prices has declined to the point where hedging is no longer effective or necessary; and (3) whether conditions in the natural gas market are stable and eliminate the need for hedging. The 2015 Fuel Order stated, in part:

⁵Order No. PSC-08-0316-PAA-EI (First Clarifying Order), issued May 14, 2008, in Docket No. 080001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*.

⁶Order No. PSC-08-0667-PAA-EI (Second Clarifying Order), issued October 8, 2008, in Docket No. 080001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*.

[W]e find that the continuation of natural gas hedging process as outlined in our previous orders is in the customers' best interests.

Our decision to continue hedging at this time is based on the evidence presented in this record which in large part consists of arguments to either completely eliminate hedging or to continue the procedures in place at this time. There was no written testimony from any party and very limited cross examination on possible changes to the manner in which the IOUs conduct natural gas financial hedging activities or alternatives to hedging: cost sharing of hedging gains and losses between the IOUs and ratepayers, alternative accounting treatment for recovery of gains and losses ("VMM program"), or imposing limits on the percentage of natural gas purchases hedged. All witnesses agreed that any changes to the hedging protocol should be prospective and that the current hedges should be allowed to terminate on their original contract dates. Notwithstanding our decision on hedging, we recognize that the cost of this program is significant by any measure for each Florida IOU and deserves further analysis. Therefore, we direct our staff, in conjunction with the parties to this docket, to explore possible changes to the current hedging protocol that will minimize potential losses to customers.⁷

In 2016, and to date in 2017, several filings and actions have taken place pertaining to the unresolved issues. These will be discussed primarily in the analysis for Issue 2. On February 21, 2017, a staff workshop was held to discuss natural gas hedging and related topics. On February 28, 2017, staff opened the instant docket to readdress the original 2 issues from the 2015 Order, which are currently identified below as Issues 1 and 2, respectively. An additional related issue (Issue 3) is included to address regulatory implementation matters. On March 6, 2017, all 4 IOUs filed post-workshop comments, along with the Sierra Club, the Florida Industrial Power Users Group (FIPUG), White Springs Agricultural Chemicals, Inc., d/b/a PCS Phosphates (White Springs), and the Office of Public Counsel (OPC).

The Commission has jurisdiction over this subject matter pursuant to the provisions of Chapter 366, Florida Statutes (F.S.), including Sections 366.04, 366.05, and 366.06, F.S.

⁷Order No. PSC-15-0586-FOF-EI, pp. 8-9.

Discussion of Issues

Issue 1: Is it in the consumers' best interest for the utilities to continue natural gas financial hedging activities?

Recommendation: Yes. The purpose of hedging is to protect customers from large price increases and to minimize mark-to-market losses that occur when prices settle below projected levels. Fuel price hedging has benefits and risks. However, when executed in an economically efficient manner, staff believes that fuel price hedging activities are in consumers' best interest. (Barrett, Cicchetti)

Staff Analysis: Testimony and evidence was presented for this issue in the hearing for Docket No. 150001-EI, which is summarized below. In 2015, the IOUs favored continuing hedging activities because such activities are in customer's best interest, and most intervening parties advocated putting an end to hedging. Settlement agreements aside, these positions remain unchanged.

Summary of IOUs' position (from 2015)

Generally, the IOU witnesses in 2015 asserted that continuing natural gas financial hedging was in customers' best interest for two primary reasons:

- 1) Hedging is a tool every generating IOU in Florida uses to reduce the volatility of fuel rates over time.
- 2) Hedging a portion of their natural gas procurement provides a greater degree of fuel price certainty for customers.

Historically, the IOUs' hedging programs involved placing hedges in a non-speculative, structured manner for a certain percentage of natural gas over time whether prices were high or low, in accordance with the respective risk management plans under which each company operated. By placing hedges in this manner, the customers received a degree of price certainty for fuel purchases, which was achieved without the IOUs engaging in speculation to "out-guess" the market. Without such hedging, price certainty is gone, and customers have no protection against price swings. Without the protection from hedging a portion of natural gas purchases, significant swings in market prices could subject customers to large under and over recoveries and mid-course corrections.

In summary, because the hedging programs provide price stability to customers and a measure of protection against unanticipated dramatic price increases, the IOUs believe hedging should be continued and is in the customers' best interest.

Summary of Intervenor's position (from 2015)

OPC witnesses stated that the marginal benefit that customers received from hedging was vastly overshadowed by the historic hedging losses they have had to pay. Year over year losses from the IOUs' hedging programs demonstrate that the expectation that hedging gains and losses would offset one another did not occur. According to OPC, long term forecasts indicate an abundance of future supply coupled with slower growth in prices have led to lower price

volatility for natural gas. Although the IOUs' hedging programs are designed to reduce the variability or volatility of fuel prices, external factors have already done this.

Commission Decision (from 2015)

In its 2015 Fuel Order, the Commission found that continuing natural gas hedging was in the customers' best interest, stating, in part:

What this record clearly establishes is that without hedging, customers have a very significant exposure to natural gas price volatility due to a very dynamic natural gas market. Today natural gas prices are low and gas supply is forecasted to be abundant. However, demand for natural gas is increasing and is heavily influenced by weather and uncertain supply conditions.⁸

Analysis

In Order No. PSC-16-0547-FOF-EI (2016 Fuel Order),⁹ the Commission found that resolving the hedging issues will, or may, involve looking at multiple options:

As was requested by the parties to the Joint Stipulation, we hereby direct Commission staff to open a generic docket as soon as possible to allow all interested parties to engage in a workshop or workshops to consider all alternatives to prospectively resolving the hedging issues, including but not limited to the Gettings/Cicchetti approach, a reduction in the current levels of hedging and hedging durations, use of different financial products, or the termination of financial hedging altogether, with the goal of providing guidelines for risk management plans for 2018 and beyond that all stakeholders can either agree upon or not object to.¹⁰

Staff believes the "public interest" threshold is the first decision point the Commission should address. The February 21, 2017 workshop brought that consideration to the forefront.

February 21, 2017 Workshop and post-workshop comments

At the February 21, 2017 workshop, the IOUs collectively discussed a proposal to continue hedging. In post-workshop comments, the IOUs contend that the goals of hedging and the "public interest" consideration are closely related. If the Commission decides that the goal of hedging is to mitigate price spikes and to limit exposure to hedging transactions that result in losses, then the IOUs believe their current proposal accomplishes these objectives.¹¹ However, if the Commission decides that the goal of hedging is to mirror the market, the IOUs contend that hedging should be eliminated. As stated in FPL's post-workshop comments, a decision on the public interest and goal of hedging is imperative, and "there is no free lunch."

⁸Order No. PSC-15-0586-FOF-EI, p.8.

⁹Order No. PSC-16-0547-FOF-EI, p.3.

¹⁰Order No. PSC-16-0547-FOF-EI, p.3.

¹¹At the February 21, 2017 workshop, the IOUs presented a joint proposal. Staff notes that the IOU's current proposal is addressed in Issues 2 and 3 of this memorandum.

In live comments at the workshop and in post-workshop written comments thereafter, OPC and FIPUG advocated the same general position stated in earlier documents, asserting that hedging should end. OPC advocated that other mechanisms are already available to address price volatility, as reflected in customer bills, and FIPUG asserted that it prefers to “pay at the pump.” White Springs believes that targeted-volume hedging should end, but stated that hedging is in the public interest. White Springs contended production advances and abundant reserves of natural gas are factors that have fundamentally impacted today’s market, and that the IOUs should develop hedging methods that systematically address fuel price trends and risks.

Conclusion

Staff believes the public interest decision is a threshold matter. The purpose of hedging is to minimize customer pain associated with energy price (consumer cost) increases. That is different than simply reducing volatility because customer pain is not symmetrical. The asymmetry is due to the fact that customer’s tolerance for upside cost exposure in rising-price markets is different than their tolerance for hedge losses in declining-price markets. Cost increases occur in rising cost markets where unfavorable outcomes, if unmitigated, can be severe. Hedge losses occur in declining cost markets, so outcomes are still beneficial, even if less so due to hedging. Fuel price hedging has benefits and risks. However, when executed in an economically efficient manner, staff believes that fuel price hedging activities are in customers’ best interest.

Issue 2: What changes, if any, should be made to the manner in which electric utilities conduct their natural gas financial hedging activities?

Recommendation: Consistent with the recommendation in Issue 1, staff believes that continuing fuel price hedging activities in an economically efficient manner is in the consumers' best interest and the Commission has the discretion to consider implementing changes to the manner in which the IOUs conduct their natural gas financial hedging activities. (Barrett, Cicchetti)

Staff Analysis: Similar to Issue 1, this issue also was presented in the hearing for Docket No. 150001-EI. In 2015, the record evidence for this issue was limited, with the IOUs advocating that no changes were warranted. OPC recommended that hedging be completely eliminated on a prospective basis. By advancing that position, OPC expressed that it was unnecessary to propose changes. With the exception of White Springs, the intervening parties largely supported OPC's position.

Commission Decision (2015)

In the 2015 Fuel Order, the Commission directed staff and the parties to more fully examine potential changes to the utilities' hedging programs:

Our decision to continue hedging at this time is based on the evidence presented in this record which in large part consists of arguments to either completely eliminate hedging or to continue the procedures in place at this time. There was no written testimony from any party and very limited cross examination on possible changes to the manner in which the IOUs conduct natural gas financial hedging activities or alternatives to hedging: cost sharing of hedging gains and losses between the IOUs and ratepayers, alternative accounting treatment for recovery of gains and losses (VMM program), or imposing limits on the percentage of natural gas purchases hedged. All witnesses agreed that any changes to the hedging protocol should be prospective and that the current hedges should be allowed to terminate on their original contract dates. Notwithstanding our decision on hedging, we recognize that the cost of this program is significant by any measure for each Florida IOU and deserves further analysis. Therefore, we direct our staff, in conjunction with the parties to this docket, to explore possible changes to the current hedging protocol that will minimize potential losses to customers.¹²

Analysis

Staff believes this issue and the "public interest" issue (Issue 1) are inextricably related. Staff believes that if the Commission decides in Issue 1 that continuing fuel price hedging activities is in the consumers' best interest, then the Commission has a range of options from which it can choose so that electric utilities can continue natural gas financial hedging. However, if the Commission decides in Issue 1 that it does not support hedging in any manner, then staff believes this issue is moot.

¹²Order No. PSC-15-0586-FOF-EI, pp. 8-9.

Activity since the Commission's Decision (2015)

On January 25, 2016, an informal meeting between Commission staff and interested persons was held to discuss options and procedures for possible changes to the hedging process to minimize potential losses to customers. Representatives from DEF, FPL, TECO, and Gulf participated in the meeting, although no specific alternatives were proposed.

On April 22, 2016, Docket No. 160096-EI was opened to address a joint petition seeking approval of modifications to the IOUs' respective Risk Management Plans (Joint Petition). FPL, TECO, and Gulf sought approval of modifications to their respective 2016 Risk Management Plans, noting that the 2016 plans were approved in the 2015 Fuel Order. DEF did not join in seeking to modify its 2016 Risk Management Plan, because DEF believed its then-current Risk Management Plan afforded it the ability to meet the goals proposed by the other petitioners.

The Joint Petitioners proposed a two-step initiative to minimize potential losses to customers in periods of falling fuel prices. First, the Petitioners proposed reducing their hedging target ranges by up to 25 percent for procurement with hedging instruments.¹³ Second, the Petitioners proposed shorter time horizons over which hedges are placed. In addition to the limited changes to the 2016 Risk Management Plans, the Petitioners proposed modifications to their 2017 Risk Management Plans, which were slated to be considered for approval at the November hearing in the Fuel Cost Recovery Clause docket (Docket No. 160001-EI). By Order No. PSC-16-0247-PAA-EI,¹⁴ the Commission approved the Joint Petition.

On July 15, 2016, OPC timely filed a petition protesting Order No. PSC-16-0247-PAA-EI, formally requesting an evidentiary hearing. On July 28, 2016, Order No. PSC-16-0301-PCO-EI,¹⁵ was issued to consolidate Docket Nos. 160001-EI and 160096-EI. Thereafter, in Docket No. 160001-EI (the 2016 fuel clause proceeding), the same two issues as originally proposed in 2015 were identified for resolution.

On September 23, 2016, staff witnesses Mark Anthony Cicchetti and Michael A. Gettings¹⁶ provided testimony and exhibits to support a risk-responsive hedging program. Concurrent with the filings of staff witnesses Cicchetti and Gettings, OPC filed testimony and exhibits from witnesses Daniel J. Lawton and Tarik Noriega to advocate the substantially similar position expressed in 2015; that hedging should cease.

On September 30, 2016, the IOUs filed rebuttals to the testimony of staff witnesses Cicchetti and Gettings and OPC witnesses Lawton and Noriega.

¹³DEF agrees with and joined FPL, TECO, and Gulf in the proposed plan to reduce the maximum projected fuel purchases for calendar year 2017 that would be hedged during the remainder of 2016.

¹⁴Order No. PSC-16-0247-PAA-EI, issued June 27, 2016, in Docket No. 160096-EI, *In re: Joint petition for approval of modifications to risk management plans by Duke Energy Florida, Florida Power & Light Company, Gulf Power Company and Tampa Electric Company.*

¹⁵PSC-16-0301-PCO-EI, issued on July 28, 2016, jointly in Docket No. 160001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor, and also in Docket No. 160096-EI, In re: Joint petition for approval of modifications to risk management plans by Duke Energy Florida, Florida Power & Light Company, Gulf Power Company and Tampa Electric Company.*

¹⁶Mr. Gettings is a consultant who testified on behalf of staff in Docket No. 160001-EI about his suggested changes to the hedging practices followed by the IOUs in Florida.

On October 24, 2016, DEF, Gulf, TECO, OPC, the Florida Industrial Power Users Group (FIPUG), and the Florida Retail Federation (FRF) jointly filed a Stipulation and Agreement for Interim Resolution of Hedging Issues (Joint Stipulation) that provided that:

- DEF, Gulf, and TECO will implement a 100% moratorium on placing new hedges for all of 2017. The moratorium does not apply to hedging arrangements in place that were entered into pursuant to Risk Management Plans from prior years.
- DEF, Gulf, and TECO will withdraw their proposed Risk Management Plans for 2017.¹⁷
- DEF, Gulf, TECO, OPC, FIPUG, and FRF agree to cooperate with each other and Commission staff to engage in workshop(s) to consider all alternatives to resolving the pending hedging issues.
- DEF, Gulf, TECO, OPC, FIPUG, and FRF agree to negotiate in good faith to reach a settlement or other basis to dispose of the pending hedging issues on or before the anticipated due date for filing Risk Management Plans for 2018 (August 1, 2017). If these negotiations are unsuccessful, then DEF, Gulf, and TECO may submit Risk Management Plans for 2018, in advance of the expiration of the one year moratorium at the end of 2017.

The 2016 Fuel Order addressed the Joint Stipulation, and, in part, stated:

Based on the evidence submitted in this docket, we hereby approve the Joint Stipulation and Agreement for Interim Resolution of Hedging issues, dated October 24, 2016 (the “Joint Stipulation”). Consistent with the Joint Stipulation, the parties have agreed to a moratorium on any new hedges effective immediately upon our approval of the stipulated positions offered on the hedging issues in this docket, with that moratorium extending through calendar year 2017. We therefore find that the hedging issues shall be deferred to the 2017 docket and the Joint Stipulation accepted as the replacement for the signatory companies’ respective Risk Management Plans for 2017, rendering moot the company specific issues regarding their request for approval of their respective Risk Management Plans as filed for 2017. As was requested by the parties to the Joint Stipulation, we hereby direct Commission staff to open a generic docket as soon as possible to allow all interested parties to engage in a workshop or workshops to consider all alternatives to prospectively resolving the hedging issues, including but not limited to the Gettings/Cicchetti approach, a reduction in the current levels of hedging and hedging durations, use of different financial products, or the termination of financial hedging altogether, with the goal of providing guidelines for risk management plans for 2018 and beyond that all stakeholders can either agree upon or not object to.

...

¹⁷In separate filings, DEF, Gulf, and TECO withdrew their proposed Risk Management Plans for 2017.

Consistent with our decision above, we accept the Joint Stipulation as the replacement for the signatory companies' respective Risk Management Plans for 2017, rendering moot the company specific issues regarding their request for approval of their respective Risk Management Plans as filed for 2017.¹⁸

Staff notes that although FPL was not a signatory to the Joint Stipulation, in a contemporaneous filing, FPL affirmed its support and agreement to follow the directives of the agreement.¹⁹ In a separately docketed matter, FPL agreed to a four-year moratorium on financial hedging in a settlement agreement reached in FPL's 2016 rate case and other consolidated dockets (FPL Settlement). The Commission approved the FPL Settlement in Order No. PSC-16-0560-AS-EI.²⁰ Pursuant to the terms of the agreement, FPL will not execute any new natural gas financial hedges during the term of the agreement, which runs through December 31, 2020.

On January 10-12, 2017, a series of five conferences were scheduled between Mr. Gettings and interested stakeholders regarding possible changes to the hedging practices in Florida.²¹ For the purposes of these conferences, Mr. Gettings developed an EXCEL-based risk-responsive model that used market data from the period 2001-2012. His model assumed a \$2.5 billion fuel budget hedged in a risk-responsive fashion up to a maximum 65 percent of the fuel portfolio. Using these input variables, he graphically demonstrated the results of a risk-responsive hedging program compared to a targeted-volume hedging program. According to the findings, Mr. Gettings stated that the risk-responsive strategy produced market-average outcomes with mitigated peaks and valleys for that time period, compared to the targeted-volume hedging strategy, which produced a \$1.1 billion loss.

On February 21, 2017, staff held a workshop to discuss natural gas hedging and related topics. During the workshop, the IOUs presented a proposal titled Out-of-The-Money (OTM) Call Options as an Alternative Form of Risk Responsive Hedging (IOU Proposal or OTM Call Options Approach). All of the IOUs, the Sierra Club, FIPUG, White Springs, and OPC filed post-workshop comments on March 6, 2017.

Goals of hedging for the Commission to consider

The Second Clarifying Order stated that the purpose of hedging is to "reduce the impact of volatility in the fuel adjustment charges paid by an IOU's customers."²² Staff notes that this language has been cited frequently in various hedging-related pleadings since the inception of hedging. Staff believes this citation from the Second Clarifying Order is clearly associated with legacy hedging programs. As the discussion evolved about considering changes to hedging, staff believes the topic of "What should be the goals of hedging?" has been introduced, and needs to be addressed. As more fully explained in the analysis to follow, the discussion will present

¹⁸Order No. PSC-16-0547-FOF-EI, p.3.

¹⁹FPSC Document No. 08438-16.

²⁰Order No. PSC-16-0560-AS-EI, issued December 15, 2016, in Docket No. 160021-EI, *In re: Petition for rate increase by Florida Power & Light Company*.

²¹During the January meetings, each IOU was allocated a 3 hour time period to allow subject matter experts the opportunity to engage directly with Mr. Gettings. The fifth and final 4 hour session was reserved for Intervenor, including the Office of Public Counsel.

²²Second Clarifying Order at 16.

options the Commission may consider. Within that discussion, staff believes the options for such changes align with what, arguably, are newly defined goals of hedging.

Mr. Gettings testified that “the primary reason for hedging is to mitigate upside cost exposures, and the potential for hedge losses is an associated consequence which needs to be managed as well.”²³ That testimony addressed a risk-responsive hedging approach that will be more fully explained below.

A second option for the Commission to consider was presented by the IOUs. The alternative presented by the IOUs revolves around two somewhat “new” goals of hedging:

1. To protect customers from large price increases, and
2. To minimize the losses that occur when natural gas prices decline from projected levels.

Staff believes the goals for hedging presented above by Mr. Gettings and the IOU’s are essentially the same, but differ from the goal of simply “reducing volatility.” In evaluating the options, it is important to note the distinction between “cost-risk” and “loss-risk.” Cost-risk is associated with higher natural gas prices while loss-risk is associated with hedging losses in a declining-price market. Staff further believes that the most relevant question is, “What is the most economically efficient way to accomplish the goal of minimizing cost increases while minimizing hedge losses?” The analysis to follow will examine the nuances between the viewpoints set forth in the proposals of Mr. Gettings and the IOUs.

Options for the Commission to consider

Staff believes there are three primary options the Commission may consider in addressing this issue. The first option is the risk-responsive hedging approach, which was originally presented in staff-sponsored testimony and exhibits for the Fuel Clause hearing in 2016. The second option is the IOU Proposal presented at the February 2017 workshop. The third option is reinstatement of the hedging activities as conducted before the IOUs voluntarily suspended placing new hedges. This option is labeled the “status quo” option, although staff presents two variations that can be considered.

Option 1: The Risk-Responsive Hedging Approach

In Docket No. 160001-EI, Mr. Gettings provided testimony recommending that a risk-responsive hedging approach be implemented for fuel hedging. Mr. Gettings stated that mitigating upside costs as well as mitigating hedging losses is a different approach than simply reducing the price volatility exposure for customers, as was the goal of the legacy hedging methods. He used the term “customer pain” to refer to the customer’s acceptance for bill fluctuations, asserting that the reactions for rising or falling prices are not symmetrical, as explained below:

[Asymmetric pain] is due to the fact that tolerance for upside cost exposure in rising markets is different than the tolerance for hedge losses in downward

²³Direct Testimony of Michael A. Gettings, appearing on behalf of the staff of the Florida Public Service Commission, filed on September 23, 2016, in Docket No. 160001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor* (Gettings Testimony) (FPSC Document No. 07781-17, Page 7).

markets. Using a simple analogy for residential customers, taking a \$500 better vacation with utility-bill savings would be a good thing and if utility hedge losses moderate those savings so that they are \$300 rather than \$500 it is still a good net outcome despite the \$200 foregone savings. On the other hand, that same customer might struggle to meet necessary expenses if faced with an unmitigated \$500 increase in utility costs, and that would be a very bad thing. Said differently, hedge losses occur in low-cost markets, so outcomes are still beneficial but less so; in low-cost markets customer impacts are constrained to discretionary choices regarding alternative uses of reduced savings. Cost increases occur in high-cost markets where unfavorable outcomes, if unmitigated, can be severe; also the customers' budget response is more likely to impact non-discretionary spending. So on balance, customers experience greater value from potential cost mitigation than they forego with potential hedge losses.²⁴

In preparing his testimony, Mr. Gettings reviewed the 2017 Risk Management Plans, and noted that each IOU used a targeted-volume approach to accumulate hedges in accordance with a predetermined timeline. He testified that none of the 2017 Risk Management Plans provided information about how the IOUs measured risk in a quantitative fashion. Mr. Gettings observed that the accumulation of hedging losses since the natural gas pricing peak in 2008 was primarily due to hedging a targeted volume without a plan for responsive adjustments.

Mr. Gettings testified that a customer-focused risk-responsive hedging program would be an improvement over the targeted-volume approach. The risk-responsive program he recommends would use quantitative tools to measure volatility-related cost-risk and loss-risk, and the measurements would then serve as a basis for risk-responsive hedging decisions. Stated in a different manner, a risk-responsive hedging program would set Value at Risk (VAR) metrics for high and low tolerance bands, and formulate a strategy of prescribed responses to defend those tolerances against whatever risk conditions emerge.

Mr. Gettings stated that his recommended approach to a risk-responsive hedging program has four components:

1. A programmatic hedging portion for a low to moderate level of an IOUs fuel burn, 15 percent to 20 percent, for example.
2. A defensive hedging portion, with action boundaries when market prices are rising.
3. A contingent hedging portion, with action boundaries when market prices are declining.
4. A discretionary portion, which is very small, but available to take advantage of market opportunities. Mr. Gettings does not recommend using discretionary hedges and emphasizes that hedges should be executed based on a "risk-view" and not on a "market view."

²⁴Direct Testimony of Michael A. Gettings, appearing on behalf of the staff of the Florida Public Service Commission, filed on September 23, 2016, in Docket No. 160001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor* (Gettings Testimony) (FPSC Document No. 07781-17, Page 5).

Mr. Gettings believes the dual goals of mitigating upside cost exposures, and actively managing the potential for hedge losses can be accomplished by following the risk-responsive (Option 1) approach. He recommended that hedging into a 36 month period is a good foundation for building a risk-responsive model, and emphasized that each IOU would have the flexibility to establish specific parameters, action limits, and boundaries to suit their risk profile. As noted above, Mr. Gettings provided a simulation for the period 2001-2012 using a basic risk-responsive strategy for a \$2.5 billion dollar fuel burn compared to a 50 percent targeted-volume hedging strategy similar to the strategy employed by Florida IOUs over that period. The risk-responsive approach achieved essentially market price for natural gas while the targeted-volume approach achieved a \$1.1 billion dollar loss.

Option 2: The IOU Proposal (OTM Call Options Approach)

The IOU Proposal was transmitted to staff as a PowerPoint file on February 20, 2017.²⁵ Penelope Rusk, an employee of TECO, was the chief spokesperson for the IOUs and conveyed their proposal as a PowerPoint presentation to the workshop attendees. The IOUs developed their plan to respond to what they believe are the new goals of hedging, which are to specify and constrain the cost threshold for upside price movement protection, and also maintain participation in declining-price markets. The IOUs believe their OTM Call Options Approach meets these goals of hedging in a simpler manner, without the complexity of multiple decision points required by the Gettings risk-responsive approach.

The IOU proposal defines an OTM Call Option as a “financial instrument that requires the purchaser to pay an up-front premium in return for the ability to receive payment if the future price of an underlying asset rises above a strike price that is higher than the current market for that asset.”²⁶ Although presented as a joint proposal, in practice each IOU would develop company-specific budgets for call options and thresholds that would be defined in Risk Management Plans. The decision points for each company would include setting price protection levels, the time horizon for options, and optioned volumes. From an accounting perspective, all call option premiums would be recorded as clause-recoverable fuel expenses. The IOUs characterize the cost of call options as akin to an “insurance premium” for protecting against price spikes. Staff believes examples will help illustrate the concept of call options in rising and falling markets.

**Call Option Example Rising Price Market
(Market Price > Option Price)**

The IOU Proposal asserts that using OTM call options will protect against upward price movements because call options expiring “in the money” will provide price increase protection. Staff agrees, noting that understanding the concept of an “in the money” transaction is straightforward. “In the money” results when the option price is lower than the market price. However, the total price will include the commodity price plus a premium that was incurred in order to secure the option. The premium is incurred whether the option is exercised or not exercised. In this instance (the rising price market), the total option price is lower than the market price on the date the transaction is executed, which means the transaction was “in the money.”

²⁵Printed versions of the PowerPoint file were distributed on the day of the workshop (See FPSC Document Number 02730-17).

²⁶FPSC Document Number 02730-17, Slide No. 5)

Call Option Example in a Falling Price Market (Option Price > Market Price)

The IOU Proposal asserts that call options expiring “out of the money” will not be exercised, and therefore, will not result in hedging losses beyond the up-front premium. Staff notes that in this scenario, the total price is not favorable to the market price on the date the transaction is executed, because the total price is higher than the market. The IOU Proposal asserts that since the option is not exercised, unfavorable hedging outcomes do not occur. However, just as in the rising market, staff observes that any time an option transaction is entered into, a premium is incurred in order to secure the option, whether the option was exercised or not exercised. In this instance (the falling price market), the fuel costs would consist of fuel purchased at a market price, plus the expense for the option premium when the option was entered into, even though the option was not exercised.

At the workshop and repeated in post-workshop filings, the IOUs stated that the risk-responsive approach is less favorable than their proposal for a number of reasons: First, the risk-responsive approach involves the use of a complex model each IOU would have to develop with significant administrative and implementation costs. Second, because this approach requires each IOU to establish cost/loss tolerances and formulate a strategy of prescribed responses, the IOUs may need to supplement their computing resources, and/or allocate a considerable amount of development time to implement that approach. In contrast, the IOUs contend that their recommended approach can be implemented quickly and easily. Third, the IOUs believe the risk-responsive approach sets up a possible conflict between contingent and defensive hedging triggers. Staff notes that possible conflicts between contingent and defensive hedging triggers are rare occurrences and the response, should that condition occur, would be addressed beforehand in the risk management plans. According to the IOUs, no such conflict would exist using the OTM Call Options approach. Fourth, the IOUs believe their proposal is more favorable than the risk-responsive approach because regulatory reporting will be substantially similar to what the IOUs are currently doing. Furthermore, the IOUs believe the regulatory reviews and audits will be easier to administer than under the risk-responsive approach. Finally, the IOUs believe the OTM Call Options approach will require fewer guidelines from the Commission to get up and running. These points were expressed in the workshop presentation, and reiterated in their post-workshop comments.

Observations from the Workshop

DEF, FPL, Gulf, and TECO individually contributed and presented portions of the IOU Proposal at the February 21, 2017 workshop.

DEF and FPL presented the results of modeling and analysis they performed in order to show what hypothetical results would have been achieved using an OTM Options method. DEF “back-tested” actual historical volume and hedging costs from 2013-2016, and FPL conducted a similar analysis using 2011-2016 data. In each time period evaluated, natural gas prices were relatively stable. In its model, DEF found that in 2013, 2015, and in 2016, the actual hedging results from programmatic hedging practices incurred higher costs than the (modeled) equivalent OTM Option amounts for those years. In 2014 the opposite occurred, as DEF found that the gross equivalent cost for option premiums was modeled to have greater cost than actual hedging costs

incurred in that period. DEF states that its modeling demonstrates that call options protect against price increases above established cost price thresholds.

FPL’s modeling was somewhat similar to DEF’s, although staff notes that FPL used historical data for 2011-2016, and tested hypothetical results for hedging using a risk-responsive approach, compared to an OTM Call Option approach. For the hypothetical risk-responsive approach, FPL used a strategy modeling Defensive hedging up to a maximum 65 percent of the fuel burn. For the hypothetical OTM Call Option modeling, FPL used a 15 percent level for OTM Options covering 60 percent of the fuel burn, and the OTM cost total included the cost of option premiums. FPL stated the results of its modeling indicate:

1. The OTM Call Option Approach accomplishes an important goal: it provides a viable hedge against upside price risk while providing market price on the downside.
2. The OTM Call Option Approach shows significant cost advantages over the risk-responsive model when prices decline. The risk-responsive strategy had a slightly lower net gas cost in periods of rising prices.

The analyses Gulf and TECO performed were somewhat different from the analyses performed by DEF and FPL. Gulf provided graphs to show the relationship between market prices and call option prices. TECO did not back test, but instead presented information to demonstrate what OTM thresholds at 15 percent and 30 percent would look like using various theoretical 2018 market settlement prices. When it developed this data, TECO stated that the 2018 forward curve price of natural gas was \$3.11/mmBtu (as of February 2017). For its modeling, TECO assumed call option premium costs of between \$10-18 million were rolled into the final resulting price for OTM hedges. Using those thresholds, TECO’s model indicated that:

1. If the final market settlement price ends up being lower than the OTM strike price, then the resulting price for the hedged natural gas will be above market.
2. If the final market settlement price ends up being above the OTM strike price, then the resulting price for the hedged natural gas will be below market, and premium cost increases will be limited.

An excerpt of the results of TECO’s model is shown in Table 2-1 below:

Table 2-1
Modeled Results of Hypothetical OTM Call Options Approach from TECO

2018 Theoretical Market Settlement Price (\$/mmBtu)	15 Percent OTM Call Options (\$/mmBtu)	30 Percent OTM Call Options (\$/mmBtu)
\$2.50	\$2.75	\$2.64
\$3.00	\$3.25	\$3.14
\$3.50	\$3.72	\$3.64
\$4.00	\$3.72	\$4.08
\$4.50	\$3.72	\$4.08

Source: Excerpt of Slide No. 8 from IOU Proposal (FPSC Document Number 02730-17)

Joint Analysis (of Options 1 and 2)

On March 6, 2017, all 4 IOUs filed post-workshop comments, along with Sierra Club, FIPUG, White Springs, and OPC. These comments are summarized below:

OPC Comments

In its comments, OPC believes three threshold questions must be addressed before critiquing the Gettings approach (Option 1) or any hedging alternative. The questions OPC presented are as follows:

1. What should the Commission's volatility response policy (VRP) be as it relates to the price of natural gas recovered through the annual fuel adjustment clause?
2. Is there a lower cost or cost-free mechanism to mitigate fuel price volatility experienced by the customer?
3. How has natural gas price volatility decreased as a result of the discovery, production (fracking), and development of enormous natural gas reserves (supply) in recent years?

The OPC believes hedging was developed as a mitigation tool for price volatility, not expressly to provide fuel cost savings. Even without hedging, OPC believes the Commission already has access to VRP tools to address price volatility. The annual resetting of fuel cost recovery factors is one such tool, the mid-course correction process is another, and case-by-case considerations for spreading costs over extended time periods is another, according to OPC. OPC acknowledges that the Gettings approach might be more favorable than targeted-volume hedging, yet doubts whether the method would limit costs. OPC believes today's market is more mature and less prone to wide swings in volatility, due to ample, long-term supply reserves.

Sierra Club Comments

Although not squarely directed at Options 1 or 2, the Sierra Club believes the over-reliance on natural gas in Florida puts significant risk on all ratepayers, and financial mechanisms like these approaches are akin to "fixing pot-holes" as opposed to repaving the road. The Sierra Club believes the Commission should require the IOUs to invest in energy efficiency and generating sources that provide electricity without volatile fuel costs. According to the Sierra Club, the approach it recommends can limit ratepayer exposure to risk without relying on financial mechanisms.

White Springs and FIPUG Comments

White Springs and FIPUG offered general comments on hedging methods and results, but did not specifically comment on the Gettings approach (Option 1) or on the OTM Call Options Approach (Option 2).

Comments from the IOUs

As noted previously, the IOUs first challenged the risk-responsive approach (Option 1) in rebuttal testimony in September 2016. In the January 2017 series of conferences, subject matter experts from each IOU were given the opportunity to learn more about the risk-responsive approach, and directly questioned Mr. Gettings as they critically examined the EXCEL-based risk-responsive model developed specifically for those conferences. That model used historical data and parameters to graphically show how the hedging results he recommended under a risk-

responsive hedging program compared to a targeted-volume hedging program. After actively participating in the January conferences, and thoroughly studying the risk-responsive approach, the IOUs collectively worked to develop an alternative to it, which resulted in their own proposal (OTM Call Options Approach, Option 2).

In post-workshop comments, the IOUs stated that the risk-responsive approach is considerably more complex than their own proposal. The IOUs believe the risk-responsive approach has merits, but does not completely eliminate hedging losses and involves many challenges for implementation and regulatory review. The IOUs contend that under risk-responsive hedging (Option 1), setting Company-specific action boundaries and risk-response protocols will be a significant undertaking; a task that no other IOU in the United States has undertaken. Staff notes this statement is inaccurate. Mr. Gettings has stated that IOUs in numerous states and Canada have deployed these methods but client confidentiality precludes disclosure of exactly which companies. IOUs in Pennsylvania, Indiana, Louisiana, and Washington, as well as public power companies in New York, Texas, California, the Carolinas, etc. have used these methods. It is true that the risk-responsive methodology has been more widely accepted by large public power companies, but the reason has nothing to do with effectiveness. As explained in Mr. Gettings' testimony, the reason is that prudence risk looms large in the IOU space, and barring an understanding with regulators, most IOUs prefer to adopt risk-blind methodologies.

Staff Analysis

On March 13, 2017, the Washington Utilities and Transportation Commission issued a Policy and Interpretive Statement on Local Distribution Companies' Natural Gas Hedging Practices (Washington Commission Statement) that endorsed the adoption of what is presented here as risk-responsive hedging (Option 1).²⁷ Staff believes this action has important implications for the instant matter before this body. Staff acknowledges that at the time the IOUs prepared their post-workshop comments, no regulatory body had ordered the implementation of hedging plans built around the concepts of a risk-responsive plan. In part, the Washington Commission Statement provides:

The [Gettings] White Paper serves as a foundational document for the Commission's policy position on natural gas utility hedging practices. The White Paper provided the Commission with convincing evidence that strict programmatic hedging strategies disable utility capacity to adequately mitigate price risk to ratepayers. In describing the function of risk-responsive hedge strategies, which demonstrate the value of measuring and responding to changing market risk conditions, the White Paper provides guidance to lead the Companies toward more robust risk management programs.

It is the Commission's explicit policy preference that the Companies employ risk-responsive hedge strategies. The singular programmatic hedging approach

²⁷The Washington Commission Statement was filed in this docket on March 14, 2017 (FPSC Document Number 03531-17). This document refers to the July 25, 2015 publication from Mr. Gettings, *Natural Gas Utility Hedging Practices and Regulatory Oversight* (Gettings White Paper). Although the Gettings White Paper was not presented in its entirety as hearing evidence in Docket No. 160001-EI, staff witnesses Cicchetti and Gettings cited information from this published work.

employed by many utilities fails to balance upside price risk with hedge loss risk in any meaningful way. An inflexible plan makes a utility's hedging less adaptable to changing conditions. Utilities must find a way to manage, simultaneously and continuously, upside price risk and downside hedging loss, and evaluate whether the "insurance" benefit justifies the cost.

...

The Companies should develop a framework for risk mitigation informed by quantitative metrics. Quantitative metrics allow utilities to measure, monitor market risk conditions, and facilitate identification of meaningful hedging responses. While we stop short of requiring use of the specific value-at-risk (VaR) methodology described in the White Paper, it is clear to us that each utility must develop robust analytical methods and incorporate these methods in their risk management frameworks.²⁸

The IOUs contend that implementing the risk-responsive approach (Option 1) is complex and that ramp-up activities for implementing it would be costly, and take up to 2 years.²⁹ Staff observes that the Washington Commission Statement also acknowledged that implementing a risk-responsive hedging program will take time to get up and running, stating "the Commission expects that full implementation will take no longer than 30 months."³⁰

In addition, the IOUs contend the risk responsive approach (Option 1) is not the best path forward because components of the plan involve discretionary transactions, which invites uncertainty in terms of regulatory reviews. The uncertainty comes about because individual IOUs participating in a common market may use that discretion by reacting to market signals in different ways. Staff notes that the Washington Commission Statement addressed the topic of uncertainty and prudence reviews as well, stating:

Consistent with our intention not to be overly prescriptive about *how* the Companies develop more robust, risk-responsive hedge strategies, we decline here to be formulaic in suggesting how utilities ought to operate in a prudent manner. We adopt an affirmative policy that natural gas company hedging programs must adapt to constantly changing market risk conditions, and that utilities should seek to "[implement the most economically superior strategy] that produces a cost-mitigation tolerance with the smallest hedge-loss exposure."³¹ The Companies must determine how best to achieve these objectives.

Nevertheless, the Commission expects utilities to make reasonable progress in developing a more sophisticated risk management framework consistent with this policy statement. As we move forward, we are more likely to entertain arguments

²⁸FPSC Document Number 03531-17, pp. 12-13.

²⁹For example, in its post-workshop comments, Gulf estimates that it would incur \$250K in non-recurring costs to implement the Cicchetti/Gettings approach, plus another \$100K in recurring costs for staffing.

³⁰FPSC Document Number 03531-17, p. 14.

³¹Gettings White Paper at 15.

regarding the prudence of extraordinary hedging losses, particularly for companies that continue to rely upon a strict programmatic hedging approach. Therefore, continuing to maintain largely static hedge ratios without justification will become an increasingly risky proposition.

In light of expert recommendation and comments filed in this proceeding, we determine that the Commission's existing prudence standard remains sufficient to evaluate decisions and subsequent outcomes related to hedging losses.³²

In Florida, the Commission's process for prudence review is similarly structured to accommodate any modifications the Commission approves to the IOUs' methods of hedging.

Based on their modeling, the IOUs contend Option 2 will produce results similar to a risk-responsive plan, without the implementation challenges of the risk responsive approach (Option 1), or the regulatory review concern. To support this contention, FPL put forward the results of its comparative model during the February workshop. As noted previously, the risk-responsive model FPL compared to its OTM Plan used defensive hedging practices for up to a maximum of 65 percent of the fuel portfolio. For its hypothetical OTM Call Option models, FPL used a 15 percent level for OTM Options covering 60 percent of burn, and the OTM cost total included the cost of option premiums. FPL claims these results indicate that its OTM Call Option Approach provides a viable hedge against upside price risk while providing market price on the downside. In addition, FPL believes the OTM Call Option Approach shows significant cost advantages over the risk-responsive model when prices decline. The differences are less significant in a rising price environment, according to FPL.

Staff notes, however, that FPL's modeling may not be instructive for several reasons. First, during the time period FPL selected for its study presented in the workshop (2011-2016), the market prices for natural gas can be characterized as stable and low. During this time period, there were no significant peaks or valleys in the market. Staff notes, however, that in its post-workshop comments filed on March 6, 2017, FPL expanded its analysis to encompass the 2007-2016 period, as shown below in Table 2-2.

³²FPSC Document Number 03531-17, p. 15.

**Table 2-2
 Comparative Results of OTM Call Option and
 Risk Responsive hedging approaches from FPL**

Year	Market Settlement Prices (\$/mmBtu)	Hypothetical Risk/Response Approach Results [with Defensive hedging up to 65% against price increases] (\$/mmBtu)	Hypothetical OTM Call Options Approach [with 15% OTM Options covering 60% of burn and includes the cost of option premiums] (\$/mmBtu)	Difference in Average Annual Cost between Hypothetical Risk/Response Approach Results and OTM Call Options Results (\$/mmBtu)
2007	\$6.86	\$7.70	\$7.49	(\$0.21)
2008	\$9.03	\$9.07	\$9.15	\$0.08
2009	\$4.04	\$5.56	\$4.48	(\$1.08)
2010	\$4.40	\$5.17	\$4.77	(\$0.40)
2011	\$4.05	\$4.47	\$4.32	(\$0.15)
2012	\$2.79	\$3.52	\$2.92	(\$0.60)
2013	\$3.65	\$3.92	\$3.80	(\$0.11)
2014	\$4.41	\$4.28	\$4.46	\$0.18
2015	\$2.66	\$3.27	\$2.78	(\$0.49)
2016	\$2.46	\$2.57	\$2.58	\$0.01
2007-2016 Average	\$4.44	\$4.95	\$4.67	(\$0.28)

Source: Excerpt of Exhibit 1 from FPL’s Post-workshop comments (FPSC Document Number 03145-17)

Staff believes FPL’s expanded analysis is a more instructive comparison than what FPL presented at the workshop because it includes a period of higher volatility. Table 2-2 shows that FPL would have spent \$374 million in 2007 and \$1.7 billion over the ten-year period ending in 2016. That astronomical sum only provides rolling one-year hedge coverage. It is unlikely that any company would spend that amount of money in options premiums and it might not even be possible to find counterparties to execute that magnitude of options. The options market is far less liquid than the swap market. If in 2007, FPL’s management, facing a prospective \$374 million outlay, decided to limit it’s expenditure to a more reasonable \$100 million, the hedge ratio going into the price spike would have been a fraction of the numbers presented.

Further, a one-year hedge is of limited value. One can imagine the prudence discussion if \$374 million were expended and prices did not rise substantially, but going into the next year prices increased dramatically before hedge coverage was secured. Extending option coverage to a two-year horizon would increase the options budget to well over twice the \$374 million level because options for the second year would demand about twice the premium requirements. It is doubtful any firm would have an appetite for an approximately billion dollar option premium expenditure to cover two gas years. Staff believes that Table 2-2, taken on face value, illustrates the impracticality of the out-of-market option strategy.

Staff notes that the EXCEL-based model that Mr. Gettings developed for the January 2017 conferences used market data for the period 2001-2012, which is a broader analysis than FPL's expanded analysis, and encompassed at least two market peaks driven by weather-related events and a financial crisis. The OTM Call Options strategy is not risk-responsive. It deploys a predetermined budget on a calendar-based schedule and does not quantify and monitor risk. In addition, this strategy does not provide for real-time responses to potentially extreme cost outcomes. There has been no demonstration that the IOU-proposed OTM Call Options strategy can respond effectively to stressed cost environments.

In its post-workshop comments, TECO did not directly challenge the risk-responsive model as did FPL, but instead presented data comparing the difference between the performance of legacy hedging to a hypothetical 30% OTM model, as shown in Table 2-3 below:

**Table 2-3
 Comparative Results of 30% OTM Call Option proposal and
 legacy hedging approaches from TECO**

Year	Hedging Results of Previous Swap Program (\$)	Hypothetical OTM Call Options Proposal [with 30% OTM Options] (\$)	Difference in Average Annual Cost between Previous Swap Program results and a 30% OTM Call Options Results (\$)
2005	\$53,231,770	\$59,937,177	\$6,705,407
2006	(\$54,482,120)	(\$9,849,134)	\$44,632,986
2007	(\$59,691,520)	(\$49,825,107)	\$9,866,413
2008	\$18,147,375	(\$11,485,107)	(\$29,633,374)
2009	(\$193,185,985)	(\$30,692,292)	\$162,493,693
2010	(\$67,840,710)	(\$27,561,549)	\$40,279,161
2011	(\$33,889,480)	(\$12,723,142)	\$21,166,338
2012	(\$61,518,120)	(\$6,566,356)	\$54,951,764
2013	(\$3,256,370)	(\$8,181,402)	(\$4,925,032)
2014	\$15,615,785	(\$3,245,652)	(\$18,861,437)
2015	(\$39,842,325)	(\$3,756,058)	\$36,086,267
2016	(\$19,333,375)	(\$5,401,428)	\$13,931,947
2005-2016 Totals	(\$446,045,075)	(\$109,350,943)	\$336,694,132

Source: Excerpt of TECO's Post-workshop comments (FPSC Document Number 03177-17)

Staff notes, however, that TECO does not provide information on what the options budget would have been for this period, or whether its impact was rolled into the totals shown.

Summary (Pros and Cons of Options 1 and 2)

To facilitate the Commission's consideration of the 3 options, staff presents a summary of the most and least favorable aspects of these options.

Pros of Option 1 (Risk-responsive approach)

1. Each IOU would have the flexibility to establish Value at Risk metrics to suit their risk profile.
2. Strategies could be structured to achieve the dual objectives of cost mitigation and hedge loss constraint.
3. Setting action boundaries "pre-plans" what actions will be taken when specific market conditions are encountered, and mitigates regulatory review concerns.
4. Monitoring risk tolerance levels and action boundaries engages executive oversight of hedging programs (more so than only hedging to a targeted volume).
5. The simulations of two major price spikes and a financial crisis between 2001 to 2011 indicate superior performance as to hedge loss mitigation as compared to the targeted-volume approach.
6. Risk-responsive strategies will significantly mitigate hedge losses in falling-price markets compared to targeted-volume approach.

Cons of Option 1 (Risk-responsive approach)

1. By and large, this is a new approach for Florida's IOUs. Each IOU would have to configure (or procure) resources in order to implement this option on the front end, and on an on-going basis. However, staff notes that given the dollars at stake, any administrative cost advantage of the OTM Call Option strategy is dwarfed by the potential economic advantages of a superior approach.
2. The set up time may be up to 2 years. One IOU (Gulf) estimated that its implementation cost would be \$250,000.
3. Even though only a small portion of hedging under this plan is discretionary, the IOU faces a degree of uncertainty in regulatory reviews for this portion of hedging expenses. Although, as Mr. Gettings stated, discretionary hedges are not required and might never be used. Discretionary hedges are meant for seasoned managers to be able to take advantage of market opportunities. The Commission can prohibit discretionary hedges, if it so desires, in its annual review of the risk management plans.
4. OPC and other parties do not believe financial hedging is needed at all.

Pros of Option 2 (OTM Call Options approach)

1. Each IOU could implement this option without significant delay or expense. Transitioning from placing swaps to call options would not require the resources needed for implementing Option 1.
2. Having call options in-place benefits customers in rising markets, but only after price increases exceed premium investments. Call options provide a hedge against rising prices, and are akin to having an insurance policy to avoid large hedging losses because customers pay the market price plus the premiums even if the call options are not exercised.
3. In falling-price markets, customers will pay the market price for natural gas, plus the cost of option premiums, thereby avoiding significant hedge losses.

4. Minor or no changes are necessary for reporting and/or regulatory filings. Annual audits will be more straightforward than under Option 1.

Cons of Option 2 (OTM Call Options approach)

1. Option premiums add a “cost” to hedging regardless of which way the market moves. Although rising markets will mask, offset, or mitigate this cost, stable or declining markets will expose this cost.
2. Market activity (which is outside of the IOU’s control) may drive up the price of call options. It is conceivable that in stressful market conditions, call options would be unavailable at any price.
3. A call option strategy is more limiting than a risk-responsive strategy.
4. The call option strategy is economically inferior to a risk-responsive, monitor-and-respond strategy. Loss-risk and cost-risk outcomes are superior under the risk-responsive approach in the most stressful market scenarios.
5. OPC and other parties do not believe financial hedging is needed at all.

Option 3: Resume Status Quo Hedging Practices (unrestricted or restricted)

In presenting the Commission with the choice to resume the current (or legacy) targeted volume hedging practices, staff is identifying two variations to this option. For purposes of this analysis, staff will use the terms “unrestricted” and “restricted” to generally describe whether the Commission decides to impose any specific parameters on the IOUs.

Prior to withdrawing their 2017 Risk Management Plans, staff notes that in April 2016, the IOUs proposed modifications to restrict the time horizons for hedges as well as to reduce the maximum hedge volumes for their in-place hedging programs. Recall also that prior to the February 2017 workshop, the risk-responsive approach (Option 1) was the principle alternative to the legacy targeted volume hedging practices.³³

Staff believes that if the legacy hedging programs are resumed, the Commission may entertain making changes. As a result, the analysis discussing the resumption of status quo practices without modifications will assume that the Commission will not specify any time horizons for placing hedges, or place any limits on hedging volumes. Similarly, the analysis discussing the resumption of status quo practices with modifications presumes that the Commission reserves the right to specify limitations on time horizons for placing hedges, or on hedging volumes for each IOU.

Unrestricted

In the Second Clarifying Order, the Commission refined the guidelines for hedging and risk management plans.³⁴ Staff notes that the guidelines clarified the timing and content of the reports that summarize hedging activities, but allowed the IOUs to exercise discretion to create and implement flexible risk management plans. Staff believes this flexibility is primarily the time

³³As noted earlier, Mr. Gettings developed an EXCEL-based risk-responsive model that compared the performance of targeted volume hedging strategy to his recommended strategy, finding that the targeted volume strategy produced a \$1.1 billion loss for the study period.

³⁴Order No. PSC-08-0667-PAA-EI (Second Clarifying Order), issued October 8, 2008, in Docket No. 080001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*.

horizons for hedges and hedge volumes that each IOU specifies in the confidential portions of their risk management plans. Without compromising any proprietary information from any party, staff can attest that this flexibility was evident in current and prior risk management plans from all four IOUs.

As noted in Issue 1, staff believes fuel price hedging has benefits and risks. As an alternative in addressing this issue, staff believes the Commission can consider the resumption of status quo hedging practices without any modifications.

Restricted

Since the issuance of the 2015 Fuel Order, the Commission has reviewed a substantial amount of hedging-related data and has evaluated the testimony and exhibits from subject matter experts. From a historical perspective, staff notes that DEF, FPL, Gulf, and TECO have all implemented targeted volume hedging programs that are tailored to Company-specific requirements. Stated differently, because of size, scale, fuel procurement needs, and other factors, hedging has not been implemented as a “one-size-fits-all” component of procurement. Nevertheless, staff believes modifications could be imposed in a manner that preserves the flexibility intended in the Second Clarifying Order.

Staff believes imposing a time horizon for placing hedges or placing limits on hedging volumes can be approached from the perspective of stating maximum allowable limits. Staff believes uncertainty rises as the maximum time horizons extend prospectively, and the same is true for hedging volumes. Staff believes the Commission should strike a balanced approach when considering modifications. Striking such a balance allows the Commission to set maximum common limits for all IOUs, while at the same time permitting an individual IOU to optimize its own hedging program to address its specific needs. Staff believes the following are reasonable modifications the Commission could implement in resuming targeted volume hedging practices:

1. Adjust the time horizon for placing hedges.
2. The maximum volume that IOUs may hedge is 50 percent of their projected burn.

Conclusion

Consistent with the recommendation in Issue 1, staff believes that continuing fuel price hedging activities in an economically efficient manner is in the consumers’ best interest. The Commission has the discretion to consider implementing changes to the manner in which electric utilities conduct their natural gas financial hedging activities. Staff believes the Commission should not be overly prescriptive regarding the IOU’s hedging strategies. However, staff believes the IOUs should have reasonable plans for dealing with market volatility and unexpected price shocks. Overall, the IOUs should strive to balance the risk of price spikes with customers’ concerns about hedging losses. The historical reliance upon a strict programmatic, targeted-volume hedging strategy did not achieve such a balance.

Issue 3: If changes are made to the conduct of natural gas hedging activities, what regulatory implementation process is appropriate?

Recommendation: Staff believes the Commission’s decision in Issue 2 will dictate what changes to the regulatory implementation process are needed, if any. (Barrett, Cicchetti)

Staff Analysis: Staff notes that Issues 1, 2, and 3 are all inter-related. As noted in the Case Background, natural gas hedging activities are described in annually-filed Risk Management Plans. These plans are filed on a prospective basis to detail each IOU’s plan for hedging in the forward year.³⁵ Staff notes, however, that the 2017 Risk Management Plans were withdrawn, and the crux of this issue is whether 2018 Risk Management Plans, if any, can be reviewed, approved, and in-place to implement whatever decisions are made in Issues 1 and 2 of this recommendation. Pursuant to Order No. PSC-17-0053-PCO-EI,³⁶ the 2018 Risk Management Plans, if any, are due to be filed on July 27, 2017.

Staff believes that the discussion addressing regulatory implementation processes should encompass regulatory review and reporting requirements. During the January 2017 and February 2017 meetings, the IOUs expressed some general concerns about reporting and regulatory reviews, and, specifically, how any changes to the manner in which IOUs hedge would engage new and/or different regulatory reviews and reporting protocols. Before discussing any possible changes to regulatory implementation processes, staff will provide information on regulatory review and reporting steps that are currently in place.

Current Regulatory Reviews and Reporting

Regulatory review and reporting are closely related topics. Staff uses the term “reporting” to describe documents that the IOUs file with the Commission. As noted in the Case Background, the Hedging Order, first issued in 2002 and later clarified twice in separate orders in 2008, set forth certain reporting arrangements that are still in-place.³⁷ For the 2016 and prior Risk Management Plans, staff has consistently followed a 4-step regulatory review process summarized below:

1. After forward year Risk Management Plans are filed by each of the IOUs in the Fuel Cost Recovery Clause (Fuel Clause) docket, staff identifies a Company-specific issue for the approval of each plan.³⁸
2. Through its approved Risk Management Plan, each IOU would conduct the hedging activities set forth therein. From a reporting standpoint, each IOU would capture the results of all hedging activities, and individually file bi-annual reports reflecting the

³⁵In commodity trading documents, the term “forward year” is used to describe “the next” year. In the fuel cost recovery clause process, risk management plans are usually filed in the August/September time period each year, and are described using the applicable forward year. For example, the 2016 risk management plans carry “2016” in their titles, although the documents were filed in September of 2015, and were approved in the 2015 Order.

³⁶Order No. PSC-17-0053-PCO-EI, issued February 20, 2017, in Docket No. 170001-EI, *In re: Fuel and purchased power cost recovery clause with generating performance incentive factor*.

³⁷See footnotes 2, 3, and 4.

³⁸For example, the 4 issues in the Fuel Clause hearing for approval of the forward year Risk Management Plan are structured as follows: “Should the Commission approve [Party Name]’s 20[XX] Risk Management Plan?”

hedging results over a historic 12 month period.³⁹ The Commission's review of hedging covers a 12-month period that runs from August 1 of the prior year to July 31 of the current year. Because of this reporting sequence, Commission staff and auditors review Risk Management Plans from the prior and current years.

3. On an annual basis, Commission staff and auditors review and analyze the hedging practices each IOU followed, as well as the results detailed in the bi-annual reports. Commission staff auditors offer testimony, with Company-specific audit reports attached as exhibits to their testimony.
4. Staff identifies a Company-specific issue to consider whether the IOU took prudent actions in following its approved Risk Management Plan.⁴⁰

Staff believes the current review process summarized above has worked well for the Commission's purposes, and is adaptable to accommodate any decision that the Commission makes on Issue 2. Commission staff and auditors carefully review the hedging-related documents on a recurring, annual basis, and those reviews become the foundation for recommendations that come before the Commission on an annual basis during the Fuel Clause hearing.

Options for the Commission to consider

Consistent with the organization of Issue 2, staff believes this issue can be presented by examining the options identified in that issue.

Option 1: Risk-Responsive Hedging Approach

Under the risk-responsive model being considered, Mr. Gettings recommends that IOUs collect weekly data on their respective hedging activities, and compile the weekly data into quarterly reports that would be filed with the Commission.⁴¹ Mr. Gettings believes the IOUs should reset action boundaries on an annual basis, and detail any and all changes in their Risk Management Plan filings. He believes the regulatory review should focus on whether a Risk Management Plan was followed, which is consistent with the staff's current objectives in reviewing hedging-related results.

During the January 2017 meetings and at the February 2017 workshop, the main implementation concern the IOUs expressed about the risk-responsive hedging approach was the cost and the complexity of building such a program from the ground up. In the workshop, representatives stated that the ramp-up time would be about 2 years, and that all such changes would appear in their Risk Management Plans for 2020.

³⁹The bi-annual reports are generally filed in April and August of the current year, although the earlier filing captures result from the prior year. The April report captures data from the 5 month period of August 1 through December, 31 of the prior year. The August report captures data from the 7 month period of January 1 through July, 31 of the current year.

⁴⁰For example, the four issues in the Fuel Clause hearing for attaching prudence for following approved Risk Management Plans are structured as follows: "Should the Commission approve as prudent [Party Name]'s actions to mitigate the volatility of natural gas, residual oil, and purchased power prices, as reported in [Party Name]'s April 20[XX] and August 20[XX] hedging reports?"

⁴¹Mr. Gettings recommends that data be collected on a weekly basis, and the quarterly reports would be a roll-up of the results from 13 consecutive weekly reports.

Option 2: OTM Call Options Approach

As noted previously, the IOU Proposal was not addressed in testimony or exhibits, and came to the forefront very recently. Nonetheless, the IOUs contend that the OTM Call Options approach could be implemented very quickly, acknowledging that some transition would be necessary. The transition, however, would not impact any of the current swap transactions that were entered into pursuant to older, previously approved Risk Management Plans, as those transactions would be settled as new call options are placed. Until all such (older) hedging arrangements have been exercised, the reporting of hedging results would include both swaps and options. The current schedule for reporting hedging results (with bi-annual filings, and forward year Risk Management Plans filed in late July/early August) would work for the OTM Call Options approach, according to the IOU Proposal.

The most significant step for implementing the OTM Call Options approach would be setting up the Company-specific transitional goals and budgets applicable for these programs, while at the same time monitoring the swap transactions that are “rolling off.” The IOU Proposal did not specify or recommend what goals or budgeted amounts would be appropriate for this year, or any future period.

Option 3: Resume Status Quo Hedging Practices (unrestricted or restricted)

If the Commission decides (in Issue 2) to resume status quo hedging practices in a modified or unmodified manner, staff believes no implementation process changes are necessary. Staff believes it is reasonable for the IOUs (except FPL) to file 2018 Risk Management Plans as scheduled. Staff believes the current schedule for reviewing the 2018 Risk Management Plans is adequate.

Joint Analysis (of Options 1 and 2)

In evaluating Option 1, staff believes the implementation concern the IOUs raised about the ramp-up time of 2 years is overstated. Staff believes a more realistic objective would be to treat 2018 as a transition period, with an aspiration to fully implement a risk-responsive hedging approach in time for the Risk Management Plans for 2019.

Staff believes the recommendation from Mr. Gettings to require the filing of 13-week (quarterly) reports is reasonable, and would not be costly, or burdensome for the IOUs to implement, if the Commission chooses to adopt it. As described above, the IOUs currently file hedging results (for a twelve month period) in two reports, and administratively, this recommended modification would alter the reporting period to thirteen weeks, which would introduce a requirement for the IOUs to file two new documents with the Commission. Staff believes, however, that staff and interested parties would benefit by having access to more current and more frequent data to evaluate.

Staff believes the recommendation from Mr. Gettings to require the filing of 13-week (quarterly) reports is reasonable, and could be implemented. Staff believes no other regulatory reporting changes are necessary, or recommended. Staff believes the review functions currently followed work well for the Commission’s purposes and can be modified to accommodate a risk-responsive hedging approach.

Based on the assertions from the IOUs in the February 2017 presentation made about Option 2, staff agrees with the statement that the OTM Call Options approach could be implemented quickly. Although not placing new swap transactions at this time due to the 2017 moratorium, staff believes the hedging staff organizations that each IOU has at this time could transition to placing OTM Call Options, once program goals and budgets were established.

If the Commission decides (in Issue 2) that the OTM Call Options approach should be implemented, staff believes it is reasonable for the IOUs (except FPL) to address implementation matters in their 2018 Risk Management Plans. From a reporting perspective, staff believes no changes are needed.

Analysis (of Option 3)

If the Commission decides (in Issue 2) to resume status quo hedging practices in a modified or unmodified manner, staff believes no implementation process changes are necessary.

Conclusion

Staff believes the Commission's decision in Issue 2 will dictate what changes to the regulatory implementation process are needed, if any.

Issue 4: Should this docket be closed?

Recommendation: If no protest is filed by a person whose substantial interests are affected within 21 days of the issuance of the Order, this docket should be closed upon the issuance of a Consummating Order. (Brownless)

Staff Analysis: If no protest is filed by a person whose substantial interests are affected within 21 days of the issuance of the Order, this docket should be closed upon the issuance of a Consummating Order.