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APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR AUTHORITY TO CHANGE RATES	**§ § §**	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

SIERRA CLUB AND DR. LAWRENCE BROUGH'S EXCEPTIONS TO THE PROPOSAL FOR DECISION

October 16, 2017

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SIERRA CLUB AND DR. LAWRENCE BROUGH'S EXCEPTIONS TO THE PROPOSAL FOR DECISION

The Sierra Club, along with Sierra Club member and Southwestern Electric Power Company ("SWEPCO" or the "Company") ratepayer Dr. Lawrence Brough (together "Sierra Club"), respectfully takes exception to four aspects of the Proposal for Decision ("PFD") concerning SWEPCO's application, as discussed in greater detail below.

First, with respect to SWEPCO's request to add $56.2 million to rate base for cost to retrofit the Dolet Hills power plant, Sierra Club concurs in part with, but takes exception in part to, the PFD's determination that SWEPCO carried its burden of proof to establish that it prudently decided on the retrofit option. Specifically, Sierra Club agrees that SWEPCO failed to establish prudence by pointing to the Company's actual contemporaneous decision-making, which was the only theory of prudence on which the Company chose to present evidence and argument in its application and accompanying direct testimony. However, Sierra Club emphatically disagrees that SWEPCO succeeded in establishing prudence by later presenting—for the first time in "rebuttal" testimony—a new, independent and alternative theory of prudence based on post hoc, retrospective evaluation of the circumstances as they existed at the time.[1]

[1] *See, e.g.*, *Gulf States Utils. v. PUC of Texas*, 841 S.W.2d 459, 476 (Tex. App.–Austin 1992, writ denied) (discussing the two independent and alternative means of demonstrating prudence); *Entergy Gulf States, Inc. v. Pub. Util. Comm'n of Texas*, 112 S.W.3d 208, 214-15 (Tex. App.–Austin 2003, pet. denied) (discussing the applicable burden-shifting framework and the utilities' duties both to establish a prima facie case and to carry their ultimate burden of proof).

Although a utility may offer retrospective evidence to satisfy its burden of proving prudence, SWEPCO chose to present this alternative theory of prudence—as opposed to prudence based on the utility's actual contemporaneous decision-making—for the first time in rebuttal expert testimony. As such, the intervenors (and their own experts) had no opportunity adequately to vet, and respond with their own written testimony to, the Company's new arguments and new, dense, complex presentation of evidence. This was procedurally impermissible. SWEPCO may not, in its rebuttal case, present for the first time a new and fundamentally different theory of prudence, which the Company elected not to include argument or evidence to that end in its case-in-chief. Sierra Club can appreciate the ALJs' apparent desire to provide the Commission with as full a record as possible in order to preserve all the Commission's options—including the expressly-contemplated option of rejecting the Company's post hoc analysis evidence as procedurally impermissible, and deciding the question of prudence accordingly on SWEPCO's timely-submitted theory of contemporaneous prudence.[2] That said, it is crucial that the Commission now reject such tactics from an applicant utility.

Sandbagging of this sort is procedurally impermissible under the governing rules, precedent, and the axiomatic features of adversarial practice. SWEPCO's tactic resulted in significant prejudice to intervenors' ability to vindicate their interests (and, by the same token, ratepayers' interests) as well as to the Commission, which has thereby been deprived of a full and fair record on the exclusive theory on which the PFD's prudence determination rests. Moreover, a ruling condoning SWEPCO's tactic would endorse a new and extraordinarily perverse procedural regime that would incentivize utilities to hold back alternative and

[2] *See* Proposal for Decision ("PFD") at 45 ("Movants may complain that they are in a 'no-win' situation. … The ALJs' role, however, is to develop a full evidentiary record with findings and conclusions for the Commission's consideration. … Movants have preserved their objections. Upon further review, if it is determined that the ALJs erred by admitting Mr. Strunk's testimony, this PFD contains analysis of the contemporaneous record separate from Mr. Strunk's retrospective model.").

independent theories of their case from their application and direct testimony, and rather wait to present it only when intervenors cannot effectively scrutinize and respond to it. Such a rule would allow—indeed, encourage—utilities to circumvent the robust adversarial process that is guaranteed in rate cases through the applicable burden-shifting framework.[3]

In the alternative, assuming that SWEPCO may properly rely on its faux-rebuttal retrospective evidence of prudence, Sierra Club disagrees with the PFD's determination that such evidence was substantively sufficient to satisfy SWEPCO's "heavy burden" of demonstrating that the Dolet Hills retrofits were prudent.[4] The Administrative Law Judges ("ALJs"), having correctly found that SWEPCO evidence of contemporaneous analysis of the Dolet Hills retrofit was inadequate, were required (and the Commission is now required) to subject the Company's after-the-fact justifications to "rigorous review." In that vein, SWEPCO's retrospective analysis is riddled with substantive flaws, errors, and other weaknesses such that it cannot support a finding of prudence. The PFD's cursory review of those errors did not hold SWEPCO to its heightened, heavy burden, and the Commission will see that the Company's deficient, unreliable *post hoc* justifications fail to satisfy that burden.

Second, regarding the prudence of the costly retrofits of each of the Pirkey, Flint Creek, and Welsh 1 and 3 units, Sierra Club takes exception to the PFD's conclusion that each of SWEPCO's retrofit decisions was prudent. SWEPCO's contemporaneous analysis of those units was substantively deficient, as discussed below. Although the Company did conduct a seemingly comprehensive contemporaneous analysis of the comparative economics of

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[3] *See, e.g.*, 16 TAC §§ 22.203(b)(3), 22.225(a)(6)(A); *Entergy Gulf States*, 112 S.W.3d at 214-15; *Joint Report and Application of Oncor Electric Delivery Company LLC, Ovation Acquisition I, LLC, Ovation Acquisition II, LLC, and Shary Holdings, LLC for Regulatory Approvals Pursuant to PURA* (hereinafter "*Oncor Joint Report*"), Docket No. 45188, Order No. 14, 2015 WL 9631073, at *3 (Dec. 31, 2015); *In re Application for Initial Regular Permit to Withdraw Groundwater from the Edwards Aquifer: Day & McDaniel*, Proposal for Decision, 2002 WL 34186101 (Dec. 13, 2002), at *15 n.9.
[4] *Gulf States Utilities*, 841 S.W. 2d at 476.

retrofitting or replacing those units, as discussed below, that analysis was based on a series of unsupported, unreasonable assumptions that consistently skewed the apparent relative economics inaccurately in favor of SWEPCO's preferred outcome: to retrofit and continue operating.

Third, regarding the Distributed Renewable Generation ("DRG" tariff), Sierra Club agrees with the PFD's recommendation to grandfather the existing tariff for current DRG customers, who already invested substantial resources in DRG equipment in reliance on that tariff. However, Sierra Club submits that no time limit on the grandfathering period is appropriate (in fact, SWEPCO sought none). And even if a time limit were to be imposed, the five-year limit recommended by the PFD is unfairly and unreasonably brief, and far out of step with the longer periods imposed (if any) in other jurisdictions under similar circumstances.

Fourth and finally, regarding the "Other issue" that Sierra Club has documented—namely, SWEPCO unnecessarily saddling ratepayers with paying an additional increment for power, during significant stretches of time when the Company rationally should have chosen not to generate and dispatch—Sierra Club takes exception to the PFD's recommendation that attempting to foist such avoidable extra costs on customers is reasonable.[5] Below, Sierra Club explains this relatively new pattern, which is noticeable only since the mid-2014 inception of the Southwest Power Pool ("SPP") Integrated Marketplace, coupled with the low wholesale energy prices being able to be viably offered by SWEPCO's more economically efficient competitors (largely natural gas and renewables, with their lower variable costs). Sierra Club then explains that the PFD's terse, superficial treatment of this issue is unsupported by the record and, moreover, fundamentally fails to apprehend and grapple with Sierra Club's contentions and the problematic new phenomenon documented in the record.

[5] *See generally* 16 TAC §§ 25.231(b), 25.235(a), 25.236(d)(1)(a) (unreasonable and unnecessary expenses are not recoverable from ratepayers).

I. Introduction – No exceptions.
II. Jurisdiction and Notice – No exceptions.
III. Procedural History – No exceptions.
IV. Executive Summary – Exceptions stated below in corresponding sections.
V. Rate Base [PO Issues 4-6, 8-10, 12-21, 28, 49, 54]

A. Prudence of Environmental Control Investments [PO Issues 4, 5, 9, 10, 12, 19]

1. Dolet Hills Power Station

Sierra Club concurs with the PFD's determination that "SWEPCO failed to meet its burden of proof through contemporaneous evidence."[6] That is, as the PFD explains, the Company failed to carry its burden through the first (and preferred) of the "two ways" through either or both of which, under Texas law, a utility may elect to attempt to demonstrate the prudence of its decision:

> Under the first method, a utility presents contemporaneous documentation of its decision-making process, thereby enabling the Commission to review the actual investigations and analyses leading to the utility's decision. When there is no evidence of contemporaneous investigation and analysis, a utility may employ the second method, analyzing the prudence of the decision after-the-fact.[7]

Critically, the first of those two independents methods of presenting a case for prudence—documentation of actual decision-making at the time—was the only one SWEPCO chose to present in its case-in-chief, as the PFD recognizes.[8]

By contrast, Sierra Club takes exception to the PFD's determination that SWEPCO's post hoc retrospective analysis—offered under the second, disfavored, alternative and independent of the two theories available to show prudence—suffices to carry the Company's burden in this

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[6] PFD at 17; *see also id.* at 19-24 (recounting the parties' arguments regarding SWEPCO's contemporaneous decision-making); *id.* at 45-47 (determining that neither SWEPCO's actual decision-making, nor the Louisiana PSC proceedings concerning Dolet Hills, support the conclusion that SWEPCO's contemporaneous decision-making was prudent with respect to the Dolet Hills retrofits).
[7] *Gulf States Utils.*, 841 S.W.2d at 476; *see id.* (recognizing that the second, retrospective option is "inherently defensive and hence more suspect"); *see also* PFD at 41.
[8] *See, e.g.*, PFD at 24, 42-43.

case. SWEPCO's presentation of that second, retrospective manner of proof—which, Texas courts have recognized, is "inherently defensive and hence more suspect," and thus demands especially "rigorous review"[9]—was unjustifiably and impermissibly submitted as purported "rebuttal testimony" when it should have been included in the Company's direct case. Moreover, it was also riddled with substantive flaws.

First, as discussed further below under subheading (a), SWEPCO implores the Commission to correct the PFD's erroneous procedural conclusion that SWEPCO may rely on its retrospective evidence and argument, which the Company presented impermissibly in its rebuttal case rather than in direct. Specifically, the Company chose to wholly exclude that theory of prudence from in its pre-filed written direct testimony, and instead presented that independent theory for the first time in its rebuttal testimony. By that time, the intervenors were precluded from responding to SWEPCO's new, alternative theory with written expert testimony of their own (as they had been able to do, by contrast, in zealously responding to the contemporaneous argument that the Company included in its direct case).

The PFD errs in suggesting that the two methods for showing prudence, either or both of which a utility may choose to invoke, are cumulative or substitute, rather than parallel and independent, methods of making out a prima facie case and then ultimately carrying the utility's burden of proof under the applicable three-phased burden-shifting framework. In that vein, the PFD erroneously concludes that, as long as a utility's direct case makes out a prima facie case under one of the two alternative methods (*i.e.*, either actual contemporaneous decision-making, or post hoc retrospective justification), the utility may later present evidence and argument under the other, independent method for the first time in its rebuttal testimony. The PFD erroneously concludes that the utility may wholly rely on that second theory to meet its ultimate burden of

[9] *Gulf States*, 841 S.W. 2d at 476.

proof in the case, even though the utility only shifted the burden to intervenors to respond based on the first, distinct theory, and even though intervenors have no opportunity to respond in kind to the second, new theory, as the applicable burden-shifting framework contemplates.[10]

That conception of how burden-shifting and proof works is both legally unfounded—contravening applicable rules and precedent, and axiomatic principles of the adversarial process, as discussed below—and also very troubling as a policy matter. If adopted, the proposed ruling would condone utilities putting forth in their application and direct testimony only one theory of prudence towards establishing their prima facie case; waiting until other parties can no longer respond with thoughtful, well-developed expert testimony (which is especially crucial given the complexity and density of issues and testimony in rate cases like this one); and then injecting into the record some entirely new theory of their case in rebuttal testimony, after which the intervenors have no opportunity to respond in kind. In other words, utilities henceforth could—and indeed, would be incentivized to—escape the process of meaningful scrutiny of their costly, ratepayer-borne decisions, which PUC procedures have been designed to ensure.

Second, assuming arguendo the Commission allows SWEPCO to rely on its belated improperly-"rebuttal" retrospective testimony, Sierra Club urges the Commission to conclude that such testimony—that of Mr. Kurt Strunk, an external consultant retained by SWEPCO after the Company had filed its case-in-chief—contains such errors, flaws, and other substantive weaknesses that render it incapable of carrying SWEPCO's burden of proof. These substantive deficiencies in Mr. Strunk's testimony are discussed below under subheading (b).

[10] PFD at 45; *see, e.g.*, *Entergy Gulf States*, 112 S.W.3d at 214-15; *Oncor Joint Report*, Docket No. 45188, Order No. 14, 2015 WL 9631073, at *3.

a. **SWEPCO may not rely on its retrospective testimony—which presented an alternative and independent theory of the prudence for the first time in the Company's rebuttal—because that testimony must have been presented in the Company's direct case if SWEPCO ever wanted to invoke it.**

Below, Sierra Club first briefly reviews the relevant procedural background and the PFD's ruling on this issue, as context for Sierra Club's exceptions. Sierra Club then explains why applicable rules, precedent, and sound policy all require that Commission not allow a utility to rely on a new and independent theory of prudence that it advanced for the first time in its rebuttal testimony.

i. **SWEPCO advanced a retrospective case for prudence for the first time in rebuttal, when it was impossible for Intervenors—who had addressed the Company's contemporaneous case for prudence in their testimony—to respond through thoughtful written testimony to the Company's fundamentally new evidence and argument.**

When SWEPCO filed its case-in-chief with the written direct testimony accompanying its application on December 16, 2016—requesting in part to add to rate base $56.2 million from ratepayers for the Dolet Hills retrofits—it knew that the intervenors in this case would have an opportunity to scrutinize and challenge any supporting testimony included therein. SWEPCO elected to justify its retrofit investment decision as prudent by way of pointing solely to contemporaneous decision-making by it and/or Dolet Hills' co-owner, Cleco, as well as purportedly contemporaneous proceedings pertaining to Dolet Hills in the Louisiana PSC (although, as the PFD recognizes, those proceedings were not in fact contemporaneous).[11] SWEPCO thus chose *not* to offer *any* evidence based on the other of the two independent methods of showing prudence—namely, a retrospective analysis of the relevant factors and

[11] *See, e.g.*, SWEPCO (Franklin Direct) Ex. 13, at 14-18.

alternatives as they existed at the time reveal that the decision was indeed prudent, despite an absence or deficiency of adequate, reasonable actual decision-making.[12]

Given that SWEPCO's application presented a case-in-chief based solely on evidence and argument of contemporaneous decision-making, that is the only theory of prudence that Sierra Club (among other intervenors) could address in their responsive testimony. Sierra Club responded through the Direct Testimony of Rachel S. Wilson, which criticized the Dolet Hills retrofit uniquely on the ground that SWEPCO had not itself engaged in contemporaneous prudent decision-making. Ms. Wilson observed, for instance, that "with regard to Dolet Hills specifically, SWEPCO seemed to rely solely on the recommendation from Cleco, the co-owner and operator of the Dolet Hills Power Station and did not perform any independent analysis of the economics of the retrofit technologies."[13] Likewise, in identifying her "conclusions regarding the prudence of SWEPCO's investments in emission controls at Dolet Hills," Ms. Wilson responded in full:

> I have not seen any evidence that SWEPCO participated in the decision-making process around the Dolet Hills emissions retrofits in any meaningful way, or that the Company independently assured itself of the prudence of those retrofits. As such, the Company's actions simply cannot be considered to meet the standard for planning prudence. Further, SWEPCO has refused to provide Cleco's analysis of the installed emissions controls at Dolet Hills, thus inhibiting review by this Commission, intervenors in this docket, or the Texas public, of the prudence of the decision to install those controls. The Commission should not allow for any cost recovery associated with the Dolet Hills investments under such conditions.[14]

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[12] *See Gulf States Utils.*, 841 S.W.2d at 476; *see also* PFD at 41.

[13] Sierra Club Ex. 21 (Wilson Direct unredacted) and Ex. 22 (Wilson Direct redacted), at Section *iv*; *see also id.* at 5:25-29 ("With regard specifically to Dolet Hills, SWEPCO seems to have relied solely on the retrofit recommendation from Cleco, the co-owner and operator of the facility, and did not perform any independent analysis of the economics of the retrofit technologies."); *id.* at 20:13-15 ("Finally, with respect to Dolet Hills, SWEPCO's apparent lack of independent review and verification of the analysis done by Cleco was imprudent."); *id.* 40:3-6 ("Q: Did SWEPCO evaluate environmental regulations impacting Dolet Hills? A: No, as noted above, it does not appear that SWEPCO conducted any independent analysis of environmental compliance costs at Dolet Hills, but instead relied solely on analysis conducted by Cleco.").

[14] *Id.* at 46:11-21.

In sum, it bears repeating, ***at this point, SWEPCO had not yet presented any retrospective analysis to which any party could respond (nor had the intervenors responsively addressed or unilaterally injected any).*** That is to say, no party had yet offered any newly performed analysis, like Mr. Strunk's, identifying circumstances as they existed and were known at the time of the retrofit decision, freshly evaluating the comparative economics of retrofit versus retirement and replacement options, and evaluating what the prudent range of decisional options would have been in light thereof.

Nevertheless, in SWEPCO's rebuttal testimony filed on May 19, 2017—at which point intervenors had no further opportunity to file written testimony—the Company introduced evidence and argument purporting to justify the Dolet Hills retrofits based on retrospective analysis. This new, alternative theory of prudence came by way of the expert testimony of Kurt Strunk, an external consultant retained by SWEPCO on April 10, 2017[15]—more than two weeks before any intervenor filed testimony in response to the Company's case. Mr. Strunk's rebuttal consisted of 42 pages of testimony and 150 pages of attachments, including 125 pages of complex technical modeling exhibits—plus additional electronic workpapers containing details of controversial assumptions he had made and the calculations he performed.

In response to SWEPCO's procedurally impermissible presentation of an entirely new, alternative case for prudence in its rebuttal testimony, three intervenors—Sierra Club, the Office for Public Utility Counsel ("OPUC"), and the Cities Advocating Reasonable Deregulation ("CARD") (collectively "Joint Movants," here)—filed a written "Joint Objection and Motion to Strike" Mr. Strunk's testimony on May 26, 2017.[16] The Joint Movants objected to the

[15] Response of SWEPCO to Joint Objection and Motion to Strike (June 2, 2017) at 6.

[16] Joint Objection and Motion to Strike filed by Sierra Club, OPUC, and CARD (May 26, 2017) (hereinafter "Joint Motion"); *see* PFD at 42-43.

Company's improper new and fundamentally different theory of prudence,[17] and sought to strike the portions of Mr. Strunk's testimony and supporting model that presented the new, retrospective analysis.[18] SWEPCO filed a written response on June 2, 2017.

The ALJs ruled orally on the Joint Objection and Motion to Strike, on the first day of the hearing on the merits, June 5, 2017. The ALJs denied the motion to strike and instead ordered that the Joint Movants' respective witnesses would be allowed to provide live oral supplemental testimony in response to Mr. Strunk's retrospective analysis, and that Mr. Strunk in turn would be allowed to respond thereto through his own live oral supplemental rebuttal testimony.[19]

Given the scheduled presentation of witnesses—with Sierra Club's expert witness Rachel Wilson appearing on June 8 and Mr. Strunk appearing on June 15—the ALJs' order in effect gave Sierra Club and Ms. Wilson less than three days to prepare her live supplemental testimony (in addition to preparing for cross-examination, per usual), whereas Mr. Strunk had nearly seven

[17] The Joint Motion also objected to Mr. Strunk's retrospective testimony on the "additional, independent basis" that it SWEPCO had violated its duty to supplement discovery under 16 TAC § 22.144(c), in that other parties to this case had earlier requested in discovery precisely the type of documents that Mr. Strunk's testimony purports to introduce, yet SWEPCO never timely provided them in discovery." Joint Motion at 6; *see id.* at 6-8. Sierra Club renewed this separate basis for objection in its post-hearing briefing. *See* Sierra Club and Dr. Lawrence Brough's Initial Brief (July 6, 2017) at 18-19. Sierra Club incorporates that objection by reference but does not rehash it here: The PFD did not opine on that argument; and in any event, that discovery-related violation was less egregious, touches on a less fundamental issue, and a ruling thereon is less potentially precedent-altering.

[18] Joint Motion at 1-10. The Joint Movants also included, as a clearly disfavored plea, a terse alternative request to be able to provide live supplemental responsive testimony at the impending hearing on the merits, if the ALJs were to deny the motion to strike. *Id.* at 10; *see also* Docket No. 46449 Merits Hearing Transcript (hereinafter referred to as "Tr.") at 2201:2-3 (June 15, 2017) (Sierra Club counsel "renew[ing] … objection to this procedure [*i.e.*, live supplemental testimony] as being an inadequate form of relief [compared to] striking the testimony.").

[19] Tr. at 11:15–16:16 (June 5, 2017). Sierra Club can understand (while disagreeing with) the ALJs' inclination below to err on the side of including the evidence—even while conceding that places the Joint Movants "in a 'no-win' situation"—on the reasoning that doing so preserves all the Commission's options, including the expressly contemplated possibility that the Commission would later exclude that evidence and decide prudence based solely on SWEPCO's contemporaneous evidence. *See* PFD at 45 ("Movants have preserved their objections. Upon further review, if it is determined that the ALJs erred by admitting Mr. Strunk's testimony, this PFD contains analysis of the contemporaneous record separate from Mr. Strunk's retrospective model.").

days to prepare his live testimony in response to hers.[20] The experts ultimately provided their live supplemental testimony (the substance of which is addressed more fully below in Section V-A-1-b) on those days, and objections were renewed and overruled.[21]

Sierra Club reiterated its procedural objections to Mr. Strunk's faux-"rebuttal" retrospective testimony in its post-hearing briefing to the ALJs.[22]

The PFD maintained the ALJs' earlier denial of the Joint Motion to Strike, stating that "the ALJs do not agree with [Joint] Movants that SWEPCO was required to assess and submit both theories of prudence (contemporaneous documentation and retrospective analysis) in its direct case."[23] To that end, the PFD reasoned that, "although it can be argued that the better practice on SWEPCO's part would have been to exercise its 'abundance of caution' earlier, such that Mr. Strunk's retrospective analysis was prepared and filed in the Company's direct case," nonetheless "SWEPCO has the burden of proof and the latitude to exercise its own judgment about what to include in the initial filing."[24]

The PFD also found it significant that the contemporaneous evidence the Company submitted exclusively in its direct case "met a prima facie showing and avoided the expense (ultimately borne by ratepayers) of retaining Mr. Strunk for the retrospective analysis if there were no need to respond to the intervenor testimony."[25] As a threshold matter, Sierra Club disputes any suggestion that a utility may hold back on putting forth a fulsome case-in-chief based on that consideration—which, by the way, SWEPCO did not testify that it actually relied

[20] OPUC's expert witness Kevin Woodruff also provided live supplemental testimony, on June 12; Mr. Strunk responded to Mr. Woodruff as well.
[21] *See, e.g.*, Tr. at 2200:5–2201:5 (June 15, 2017) (Sierra Club counsel renewing and preserving objections to live supplemental testimony procedure, as inadequate form of relief compared to striking Mr. Strunk's improper rebuttal testimony).
[22] *See* Sierra Club and Dr. Lawrence Brough's Initial Brief at 14-18.
[23] PFD at 43.
[24] PFD at 43.
[25] *Id.* at 44.

on in choosing to proceed in its direct case on only a contemporaneous prudence theory. Moreover, accepting for the sake of argument the relevance of this to financial issue, the PFD's statement here assumes multiple factual inaccuracies. First, the PFD erroneously suggests that Mr. Strunk was retained "to respond to the intervenor testimony," when in fact SWEPCO admits that it hired Mr. Strunk (on a paid basis) 15 days before intervenors filed their testimony. Moreover, ratepayers wound up that expense anyway when intervenors quite predictably challenged SWEPCO's decidedly weak case of contemporaneous prudence. Indeed, ratepayers will actually end up paying much more this way, because they will be charged for the additional consulting fees and, more importantly, additional lawyers' fees entailed by a full extra day of hearing (for the live supplemental testimony of three witnesses) as well as extra motion practice and briefing on this topic, which never would have arisen if SWEPCO had simply presented Mr. Strunk's testimony in the Company's direct case.

The PFD concluded its ruling on this issue as follows:

> Movants may complain that they are in a "no-win" situation. Had they not challenged SWEPCO's direct case in discovery, SWEPCO may not have filed a retrospective analysis and would have failed to show the prudence of its Dolet Hills investment. Yet, by legitimately questioning the direct case, Movants prompted SWEPCO to produce the retrospective analysis and thus meet its burden. The ALJs' role, however, is to develop a full evidentiary record with findings and conclusions for the Commission's consideration. Exclusion of clearly relevant evidence—when it cannot be shown that SWEPCO was required to submit both contemporaneous documentation and a retrospective analysis in its direct case—is inappropriate. Movants have preserved their objections. Upon further review, if it is determined that the ALJs erred by admitting Mr. Strunk's testimony, this PFD contains analysis of the contemporaneous record separate from Mr. Strunk's retrospective model.[26]

The legal misconceptions embraced by that paragraph are addressed below.

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[26] *Id.* at 45.

ii. It is axiomatic that a utility may not wait until its rebuttal testimony—when Intervenors may no longer file responsive testimony—to present an entirely new, alternative and independent theory of its prima facie case.

The fundamental error in the PFD's analysis is its failure to recognize that the two respective methods of showing prudence—*i.e.*, pointing to actual contemporaneous decision-making, versus conducting after-the-fact retrospective analysis—are *alternative and independent, not substitute or cumulative*, methods of proving a utility's case under the applicable burden-shifting framework. Documentation of contemporaneous decision-making and after-the-fact retrospective analysis each rely on fundamentally distinct evidence and arguments (as this case plainly demonstrates), and thus each allows the utility to make out a prima facie case (which the utility must do in its direct case) in independent, alternative ways. Only when the utility has made out a prima facie case under either or both theories, does the burden shift to intervenors to respond to and rebut the utility's case under, respectively, either or both theories, as the case may be depending on whether the utility had asserted one or both. Finally, the utility is afforded a final opportunity in its rebuttal *to respond to intervenor's responses* (not also to introduce new evidence for new theories).

A utility may not satisfy its initial burden of production to make out a prima facie case based on only one theory in its direct case, yet present the other theory in its rebuttal case and rely on that other theory to satisfy its ultimate burden of proof on that other theory—a theory that intervenors neither could have responded to nor needed to respond to under the burden-shifting framework. As discussed below, this principle is recognized in applicable rules, precedent, and bedrock norms of the adversarial process. Moreover, a rule to the contrary would tolerate (and even incentivize) perverse and unfair sandbagging by utilities—fundamentally undercutting the spirit as well as the letter of the guaranteed procedures in Texas PUC proceedings, which serve to ensure that meaningful, robust vetting of utilities' requests occurs and, by the same token, that the rates imposed on customers are reasonable.

As an initial matter, the Commission's procedural rules require that SWEPCO, as the party with the burden of proof under PURA, file "the written testimony and exhibits supporting its direct case on the same date that such statement of intent to change its rates is filed with the commission."[27] Later, in its rebuttal case, the Company is entitled only to "rebut evidence presented by opposing parties after all parties have presented their direct cases."[28] Further to that end, due process requires that parties to administrative hearings be accorded a full and fair hearing, including "the right to present and rebut evidence" on "disputed fact issues."[29]

Consistent with the rules' requirement that utilities file their direct case at the outset, and limit their rebuttal to the scope of intervenors' testimony, a bevy of precedent has come to enshrine a burden-shifting framework through which parties in rate cases are to contest the question of prudence. As the court in *Entergy Gulf States* recognized: "[A] utility's capital investments are initially presumed to be prudent once the utility has presented a prima facie case in support of its application. If the utility presents a prima facie case, the burden of going forward (burden of production) shifts to the intervenors to rebut the presumption. Once that

[27] 16 TAC § 22.225(a)(6)(A).
[28] *Id.* § 22.203(b)(3); *see also* Tex. R. Civ. P. 265; *cf. Ayers v. Harris*, 13 S.W. 768, 772-73 (Tex. 1890) (interpreting procedural statute to prohibit evidentiary sandbagging by plaintiff, and require full scope of case to be presented in direct, with response and rebuttal confined to that which is initially presented); *Sierra Club, Lone Star Chapter v. Cedar Point Oil Co. Inc.*, 73 F.3d 546, 571 (5th Cir. 1996) (ruling against party whose rebuttal and supplementary expert disclosures fundamentally exceeded the scope of their initial, primary disclosures: "[T]he discovery order and Rule 26(a) clearly require that the initial disclosures be complete and detailed. The purpose of rebuttal and supplementary disclosures is just that—to rebut and to supplement. These disclosures are not intended to provide an extension of the deadline by which a party must deliver the lion's share of its expert information.").
[29] *City of Corpus Christi v. Public Utility Com'n of Texas*, 51 S.W.3d 231, 262 (Tex. 2001).

presumption is rebutted, the burden shifts back to the utility to prove, by a preponderance of the evidence, that the challenged expenditures were prudent."[30]

The utility may satisfy its burden of production to make out a prima facie case of prudence "without proving the reasonableness and necessity of every individual dollar paid on a granular level," but its evidence must be "comprehensive."[31] The utility must establish a prima facie case through its application and supporting direct testimony by "suppl[ying] evidence on each element set out in the [utility's] petition, including filing packages, summaries, and direct testimony."[32]

Beyond the utility's threshold burden of production, the utility must ultimately satisfy "its overall burden of proof" (also known as its "burden of persuasion").[33] The Commission judges that ultimate question of whether the utility has carried its burden of proof (or persuasion) in view not only of the utility's direct testimony, but also "the intervenors' direct cases and [the utility's] rebuttal"—which is to say, "review of the entire record."[34] Importantly, however, "if a prima facie case had not been made" by the utility in its direct case, it is "unnecessary" for the

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[30] 112 S.W.3d at 214 (internal quotation marks omitted; quoting *Application of Gulf States Utils. Co. for Authority to Change Rates, Remand of Docket 7195*, Docket No. 17899, 1998 WL 971285 (Mar. 15, 1998)).

[31] *Entergy Texas, Inc. v. Pub. Util. Comm'n of Texas*, 490 S.W.3d 224, 240 (Tex. App.–Austin 2016) (citing *Entergy Gulf States*, 112 S.W.3d at 214 n.5), *pet. denied* (Sept. 1, 2017).

[32] *In Re Texas Genco, LP, 26195*, Docket No. 26195, 2003 WL 23101077 (PUCT May 22, 2003) ("The burden of production is generally satisfied when a utility makes a prima facie case, which is established when the utility supplies evidence on each element set out in the [utility's] petition, including filing packages, summaries, and direct testimony."); *see also Entergy Gulf States,* 112 S.W.3d at 215. The requirement that the utility present at the outset a "comprehensive," yet not excessively detailed, body of justifications for its requests allows for "efficient hearings" in light of the "voluminous, highly technical evidence required to establish the prudence of investment in electric power plants." *Entergy Gulf States,* 112 S.W.3d at 214 n.5.

[33] *Entergy Gulf States,* 112 S.W.3d at 215 (internal quotation marks omitted).

[34] *Id.* (internal quotation marks omitted); *see id.* ("Although the Commission's order on remand uses language that is less than clear concerning the burden of proof and burden of production, we believe that the Commission not only ruled that Entergy had not presented a prima facie case, but that the Commission reviewed the entire record and, based on this review, held that Entergy failed to satisfy its burden of proof under the utilities code.").

Commission to review "evidence offered by [a utility's] opponents to rebut the proposed rate increase."[35]

In this case, because SWEPCO chose not to include ***any*** evidence of a retrospective prudence analysis—or any analysis at all—in its direct testimony and other initial filings, SWEPCO is estopped from presenting such fundamentally new, independent and alternative evidence for the first time in rebuttal, and relying on that evidence to carry its burden of proof. This is true for several reasons, and is well-established by a bevy of authorities.

First, as noted above, the applicable rules and precedent dictate that SWEPCO was required to present a "comprehensive" case for recovery in its initial filings—that is, something short of accounting for "every individual dollar paid," but a fulsome presentation of the whole of the Company's case, such that intervenors could respond to the "voluminous, highly technical evidence" necessarily at issue.[36] The plain import of the authorities is that the PFD erred in determining that SWEPCO could simply shift the burden of production by establishing a prima facie case in direct testimony based on one manner of showing prudence, then later present and carry its burden of persuasion based on the other manner (which never shifted the Company's burden in the first place).

Second, keeping in mind that none of the intervenors in fact presented evidence or argument regarding retrospective prudence analysis,[37] applicable rules along with a legion of court and Commission precedent prohibited SWEPCO from doing anything in its rebuttal testimony beyond "rebut[ting] evidence presented by opposing parties after all parties have

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[35] *Id.*
[36] *Entergy Texas*, 490 S.W.3d at 240; *Entergy Gulf States,* 112 S.W.3d at 214 n.5; *see also* 16 TAC § 22.225(a)(6)(A).
[37] *See supra* nn. 13-14 and accompanying text; *but see* PFD at 43 (ALJs reciting SWEPCO's unfounded, conclusory claims to the contrary).

presented their direct cases."[38] As further corroboration of the fact (which is plain from the face of intervenors' respective testimony) that SWEPCO's retrospective analysis was not proper rebuttal that responds to intervenors' cases, it bears repeating that the Company hired Mr. Strunk to perform the retrospective analysis more than two weeks prior to intervenors filing their direct testimony.

Third, even supposing that intervenors' testimony did somehow inject a retrospective theory prudence into play (obviously it did not), it would be "unnecessary" for the Commission to consider that alternative theory because "a prima facie case had not been made" based on it.[39] That is, because the Company never shifted its initial burden of production based on that theory (which entails a wholly independent body of evidence and argument), the Company could not, under the applicable burden-shifting framework, later introduce and invoke it in rebuttal.

In this general vein, yet another ALJ recently ruled:

> Rebuttal testimony is narrower than direct, not broader. On rebuttal, a party is limited to evidence that directly answers or disproves the last round of the other party's evidence. Purchasers reference to and reliance on models that were not provided in their direct case or referenced by the Parties' witnesses in direct testimony to which rebuttal was provided clearly exceeds the proper scope of rebuttal testimony in this proceeding; and with the constricted schedule in this case, such an approach clearly denied the Parties an opportunity to conduct discovery and develop testimony responsive to the model(s)....[40]

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[38] *Id.* § 22.203(b)(3); *see also* Tex. R. Civ. P. 265; *City of Corpus Christi*, 51 S.W.3d at 262; *Application of Hino Electric Power Company for a Certificate of Convenience and Necessity in Hidalgo and Willacy Counties*, Docket No. 20314, Central Power and Light Company's Objections to Phase II Rebuttal Testimony and Supplemental Rebuttal Testimony of Hino Electric Power Company and Motion to Strike (Dec. 3, 1999); Proposal for Decision at 15-18 (Apr. 4, 2000); Order at Finding of Fact 22C, 23C, 24C (Sep. 30, 2002) (striking portions of Applicant's rebuttal testimony, holding that the Applicants had improperly presented information and testimony that should have been presented earlier as a portion of their direct cases, and which had been requested during discovery); *Oncor Joint Report*, Docket No. 45188, Order No. 14 at 4 (striking rebuttal testimony that should have been presented in direct case and that impacted the parties' opportunity to conduct discovery and develop responsive testimony, noting that "[r]ebuttal testimony is narrower than direct, not broader; holding that, on rebuttal, a party is limited to evidence that directly answers or disproves the last round of the other party's evidence").

[39] *Entergy Gulf States,* 112 S.W.3d at 215.

[40] *Oncor Joint Report*, Docket No. 45188, Order No. 14, 2015 WL 9631073 (Dec. 31, 2015), at *3 (Goodson, J.).

Still another ALJ earlier admonished an applicant company about the same basic issue, in a case referred to SOAH by the Edwards Aquifer Authority:

> The Applicant is hereby warned against trying to obtain a tactical advantage by saving evidence for rebuttal that is more reasonably part of a direct case. Such evidence will not be admitted as "rebuttal" absent a showing of good cause, particularly that the need for such "rebuttal" evidence could not have been reasonably anticipated and prefiled with the direct case.[41]

In addition, just to note a few other authorities in accord, the Federal Energy Regulatory Commission ("FERC") has likewise recognized the role of prejudice when it has approved ALJs "refusing to permit [a party]" to "introduce[] a new theory of the case" as "rebuttal testimony."[42] In enforcing that bedrock, eminently-sensible principle, FERC has observed that "[r]ebuttal testimony is intended to refute testimony submitted by other parties, not to advance a new theory of the case," and that "permitting the admission of evidence on rebuttal concerning a new theory of the case could prejudice the other parties to the proceeding who would not have an opportunity to respond to that testimony."[43] Federal courts, too, concur in various contexts that a responding party "should not be allowed to raise new grounds for the first time in its rebuttal to which [the other party] will not have the opportunity to provide an adequate response."[44]

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[41] *In re Application for Initial Regular Permit to Withdraw Groundwater from the Edwards Aquifer: Day & McDaniel*, Proposal for Decision (Dec. 13, 2002), 2002 WL 34186101, at *15 n.9 (Lynch, J.). Of course, as discussed the above, in this case SWEPCO obviously could "have been reasonably anticipated and prefiled with [its] direct case" Mr. Strunk's retrospective analysis—indeed, it commissioned Mr. Strunk to perform that analysis before the intervenors had even responded to the Company's direct case.
[42] *In re: Jack J. Grynberg*, Fed. Energy Reg. Comm'n Rep. P 61247, 90 FERC ¶ 61,247, 61,8212 (Mar. 15, 2000).
[43] *Id.*
[44] *Marinor Assocs., Inc. v. M/V Panama Express*, No. CIV.A. H-08-1868, 2011 WL 710616, at *8 n.41 (S.D. Tex. Feb. 18, 2011); *cf., e.g., Boudloche v. Chrysler Corp.*, No. CIV. A. 95-3496, 1996 WL 502165, at *2 (E.D. La. Sept. 3, 1996) ("To permit plaintiffs' expert to submit another report containing new bases for his previous opinions or new theories at this late date, when only five weeks remain before trial, would prejudice defendant and subvert the orderly scheme of expert disclosure which this Court has adopted.").

Lest there remain any doubt, an analogy to another context featuring fundamentally the same tripartite burden-shifting framework—namely, employment discrimination suits—is useful to illustrate the patent impermissibility of presenting one theory of the case in direct but attempting to rely on a brand new, alternative theory in rebuttal (or reply). "[U]nder the burden-shifting framework set forth in *McDonnell Douglas Corp. v. Green*, 411 U.S. 792 (1973)," an employment discrimination plaintiff "must first establish a prima facie case of discrimination prohibited by Title VII."[45] The plaintiff may meet that burden under either or both of "two theories: disparate treatment or disparate impact."[46] "Either theory may prove applicable to the same set of facts," but the two types of claims are theoretically distinct, require the plaintiff to put forth distinct arguments and distinct evidence, and are governed by distinct lines of precedent.[47] Suppose the plaintiff files a complaint and then a motion for summary judgment based solely on a "disparate treatment" theory of sex-based discrimination. To that end, the plaintiff argues the existence of a pattern and practice of discrimination, and provides evidence of discriminatory intent—say, a tape recording of her boss making a sexist remark. As that sufficed to establish a prima facie case of discrimination under that theory, so the burden shifted to the defendant employer to confront that theory. The employer responded in turn by refuting the plaintiff's disparate impact theory by showing that plaintiff's tape recording was in fact a co-worker's voice, not the boss's, such that the requisite discriminatory intent was lacking. With

[45] *Silva v. Chertoff*, 512 F. Supp. 2d 792, 803 (W.D. Tex. 2007); *see also Mercer v. Capital Mgmt. & Reality, Inc.*, 463 F. Supp. 2d 620, 625-26 (E.D. Tex. 2006) ("Title VII cases are governed by the tripartite burden-shifting test established by *McDonnell Douglas Corp. v. Green*").
[46] *Pegues v. Miss. St. Employment Serv. of Miss. Empl. Sec. Comm'n*, 699 F.2d 760, 763 (5th Cir. 1983).
[47] *Id.* ("In a disparate treatment case the plaintiff class must prove the existence of a pattern and practice of race or gender-based discrimination. Discriminatory intent must be established, by either direct or circumstantial evidence. Facially neutral practices which impact more severely on one group than another are subject to attack under the disparate impact theory. Proof of discriminatory purpose is not required in a disparate impact case." (citations omitted)); *see also, e.g.*, *Vincent J. Di Gioia, Complainant*, EEOC DOC 0120093387, 2009 WL 4895409, at *1 (Dec. 8, 2009).

that context in mind, it would be unthinkable—so obviously barred by precedent as well as the rules of civil procedure—for the plaintiff then to assert and offer proof of, for the first time in her reply, an alternative theory of her prima facie case under "disparate impact"—contending, say, that one of the employer's facially neutral employment practices disadvantaged women, and attaching to her reply brief a declaration and expert study with new "systemic analysis" of "statistical disparities" as evidence of this newly alleged impact.[48]

In sum, the rules, authorities, and principles discussed above make clear that the PFD's observation that "SWEPCO has the burden of proof and the latitude to exercise its own judgment about what to include in the initial filing"[49] tells only half the story: Although the Company may enjoy such discretion at the outset of its case, it does *not* enjoy the same blanket latitude to put whatever it wants into its *rebuttal* testimony regardless of what it previously chose to include in its direct case. Further, the PFD's conclusion that "it cannot be shown that SWEPCO was required to submit both contemporaneous documentation and a retrospective analysis in its direct case"[50] is likewise misleadingly incomplete: That much would have been true only if SWEPCO had only ever sought to invoke one or the other theory. However, if the Company ultimately wanted to rely on each, then it needed to include each in its direct case, thereby initiating the burden-shifting framework on each, subjecting each to full and fair adversarial scrutiny.

Finally, as a policy matter, a ruling condoning such procedural sandbagging and would usher in a new and extraordinarily perverse regime. Utilities would be permitted, and would naturally have an incentive, to hold back any alternative and independent theories of their case from their application and direct testimony, and rather wait to present them only in rebuttal, when intervenors cannot effectively scrutinize and respond in kind. Such a rule would

[48] *Munoz v. Orr*, 200 F.3d 291, 299 (5th Cir. 2000).
[49] PFD at 43.
[50] *Id.* at 45.

circumvent the sensibly robust, fair adversarial process that the Commission's rules and precedent guarantee.

b. The PFD fails to hold SWEPCO to the particularly "heavy burden" the Company bears in an attempt to show prudence retrospectively

Even if SWEPCO's after-the-fact analysis of the Dolet Hills retrofit investment decision were properly before the Commission (which it is not, as discussed above), the PFD errs in failing to hold SWEPCO to its "*heavy burden*" of demonstrating that the Company's decision to invest $56 million in retrofitting Dolet Hills was prudent.[51] Having correctly concluded that "SWEPCO failed to provide satisfactory contemporaneous documentation that, in 2012, it prudently considered the alternatives to" retrofitting Dolet Hills,[52] the ALJs were required as a matter of law to "subject [SWEPCO's] after-the-fact justifications to *rigorous review*."[53]

The PFD's cursory analysis of SWEPCO's retrospective Dolet Hills analysis fails to hold the Company to that burden—in at least three key respects: *First*, although the PFD superficially notes the applicable *Gulf States* test for reviewing retrospective prudence analysis, the ALJs proposal for decision failed actually to subject the Company's analysis to a "heavy burden." A properly exacting scrutiny of SWEPCO's retrospective analysis, by contrast, makes clear that the Company failed to meet the burden. *Second*, the PFD does not meaningfully address, let alone rigorously review, the numerous quantifiable errors and fundamental flaws in SWEPCO's after-the-fact analysis, as Sierra Club identified in the three days it had during the hearing to prepare a response, to be delivered through live oral supplemental testimony, to the substance of Mr. Strunk's analysis. *Third*, the PFD simply accepts the Company's inapposite, blatantly misleading comparison of the "$2 billion" costs of replacing Dolet Hills versus the cost of

[51] *Gulf States*, 841 S.W.2d at 476 (emphasis added).
[52] PFD at 45.
[53] *Gulf States*, 841 S.W.2d at 476 (emphasis added).

retrofitting the unit, accepting that such inapposite, apples-to-oranges comparison rendered any errors in Mr. Strunk's analysis "immaterial."[54] In sum, given the heightened burden associated with relying on a retrospective analysis, and the PFD's failure actually to hold SWEPCO to that test, the PFD's determination that SWEPCO's retrospective analysis demonstrated prudence must be rejected.

i. The PFD fails to hold SWEPCO to its "heavy burden" to prove prudence under a post hoc retrospective showing of prudence—to the contrary, the PFD inappropriately affords remarkable deference to the Company's decision.

It is well established that SWEPCO enjoys no presumption of prudence by "simply opening its books to inspection."[55] Rather, the utility bears the burden of demonstrating the prudence and reasonableness of "each dollar" of its expenditure before a rate increase can be approved. [56] Where, as here, a utility "fail[s] to provide satisfactory contemporaneous documentation that … it prudently considered the alternatives to" a significant capital expenditure,[57] the utility faces a "heavy burden" and the Commission must subject any such "after-the-fact justifications to *rigorous review*."[58] This makes sense, after all, because the lack of a contemporaneous analysis and documentation "impedes the Commission's ability to determine whether the utility conducted a reasoned investigation of all relevant factors and alternatives before reaching its decision."[59]

As binding precedent recognizes, any attempt to demonstrate prudent decision-making by retrospective analyses is "inherently defensive and hence more suspect":

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[54] PFD at 36, 40, 48.
[55] *Entergy Gulf States*, 112 S.W.3d at 214.
[56] *Id.*; *see also, e.g.*, *Coal. of Cities for Affordable Util. Rates v. PUCT*, 798 S.W.2d 560, 563 (Tex. 1990), *receded from on other grds. by Barr v. Resolution Tr. Corp. ex rel. Sunbelt Fed. Sav.*, 837 S.W.2d 627, 629 (Tex. 1992).
[57] PFD at 45.
[58] *Gulf States Utilities*, 841 S.W.2d at 476 (emphasis added).
[59] *Id.*

> First, after-the-fact analyses are not created for the purpose of helping corporate management reach the best decision, which would have tended to encourage frankness about problems with different courses of conduct. Rather, they are produced for the purpose of defending conduct already engaged in, which might have the opposite effect. Second, such analyses might describe events, available information, alternatives and decisions less accurately and completely than contemporaneous documents, due to such problems as imperfect recollection, changes in personnel or corporate philosophies and the influence of hindsight. For these reasons, utilities are well advised to keep appropriate documentation.[60]

Thus, where a utility resorts to a retrospective analysis to demonstrate the prudence of its investment decisions, the utility bears a "heavy burden" of "demonstrat[ing] that a reasonable utility manager, having investigated all relevant factors and alternatives as they existed at the time the decision was made, would have found the utility's actual decision a reasonably prudent course."[61]

In reviewing the PFD and the record in this case, *Gulf States* is instructive not only for providing the relevant legal standard for evaluating SWEPCO's after-the-fact Dolet Hills analysis, but also because *Gulf States* examined a similarly flawed retrospective analysis and concluded that the utility failed to meet its heavy burden. In *Gulf States*, the Gulf States Utilities Company ("GSU") entered into long-term contracts supply of energy and energy capacity, and then petitioned the Commission for a rate increase to pass those costs on to its retail customers. As here, GSU failed to present contemporaneous evidence to support its decision-making process. Although the Commission allowed GSU to recover its energy costs, it denied the recovery of the costs of the long-term capacity contracts, concluding that the utility company had not satisfied its heavy burden in incurring those costs. In particular, the Commission found that GSU failed, among other things, to properly analyze alternatives, evidence indicating that load

[60] *Id.*
[61] *Id.*

management techniques might have been a lower-risk substitute, accurate and up-to-date load forecasts, and failed to conduct sensitivity or risk analyses reflecting the effect of variations in fuel prices.[62]

GSU appealed, arguing that so long as its decision fell within "the select range of options that would have resulted had prudent decision-making been employed," it was entitled to recover its costs. Because the contracts "effectively saved its ratepayers approximately $500 million," GSU argued, the company satisfied its burden.[63] The *Gulf States* court disagreed, however, and sustained the Commission's conclusion that GSU had failed to meet its "heavy burden" because it failed to analyze relevant data available at the time of the decision. In so holding, the court noted that even firm evidence that a particular investment saved customers money is not sufficient to prove that the utility reasonably investigated "all the relevant factors" available at the time the decided to make its investment—*even if the utility claims that a particular investment on its face saved its customers money*:

> ***[E]ven firm evidence that benefits flow from a particular decision would not prove*** that a reasonable utility manager who had investigated all the relevant factors available at the time Gulf States decided to purchase Southern capacity would have found that decision reasonably prudent. An examination of such relevant factors ***might have indicated that the purchase of excess capacity, despite possible attendant benefits, would be imprudent when compared with alternative courses.***[64]

And indeed, just as held in *Gulf States*, an examination of such relevant factors in this case might have indicated that the purchase of excess capacity, despite possible attendant benefits, would be imprudent when compared with alternative courses. The PFD's cursory analysis of SWEPCO's retrospective analysis fails to hold the Company to its heavy burden, and

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[62] *Id.*
[63] *Id.*
[64] *Id.* (emphases added). The court observed that although the utility claimed that the contract purchases saved ratepayers one-half billion dollars, that claim was not supported by the record. *See id.*

is therefore contrary to *Gulf States*. The ALJs devote a mere *four paragraphs* to evaluating the numerous and substantive flaws in SWEPCO's retrospective modeling.[65] While the PFD does recite the evidence presented, the mere recitation of the claims of the parties on Dolet Hills does not and cannot substitute for the rigorous scrutiny that *Gulf States* requires.

The PFD acknowledges that there are "certainly" areas of SWEPCO's after-the-fact analysis where one can "continue to find fault,"[66] but then explicitly declines to meaningfully address, let alone resolve, *any* of those errors or disputed issues of fact. And as discussed in detail below, when those numerous errors are corrected, SWEPCO's *own* model demonstrates that retrofitting Dolet Hills will cost its ratepayers more than replacing the unit under virtually every scenario. In other words, the Company's own retrospective model demonstrates that the Dolet Hills retrofit was imprudent.

Yet without refuting any of that evidence, the PFD uncritically recites SWEPCO witness Strunk's conclusory and misleading assertions that any errors are "immaterial" relative to the cost of replacing Dolet Hills, and conclude that the retrofit decision falls within the "range of reasonable options available."[67] That perfunctory recitation of evidence is squarely inconsistent with rigorous review required by *Gulf States*. Indeed, just as the utility company in *Gulf States* could not overcome errors in its retrospective analysis by merely asserting that it "effectively saved" ratepayers money and fell within "the select range of options that would have resulted had prudent decision-making been employed," SWEPCO cannot brush aside the errors in its analysis by glibly asserting, contrary to the evidence in the record, that the errors were immaterial. The ALJs' recitation of SWEPCO witness Strunk's post hoc rationalization and

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[65] *See* PFD at 47-49.
[66] PFD at 48.
[67] *Id.*

their failure to rigorously review and resolve fundamental flaws in SWEPCO's after-the-fact analysis cannot be reconciled the heavy burden required by *Gulf States*.

ii. SWEPCO's after-the-fact Dolet Hills analysis was fundamentally flawed, and the PFD's finding of prudence is inconsistent with the applicable "heavy burden" legal standard

SWEPCO's improper after-the-fact Dolet Hills analysis included at least four substantive errors—three of them readily quantifiable, and the fourth that could only serve to skew the retrofit option towards appearing more economical. These errors—discerned by Ms. Wilson with less than three days' notice of her opportunity for her live oral supplemental testimony, presented during that testimony,[68] and detailed in Sierra Club's post-hearing briefs[69]—show that Mr. Strunk's retrospective analysis was inaccurate and unreliable.

- First, SWEPCO improperly included the cost of its unrecovered capital investment at the Oxbow lignite mine—a cost not factored in by Cleco in the LPSC proceedings—in only the model's retire/replace scenarios, even though those are costs associated with *all* options.
- Second, in hindsight, the SWEPCO model used carbon price forecasts that were inconsistent with, and significantly lower than, those that SWEPCO had used in its 2011 Unit Disposition analyses for Flint Creek, Pirkey, and Welsh.
- Third, the SWEPCO model included lignite fuel prices for the continued operation of the plant that were inconsistent with the Company's own data and inaccurately low.
- Finally, in a stark and unexplained departure from SWEPCO's 2011 analyses for Welsh, Flint Creek, and Pirkey, the Dolet Hills analysis arbitrarily omitted consideration of *any* additional environmental compliance costs, even though the Company indisputably had information *at the time* of the retrofits that it would need to invest up to $13 million in Dolet

[68] Tr. 811-43; Sierra Club Exs. 35-38.
[69] *See* Sierra Club Initial Br. 20-50; Sierra Club Reply 22-34. For an overview of the retrospective Dolet Hills analysis, see Sierra Club's Initial Brief at 22-24.

Hills to comply with Clean Water Act requirements, and that it might need to invest hundreds of millions more to replace or upgrade its thirty-year old scrubber.[70]

The record makes clear that these errors distorted the relative economics of the retrofit versus retirement options, making the retrofits appear more economic.

Indeed, as Ms. Wilson testified, when the first three, readily quantifiable errors were corrected in the model itself, the vast majority of the modeling scenarios favor retirement and replacement over retrofit.[71]

Table 1: Difference in Present Value of Revenue Requirements ("PVRR") Between Retire and Replace Options and Retrofit Option with All Three Corrections: (1) Costs of Oxbow Mine Removed, (2) CO_2 Forecast Replaced with SWEPCO Forecast, and (3) Lignite Prices Adjusted[72]

	Dolet Hills Retrofit vs. CCGT Alternative			
	Zero CO2	FT – Carbon Adj	Reference	Path B
NERA High NG	$301	$161	$10	($138)
NERA Base NG	$215	$75	($76)	($224)
NERA Low NG	$126	($14)	($165)	($313)
NERA Very Low	($18)	($158)	($309)	($457)
NERA Extreme	($105)	($245)	($396)	($544)
	Dolet Hills Retrofit vs. Market Purchases Alternative			
	Zero CO2	FT – Carbon Adj	Reference	Path B
NERA High NG	$147	$13	($133)	($276)
NERA Base NG	$56	($79)	($225)	($368)
NERA Low NG	($39)	($173)	($319)	($462)
NERA Very Low	($192)	($327)	($473)	($616)
NERA Extreme	($285)	($420)	($566)	($708)

[70] Tr. 2126-24-2127:12; 2168:11-24; *see also* SWEPCO Ex. 64.
[71] The SWEPCO model generates 20 scenarios under different gas price and CO_2 price forecasts. Cells where there are no parentheses indicate that the economics favors to the retrofits; cells with parentheses indicate that retiring and replacing the unit are more economic (*i.e.*, lesser-cost) options.
[72] Sierra Club Ex. 38.

Moreover, if the Company's retrospective model had included an option to account for additional environmental compliance risk—as SWEPCO had done with the Welsh, Flint Creek, and Pirkey modeling—virtually every scenarios above would likely favor retirement over retrofit.[73]

SWEPCO failed to rebut any of those errors. More importantly, recognizing the "fault[s]" with the model, the PFD explicitly declines to meaningfully address, let alone resolve, any of those critical omissions flaws.[74] Instead, the PFD repeatedly recites, without any rigorous review, SWEPCO witness Strunk's conclusory and misleading assertion that any errors in the model were "immaterial" relative to the "$2 billion" cost of replacing Dolet Hills. This was reversible error.

As explained in detail in the subsections that follow, a rigorous review of each of the errors in the retrospective Dolet Hills model, as required under *Gulf States*, makes clear that the analysis was fundamentally flawed and unreliable. Consequently, SWEPCO failed to satisfy its heavy burden of demonstrating the prudence of the retrofits, and Sierra Club takes exception to the ALJs conclusions to the contrary.

<u>Error #1: Improper imbalanced consideration of the Oxbow Mine costs</u>

In his first error, and as shown in Table 2 below, Mr. Strunk improperly included in the SWEPCO model the cost of the Company's unrecovered capital investment in the Oxbow lignite

[73] At the time of the retrofit, SWEPCO was indisputably aware that it could cost up to $13 million for Dolet Hills to comply with impending Clean Water Act rules. In addition, the Company was aware of risk that it might have to install a new scrubber to comply with Clean Air Act standards, which could cost as much as $341 million, Sierra Club Exs. 21 & 22 (Wilson Direct) at 43:1-3, of which SWEPCO's ownership share would be approximately 40%--or $136 million. SWEPCO Ex. 13 (Franklin Direct) at 6 (noting SWEPCO's ownership share of the unit). SWEPCO witness Strunk conceded that a scrubber could cost as much as $300 million. Tr. 2169:15- 2170:2. As explained below, including up to $149 million in additional retrofit costs—a conservative estimate—to the retrofit costs would likely demonstrate that all market purchase alternatives would have been more economic than retrofitting; and, under all but three of the extreme high gas price and zero CO2 price scenarios, replacing Dolet Hills with a new gas unit would be less expensive than retrofitting.
[74] PFD at 48.

mine *only* in the model's retire/replace scenarios, even though those costs are associated with *all* options.[75] In other words, the unrecovered capital investment costs of the mine are recoverable under any scenario, and thus it is not appropriate to include the costs in the analysis at all.[76]

Table 2: Excerpt of Original Dolet Hills model with erroneous Oxbow Mine costs included for only retire and replace scenarios[77]

Cost Item	Retrofit Dolet Hills	Retire Dolet Hills and replace with CCGT	Retire Dolet Hills and replace with market purchases
Dolet Hills PVRR			
Lignite	$1,023.6	$216.8	$216.8
CO2	$241.8	$0.0	$0.0
Total O&M	$358.5	$66.6	$66.6
Incremental Capital	$44.5	$6.4	$6.4
Retrofit	$75.8		
Decommissioning	$2.7	$7.5	$7.5
Not-yet-recovered mine costs		$34.2	$34.2

To correct this error, Ms. Wilson removed from Mr. Strunk's the assumed $34 million undepreciated lignite mine cost from all scenarios.

[75] Tr. 816:1-6.

[76] The inclusion of the unrecovered Oxbow mine costs in the retrospective analysis should be rejected for two additional reasons. First, the co-owner of the Oxbow Mine, Cleco Power, did not quantify or include the value of unrecovered mine costs in its Louisiana Public Service Commission ("LPSC") application to recover the costs of the Dolet Hills retrofits. Tr. 2194:17. Second, as an intervenor in support of Cleco Power's successful application for approval to recover the Dolet Hills retrofit costs as prudent, SWEPCO is judicially estopped from asserting that it is now prudent to include an additional $34 million in costs that were not included (and which SEPCO never raised) in the earlier successful prudence proceeding. *See* SWEPCO Ex. 11 (McCellon-Allen Direct, Exhibit VMA-4 (LPSC Order)); *see also Sierra Club v. Louisiana Public Service Commission*, Case No. 647204, Div. D (La. 19th Judicial District May 9, 2016) (Order granting SWEPCO intervention); *Ferguson v. Building Materials Corp. of America*, 295 S.W.3d 642, 643 (Tex.,2009) ("Judicial estoppel precludes a party who successfully maintains a position in one proceeding from afterwards adopting a clearly inconsistent position in another proceeding to obtain an unfair advantage.").

[77] *See* SWEPCO Ex. 48 (Strunk Rebuttal); *see also* Sierra Club Initial Brief at 28; Sierra Club's Objection and Motion Regarding SWEPCO Witness Kurt Strunk's Live Supplemental Testimony and Supporting Exhibits (June 22, 2017) (hereinafter "Sierra Club Post-Hearing Objection"), at 5 & Exhibit D.

Table 3: Excerpt of Wilson live supplemental workpaper correcting erroneous Oxbow Mine costs inclusion

Cost Item	Retrofit Dolet Hills	Retire Dolet Hills and replace with CCGT	Retire Dolet Hills and replace with market purchases
Dolet Hills PVRR			
Lignite	$1,167.9	$232.0	$232.0
CO2	$447.0	$0.0	$0.0
Total O&M	$358.5	$66.6	$66.6
Incremental Capital	$44.5	$6.4	$6.4
Retrofit	$75.8		
Decommissioning	$2.7	$7.5	$7.5
Not-yet-recovered mine costs		$0.0	$0.0

As demonstrated in the tables below, that correction lowered the cost of all "retire and replace" options relative to the retrofit the retrofit option. The first table is a depiction of Mr. Strunk's model results without any changes. ·

Table 4: Difference in Present Value of Revenue Requirements ("PVRR") Between Retire and Replace Options and Retrofit Option, as filed by Mr. Kurt Strunk in Purported Rebuttal Testimony[78]

Dolet Hills Retrofit vs. CCGT Alternative				
	NERA	NERA	NERA	NERA High
NERA High NG	$	$	$	$77
NERA Base NG	$	$	$	($9)
NERA Low NG	$	$	$	($97)
NERA Very Low NG	$	$	$45	($242)
NERA Extreme Low	$	$37	($42)	($329)

Dolet Hills Retrofit vs. Market Purchases Alternative				
	NERA	NERA	NERA	NERA High
NERA High NG	$	$	$	($60)
NERA Base NG	$	$	$	($152)
NERA Low NG	$	$	$30	($247)
NERA Very Low NG	$28	($48)	($123)	($400)
NERA Extreme Low	($64)	($140)	($216)	($493)

[78] Excerpted from Sierra Club Ex. 35.

The second table shows Mr. Strunk's model updated to remove the $34 million capital investment in the Oxbow Mine. When the undepreciated costs of the Oxbow Mine are removed, the cost of retiring and replacing Dolet Hills becomes less expensive under *all* of Mr. Strunk's scenarios. With the removal of the undepreciated Oxbow Mine costs, retrofitting Dolet Hills would *cost ratepayers more* than replacing the unit with market purchases under *twelve of the 20 scenarios* evaluated. Retrofitting would cost more than replacing the unit with a new NGCC under five of the scenarios.

Table 5: Difference in Present Value of Revenue Requirements ("PVRR") Between Retire and Replace Options and Retrofit Option: Costs of Oxbow Mine Removed from Mr. Strunk's Model[79]

Dolet Hills Retrofit vs. CCGT Alternative				
	NERA	NERA	NERA	NERA High
NERA High NG	$	$	$	$43
NERA Base NG	$	$	$	($43)
NERA Low NG	$	$	$	($132)
NERA Very Low NG	$	$90	$11	($276)
NERA Extreme Low	$81	$3	($76)	($363)
Dolet Hills Retrofit vs. Market Purchases Alternative				
	NERA	NERA	NERA	NERA High
NERA High NG	$	$	$	($95)
NERA Base NG	$	$	$91	($186)
NERA Low NG	$	$72	($4)	($281)
NERA Very Low NG	($6)	($82)	($158)	($435)
NERA Extreme Low	($99)	($174)	($250)	($527)

In response to Ms. Wilson's correction, SWEPCO admitted that "Cleco did not include the Oxbow Mine costs in its analysis,"[80] but nevertheless argued that Ms. Wilson had improperly removed the cost only from the retirement scenario in the model, and not also from the retrofit

[79] Excerpted from Sierra Club Ex. 35.
[80] SWEPCO Initial Brief at 20.

scenario.[81] Mr. Strunk then purported to 'correct' Ms. Wilson's adjustment by taking the mine costs "out of both sides of the analysis," as reflected below.[82]

Table 6: Excerpt of Strunk live supplemental workpaper purporting to correct Wilson adjustment

Cost Item	Retrofit Dolet Hills	Retire Dolet Hills and replace with CCGT	Retire Dolet Hills and replace with market purchases
Dolet Hills PVRR			
Lignite	$1,023.6	$216.8	$216.8
CO2	$447.0	$0.0	$0.0
Total O&M	$358.5	$66.6	$66.6
Incremental Capital	$44.5	$6.4	$6.4
Retrofit	$75.8		
Decommissioning	$2.7	$7.5	$7.5
Exclusion of Not-Yet Recovered	-$34.2		

As the table demonstrates, rather than treating the recovery of the Oxbow mine costs in a uniform manner across *all* alternatives, as Mr. Strunk conceded should be the case,[83] Mr. Strunk's purported correction to Ms. Wilson's analysis reintroduced the *very same* error, suggesting that the retrofit option would cost $34 million *less* than the retirement options due to the Oxbow Mine costs. This was an error because, as noted above, Mr. Strunk admitted that the costs should be excluded from the analysis altogether.

There is no dispute that correcting this error resulted in more modeling scenarios favoring retirement over replacement.[84] Without any attempt to resolve, let alone rigorously review, the impacts of the error, the PFD recites Mr. Strunk's conclusory and misleading assertion that the erroneous inclusion of the Oxbow Mine costs are immaterial relative to the $2 billion cost of replacement.[85] As discussed above, this facile and misleading assertion ignores the more than

[81] Tr. 2195:15-19.
[82] *Id.* at 2196:5-7; *see also, e.g., id.* at 2196:23-24 ("She's removed them from the retire and replace, so you would also have to remove them from the retrofit.").
[83] Tr. 2199:5-8 (accepting Ms. Wilson's "recommendation that the mine costs should be excluded").
[84] PFD at 48.
[85] *Id.*

$1.5 to $2.2 billion cost associated with continued operation of the Dolet Hills plant, depending on fuel and commodity price inputs. In uncritically accepting Mr. Strunk's misleading assertion that the flaws in its analysis were immaterial relative to the total cost of replacement, the PFD failed to hold the Company to its heavy burden.[86]

Error #2: Incorrect CO_2 price forecasts

Mr. Strunk's second error was to arbitrarily incorporated CO_2 price forecasts that were inconsistent with those that SWEPCO itself had used in the Company's 2011 Unit Disposition analyses for Welsh, Flint Creek, and Pirkey. Instead of using that data, Mr. Strunk developed an entirely new CO_2 price forecast based on his *hindsight* review of various utility forecasts. To correct this second error, Ms. Wilson replaced (in the model itself) Mr. Strunk's arbitrary, after-the-fact CO_2 price forecasts with the CO_2 price forecasts that SWEPCO itself had used during the timeframe the Company was evaluating whether to retrofit its other coal units.

The results of Ms. Wilson's second correction to the Dolet Hills spreadsheet are reflected in the table below.

[86] *See Gulf States*, 841 S.W.2d at 476 (where a utility's retrospective analysis failed to evaluate all relevant factors, the utility cannot overcome its heavy burden by merely asserting that the investment decision "effectively saved its ratepayers" money).

Table 7: Difference in Present Value of Revenue Requirements ("PVRR") Between Retire and Replace Options and Retrofit Option: Costs of Oxbow Mine Removed from, and CO_2 Forecast Replaced with SWEPCO Forecast in, Mr. Strunk's Model[87]

Dolet Hills Retrofit vs. CCGT Alternative				
	Zero CO_2	FT - Carbon	Reference	Path B
NERA High NG	$487	$348	$197	$49
NERA Base NG	$401	$262	$111	($37)
NERA Low NG	$312	$173	$22	($126)
NERA Very Low NG	$168	$29	($122)	($270)
NERA Extreme Low NG	$81	($58)	($209)	($357)
Dolet Hills Retrofit vs. Market Purchases Alternative				
	Zero CO_2	FT - Carbon	Reference	Path B
NERA High NG	$334	$199	$54	($89)
NERA Base NG	$242	$108	($38)	($181)
NERA Low NG	$148	$13	($132)	($275)
NERA Very Low NG	($6)	($141)	($286)	($429)
NERA Extreme Low NG	($99)	($233)	($379)	($522)

As Table 7 demonstrates, when Mr. Strunk's spreadsheet is corrected to remove both the Oxbow Mine costs *and* include SWEPCO's own 2011 CO_2 price forecast, the cost of retiring and replacing Dolet Hills becomes *even less expensive* under *all* scenarios. In response, Mr. Strunk again conceded Ms. Wilson's suggested correction.[88] And the Company admitted that there is "no problem" with using SWEPCO carbon forecast, as Ms. Wilson recommended.[89] Moreover, there is no dispute that correcting this second error resulted in even more modeling scenarios favoring retirement over replacement.[90]

Despite this second admitted error, which further undermines the economics of SWEPCO's retrofit decision, the PFD again refused to rigorously review, let alone resolve, the impacts of the error. Instead, the PFD again recites Mr. Strunk's conclusory assertion that the

[87] Sierra Club Ex. 36.
[88] Tr. 2190-91.
[89] SWEPCO Initial Brief at 22.
[90] PFD at 48.

erroneous CO2 price forecasts "would not change" the outcome of the analysis.[91] In so doing, the PFD inappropriately simply defers to the Company's modeling expert despite admitted errors that significantly undermine the reliability of his retrospective analysis. The PFD's repeated and uncritical acceptance of Mr. Strunk's conclusory and unsupported opinions- cannot be reconciled with their obligation to rigorously review the Company's retrospective analysis. In light of the numerous admitted errors in SWEPCO's retrospective analysis, the Company has failed to meet its heavy burden, and any conclusion to the contrary would be reversible error.[92]

Error #3: Incorrect lignite prices

As a third flaw, Mr. Strunk's used inaccurately low lignite prices for the continued operation of the plant.[93] In fact, that lignite price forecast that was significantly lower and inconsistent with the actual price increase that Cleco Power reported to the U.S. Energy Information Administration ("EIA") on Form 923 during the decision-making timeframe had SWEPCO conducted a contemporaneous analysis.[94] Mr. Strunk's inaccurately low lignite price forecast made the retrofit option appear significantly less expensive relative to replacement.

To correct this third error, Ms. Wilson adjusted the prices in Mr. Strunk's model to reflect actual lignite costs incurred to operate Dolet Hills in 2011, 2012, and 2013. Because the average price differential in these three years was 42 cents per MMBtu, Ms. Wilson developed a linear lignite price forecast for subsequent years that reflected the price increase reported by Cleco

[91] PFD at 31.

[92] *See Gulf States*, 841 S.W.2d at 476 (where a utility's retrospective analysis failed to evaluate all relevant factors, the utility cannot overcome its heavy burden by merely asserting that the investment decision "effectively saved its ratepayers" money).

[93] As noted, Dolet Hills is a mine-mouth, lignite-burning EGU. Franklin Direct at 6:13-23. Although different substances, lignite is commonly referred to as "coal," Tr. 877:18-22, and the terms are used interchangeably in this discussion.

[94] Form 923 is one of the forms that the EIA uses to collect actual fuel costs, among other data, that individual utility operators produce and report for specific power plants. EIA collects that data makes it publicly available. Tr. 830:12-15.

Power on Form 923. In addition to Mr. Strunk's use of an inaccurately low lignite price forecast, Mr. Strunk's coal budget forecast inexplicably "drop[s] by 18 percent" beginning in 2026.[95] To correct this set of lignite price errors, Ms. Wilson adjusted the Dolet Hills model to reflect the actual trend of lignite costs at the unit, and removed his unexplained assumption that lignite prices drop by 18 percent in 2027, by increasing the price in 2026 at an assumed two percent rate of inflation going forward.[96]

The cumulative result of Ms. Wilson's corrections to (1) remove the Oxbow Mine costs from all scenarios, (2) include SWEPCO's own 2011 CO_2 price forecast, and (3) include a more accurate and contemporaneous projection of lignite prices is reflected in Table 8 below.

Table 8: Difference in Present Value of Revenue Requirements ("PVRR") Between Retire and Replace Options and Retrofit Option: Costs of Oxbow Mine Removed, CO_2 Forecast Replaced with SWEPCO Forecast, and Coal Price Adjustments[97]

Dolet Hills Retrofit vs. CCGT Alternative				
	Zero CO_2	FT -	Reference	Path B
NERA High NG	$301	$16	$10	($138)
NERA Base NG	$215	$75	($76)	($224)
NERA Low NG	$126	($14)	($165)	($313)
NERA Very Low NG	($18)	($15	($309)	($457)
NERA Extreme Low	($105)	($24	($396)	($544)
Dolet Hills Retrofit vs. Market Purchases Alternative				
	Zero CO_2	FT - Carbon Adj	Reference	Path B
NERA High NG	$147	$13	($133)	($276)
NERA Base NG	$56	($79)	($225)	($368)
NERA Low NG	($39)	($173)	($319)	($462)
NERA Very Low NG	($192)	($327)	($473)	($616)
NERA Extreme Low	($285)	($420)	($566)	($708)

[95] *Id.*
[96] *Id.*
[97] Sierra Club Ex. 38.

As illustrated in Table 8, when Mr. Strunk's flawed model is adjusted to correct all three of the readily-quantifiable errors identified by Ms. Wilson—not even taking into account her fourth, less readily-quantifiable, yet very significant critique, below—retrofitting Dolet Hills would be more expensive for ratepayers than retiring and replacing with market purchases under ***17 of 20 scenarios***. Meanwhile, retrofitting Dolet Hills is more expensive than replacing with a new natural gas combined cycle unit under ***14 of 20 scenarios***. The only scenarios that favor retrofit are the "extreme" scenarios that tend to favor coal generally—that is, scenarios involving both high gas prices and low or zero CO_2 prices.

Despite these errors, the PFD again refused to rigorously review, let alone resolve, the impacts of the error.[98] And once again, the PFD again simply recite Mr. Strunk's conclusory assertions that, even accepting the corrections, the errors in the model were immaterial relative to the cost of replacing the unit.[99] In light of the repeated and significant flaws in the retrospective analysis, the PFD continued and uncritical deference to the Company's modeling expert is arbitrary and contrary to the obligation to rigorously review the Company's after-the-fact analysis. The PFD fails to hold the Company to its heavy burden to demonstrate prudence, and must be rejected.[100]

<u>Error #4: failure to account for any additional environmental compliance risk</u>

Mr. Strunk's retrospective analysis also assumed, baselessly and misleadingly, that Dolet Hills would incur *zero* capital costs to meet impending and existing environmental compliance obligations for the next decade, even though the Company had information in its possession that

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[98] PFD at 41.
[99] *Id.*
[100] *See Gulf States*, 841 S.W.2d at 476 (where a utility's retrospective analysis failed to evaluate all relevant factors, the utility cannot overcome its heavy burden by merely asserting that the investment decision "effectively saved its ratepayers" money).

it would need to invest in technology to comply with Clean Water Act requirements, and that it might need to replace or upgrade its thirty-year old scrubber.[101] Mr. Strunk's arbitrary omission of any additional environmental risk scenarios from his model was erroneous for several reasons.

First, Mr. Strunk's omission of *any* scenarios evaluating additional environmental compliance risks and cost is fundamentally inconsistent with SWEPCO's own Unit Disposition analyses for Welsh, Flint Creek, and Pirkey. While flawed for other reasons, those contemporaneous analyses evaluated environmental risks known and knowable *at the time*. Mr. Strunk's after-the-fact Dolet Hills analysis arbitrarily ignored all of those potential costs.

Second, despite the Company's conclusory assertions that any environmental compliance costs were too speculative to incorporate into the model, SWEPCO's own consultants had informed the Company *at the time* of the Dolet Hills retrofit decision that SWEPCO would be required to invest more than *$13 million* at Dolet Hills to comply with EPA's Clean Water Act effluent and solid coal ash waste rules.[102] Mr. Strunk admitted being aware of those specific costs, but nevertheless failed to incorporate them into his model.[103]

Third, SWEPCO also had specific information in its possession at the time of the retrofit decision that Dolet Hills could be required to significantly reduce its SO_2 emissions to comply with the revised, and more stringent NAAQS.[104] Indeed, contractors hired by the co-owner and

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[101] Tr. 2126-24-2127:12; 2168:11-24; *see also* SWEPCO Ex. 64.
[102] Tr. 2126-24-2127:12; 2168:11-24; *see also* SWEPCO Ex. 64.
[103] Tr. 21602-18.
[104] In fact, in selecting a MATS Rule compliance strategy, the co-owner and operator of the Dolet Hills facility hired two separate consultants that informed the company that the selected pollution controls might not ensure compliance with the SO_2 NAAQS. As SWEPCO's witnesses admitted, one way of reducing SO_2 emissions would be to upgrade or install a new scrubber at Dolet Hills. Moreover, as SWEPCO's witness Nasi testified, during the relevant decision-making time period, "there was a significant amount of environmental regulatory development and several [industry] organizations, [the Edison Electric Institute] being one of them, prepared assessments of what the potential impact of those evolving regulations might be" for the coal fleet as a whole. As part of that industry assessment, the Edison Electric Institute, which many utilities regarded as an authoritative source, assumed that to comply

operator of the Dolet Hills informed Cleco Power that the selected pollution controls might not ensure compliance with the SO_2 NAAQS.[105] Mr. Strunk also admitted that the existing scrubber at Dolet Hills is already thirty years old,[106] which is the typical life span of a scrubber.

Fourth, and contrary to Mr. Strunk's suggestion, the cost of upgrading or replacing was not speculative. In fact, in its Unit Disposition analyses for Welsh and Flint Creek, SWEPCO specifically quantified the cost of new scrubbers to control SO_2 pollution. Mr. Strunk also admitted that there are industry-standard projections of costs associated with installing and operating such technology.[107] Indeed, Mr. Strunk acknowledged that a scrubber for Dolet Hills could cost as much as $300 million.[108] Yet, Mr. Strunk's analysis ignored all of that evidence, and instead assumed that SWEPCO would be able to continue operating the plant for another thirty years without incurring any capital costs to replace or upgrade a scrubber that is already at the end of its useful life.

Moreover, as explained by Ms. Wilson, Mr. Strunk could have, and should have, conducted a sensitivity analyses to model different environmental compliance scenarios. Such analyses are commonly used in utility planning decisions, and are a well-established method of accounting for and evaluating uncertainty. Indeed, Mr. Strunk's model incorporates a sensitivity analysis for other uncertain variables by testing the value of the Dolet Hills retrofits with combinations of four different CO_2 price forecasts and five different natural gas forecasts despite the high level of uncertainty inherent in those projections.

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with regulations, "all coal units [would be] required to install a scrubber…." Tr. 1068:1; *see also* Rebuttal Testimony of Michael J. Nasi, Ex. MJN-2R at 52

[105] Tr. 2126-27.

[106] Tr. 2168:14.

[107] Tr. 2169:9-12.

[108] Sierra Club Exs. 21 & 22 at 43:1-3; Tr. at 2169:15- 2170:2. Using industry projections available at the time of the retrofit, Ms. Wilson testified that a new scrubber for Dolet Hills could cost as much as $341 million, *id.* at 43:1-3, of which SWEPCO's ownership share would be approximately 40%--or $136 million. SWEPCO Ex. 13 (Franklin Direct) at 6 (noting SWEPCO's ownership share of the unit).

Fifth and finally, Mr. Strunk admitted that the capital costs of installing a scrubber at Dolet Hills "would change" the outcome of his analysis, and could "reverse" his conclusion that the retrofit was the least cost option for ratepayers. Indeed, coupled with the analytical errors identified by Ms. Wilson, accounting for even modest, additional environmental compliance obligations would have flipped the "majority of scenarios" to favor retiring and replacing Dolet Hills over retrofitting the unit.[109] In fact, had Mr. Strunk incorporated a scenario examining up to $149 million in additional retrofit costs—a conservative estimate for a new scrubber and Clean Water Act compliance—*every* market purchase scenario in the model would have been more economic than retrofitting Dolet Hills. And under all but three of the extreme high gas price and zero CO2 price scenarios, replacing Dolet Hills with a new gas unit would be less expensive than retrofitting it.

In light of SWEPCO's knowledge of these potentially significant environmental compliance costs and the Company's demonstrated ability to quantify them, the PFD's cursory treatment of the Company's incomplete environmental compliance analysis is especially egregious. Indeed, the PFD's analysis of the retrospective analysis is utterly devoid of any mention of the risk that SWEPCO would have to spend nearly $150 million to replace its thirty-year old scrubber.[110] And with respect to the $13 million cost of complying with EPA Clean Water Act rules, the PFD once again simply recites, without any critical analysis, Mr. Strunk's conclusory assertion that, even accepting the correction, the costs would be "immaterial" relative

[109] Tr. 842:6-11. Even setting aside the cost of a scrubber, the cost of complying with EPA's Clean Water Act and coal ash rules likely would have shifted at least two of Mr. Strunk's modeling scenarios from favoring the retrofit to demonstrating that retiring and replacing the unit was the least-cost option for ratepayers. *See* Sierra Club Ex. 38, *supra*. In the table above, factoring in the $13 million cost of compliance with those two rules would have shifted the High NG/Reference CO_2 price and High NG/Fleet Transition scenarios to favor a new NGCC or Market Purchases over retrofitting the unit.
[110] PFD at 47-49.

to the cost of replacing the unit.[111] The PFD's continued and uncritical deference cannot be characterized the kind of rigorous review required by *Gulf States*. The PFD fails to hold the Company to its heavy burden to demonstrate prudence, and must be rejected.[112]

iii. The PFD erroneously defers to Mr. Strunk's unsupported qualitative considerations, and his misleading comparison of a supposed $2 billion cost of replacing Dolet Hills versus the cost of retrofitting as a purported additional consideration above and beyond his modeling.

Although PFD concedes that there are "certainly" areas where one can continue to find "fault" with SWEPCO's retrospective Dolet Hills analysis, the PFD nevertheless recommends approving recovery of the retrofit costs based solely on Mr. Strunk's post hoc attempts to rationalize and minimize those errors and his consideration of qualitative factors. In particular, the PFD repeatedly recites, without any critical analysis, Mr. Strunk's conclusory and misleading assertion that any errors in the model were "immaterial" relative to the "$2 billion" costs of replacing Dolet Hills.[113] The PFD also accepts, without rigorous review, Mr. Strunk's assertion that a prudent utility manager considers "more than the red (favoring retire and replace) and black (favoring retrofit) numbers resulting from the modeling scenarios," and concludes that prudent utility manager reasonably could give more weight to the advantage of spending $56 million in 2012 that could be recouped in a few years of operation, versus attempting to retire a plant (for which it was not the majority owner) and to replace that production capacity at significant cost.[114]

This is reversible error for several reasons. First, as discussed above, the PFD's recitation of Mr. Strunk's post hoc rationalizations does not, and cannot, substitute for the

[111] *Id.*
[112] *See Gulf States*, 841 S.W.2d at 476 (where a utility's retrospective analysis failed to evaluate all relevant factors, the utility cannot overcome its heavy burden by merely asserting that the investment decision "effectively saved its ratepayers" money).
[113] *See* PFD at 28, 36, 40, 48.
[114] PFD at 48.

heightened, rigorous analysis that *Gulf States* requires. Having correctly recognized the errors in SWEPCO's retrospective analysis, the ALJs cannot sweep away errors by simply asserting, contrary to the evidence in the record, that the errors were immaterial. In fact, as discussed in detail above, those errors are the opposite of "immaterial." Indeed, when the errors are corrected, SWEPCO's *own* model demonstrates that retrofitting Dolet Hills will cost its ratepayers more than replacing the unit under virtually every scenario. In other words, the Company's own model demonstrates that the Dolet Hills retrofit was imprudent.

Second, the ALJs' findings are internally inconsistent and produce absurd results. As an initial matter, the ALJs finding that a prudent utility manager considers more than just the modeling outcomes effectively renders SWEPCO's retrospective analysis meaningless. Indeed, applying the ALJs' approach, any errors in a utility's modeling could always be overcome simply by baldly asserting that there are other considerations at play. This result is not only inconsistent with the rigorous showing required by *Gulf States*, but it produces absurd results by allowing the utility to avoid responsibility for errors by simply changing the rules of the game.

Third and more fundamentally, *Gulf States*' holding that a utility's retrospective analysis must meet a "heavy burden" must have some meaning in practice, and must require the utility to put forward an accurate and reliable retrospective analysis. The PFD's conclusion that the Commission may simply disregard the errors in a utility's after-the-fact analysis, and may rely entirely on a Company's post hoc qualitative considerations, is inconsistent with Gulf States. Moreover, it is inconsistent with other portions of the PFD itself. Indeed, in correctly concluding that SWEPCO failed to provide sufficient evidence of a contemporaneous analysis, the PFD rejected SWEPCO's arguments that precisely the same kinds of qualitative considerations were sufficient to demonstrate prudence. The PFD's conclusion that those same qualitative considerations cure the many defects in the Company's model is arbitrary and capricious.

Finally, Mr. Strunk's repeated comparison of the $56 million retrofit cost to the "$2 billion" costs of replacing Dolet Hills is a blatantly misleading apples-to-oranges comparison.[115] The $2 billion figure (itself is not precisely accurate) is *not* some separate, additional factor to considered above and beyond the results of Mr. Strunk's modeling; rather, it his model's outputs that comprise the retrospective comparative economic comparison in question. In other words, SWEPCO does not get to argue—nor should the PFD have accepted—that 'even if the output of Mr. Strunk's model, when corrected, did plainly disfavor the retrofit option, that is immaterial when you add in a $2 billion cost.' That cost is already folded into his model's comparative calculus, so it is not appropriate to give it some additional, dispositive weight on top of model's outputs, as the PFD does. As the model outputs and underlying workpapers make clear, after fuel and O&M costs are properly accounted for, the forward going cost of retrofitting Dolet Hills and continuing to operate the unit is between approximately $1.5 and $2.2 billion, depending on the commodity price inputs.[116] This is why numerous modeling scenarios "flip" from favoring retrofit to favoring replacement with certain commodity inputs or when additional costs, such as the correct cost of lignite, are considered. Mr. Strunk's facile comparison of the up-front costs of retrofitting the unit versus purchasing a new unit is simply a misleading and inaccurate comparison.

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[115] *See* PFD at 28, 36, 40, 48.

[116] *See, e.g.,* SWEPCO Ex. 48 (Strunk Rebuttal) at Exhibit KGS-3R at 21 (under a Base Gas and High CO_2 forecast, the annual revenue requirement of retrofit is $2,231,576); *see also* SWEPCO Ex. 48B (NERA SWEPCO Prudence Model).

SWEPCO faces a heavy burden in relying on retrospective analysis to justify its inadequately considered decisions after the fact. The PFD fails to apply that heightened standard of review—overlooking the several, collectively material substantive errors and omissions in Mr. Strunk's analysis, and deferring to a fundamentally misleading assertion about the relevant comparison of the retrofit option to retirement and replacement scenarios. Properly applying heightened scrutiny of SWEPCO's post hoc, eleventh-hour attempt at justify the Dolet Hills retrofit (and keeping in mind that intervenors had no opportunity to respond to this attempt through written expert testimony), the Commission should determine that SWEPCO has failed to carry its burden to prove prudence retrospectively.

2. Flint Creek, Pirkey, and Welsh Units 1 and 3

Sierra Club respectfully takes exception to the PFD's proposed findings that SWEPCO met its burden to show that the Company prudently decided to invest more than $638 million in pollution controls necessary to continue operating Welsh Units 1 and 3, Flint Creek, and Pirkey, and that the Company should be allowed to add to rate base the entire cost of the retrofits.[117] In an effort to demonstrate the prudence of those retrofits, SWEPCO relied on a series of ostensibly comprehensive, but fundamentally flawed, Unit Disposition analyses.[118]

As Sierra Club explained in its post-hearing briefs, through expert testimony, other evidence presented in this proceeding, however, SWEPCO's analyses ignored or improperly evaluated at least four key variables that biased the Company's analysis toward retrofitting rather than replacing Welsh Units 1 and 3, Flint Creek, and Pirkey. *First*, SWEPCO ignored widespread evidence widely accepted in the industry—including data the Company indisputably had in its possession at the time—that gas price forecasts were falling precipitously and were

[117] PFD at 68-72.
[118] For an overview of the Unit Disposition analyses *see* Sierra Club Initial Br. at 52-55.

expected to remain low. *Second*, the Company arbitrarily assumed that the continued operation of the Welsh, Flint Creek, and Pirkey units would result in *zero* additional environmental compliance costs for *more than a decade* despite that significant "uncertainty" in the regulatory landscape.[119] *Third*, SWEPCO arbitrarily refused to separately evaluate Welsh Units 1 and 3, even though it had done so for Unit 2. *Finally*, SWEPCO ignored the availability of lower cost alternatives to replacing its coal units with new NGCC units, particularly capacity from existing gas-fired units and market purchases, even though the Company later evaluated those very same options in its retrospective Dolet Hills analysis.[120] The Company's approach to future environmental risk and potential replacement options, together with its reliance on flawed and outdated gas price forecasts, skewed the analyses in favor of SWEPCO's preferred outcome: retrofitting and continue operating Welsh Units 1 and 3, Flint Creek, and Pirkey.[121]

The PFD ultimately fails to meaningfully address, let alone refute, any of those specific flaws—errors that indisputably affected the outcome of the Company's Unit Disposition analyses. Instead, the PFD first suggests that the errors Sierra Club identified in SWPCO's Unit Disposition analyses are impermissibly based on "hindsight."[122] Then, the PFD essentially recycles SWEPCO's fundamentally flawed arguments regarding the Welsh, Flint Creek, and Pirkey retrofits. For the reasons explained below, neither of those rationalizations is sufficient.

a. Sierra Club's arguments were not based on impermissible hindsight.

In recommending that the Commission authorize SWEPCO to pass more than $638 million in environmental compliance retrofits on to its ratepayers, the PFD notes that it is

[119] PFD at 64 (citing SWEPCO Ex. 46 at 12-13 (Becker Rebuttal)).
[120] SWEPCO's Unit Disposition analyses for Welsh, Flint Creek, and Pirkey were also arbitrarily inconsistent with the gas price forecasts and environmental compliance projections that the Company used in its after-the-fact (and ultimately incomplete) analysis of the economics of retrofitting Dolet Hills.
[121] *See* Sierra Club Initial Brief at 50-78.
[122] PFD at 68

"[p]articularly key" to avoid "second-guessing based on hindsight."[123] While it is true that "hindsight is not permitted in judging the reasonableness of the utility's decision,"[124] the PFD fails to explain how the flaws that Sierra Club identified in SWEPCO's Unit Disposition analyses are the product of impermissible hindsight. In fact, the evidence demonstrated—and the PFD acknowledges—that SWEPCO ignored widespread evidence, including data the Company indisputably had "in its possession" *at the time* of the retrofit decision, that gas price forecasts were falling precipitously and were expected to remain low.[125] Moreover, while the Company evaluated capacity from existing gas-fired units and market purchases in its Dolet Hills analysis—in part, because that information was "reasonably available *at the time*"[126]—the PFD inexplicably and arbitrarily concludes that it was prudent for SWEPCO to ignore that very same "reasonably available" information in the Welsh, Flint Creek, and Pirkey analyses. The PFD similarly ignores the fact that SWEPCO, in its final Unit Disposition analysis, arbitrarily assumed that the continued operation of the Welsh, Flint Creek, and Pirkey units would result in *zero* additional environmental compliance costs for more than a decade, despite evidence in the Company's possession *at the time* of significant impending compliance risks, and despite the Company's inclusion of those costs at earlier dates in the earlier Unit Disposition analyses. As discussed below, this was not just a matter of SWEPCO "fail[ing] to account for predicted regulatory compliance costs in the manner Sierra Club believes appropriate."[127] The Company's manipulation of that single variable flipped the Welsh and Flint Creek retrofit scenarios from

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[123] *Id.*
[124] *Id.*
[125] *Id.* at 69.
[126] *See id.* at 25 (quoting SWEPCO Ex. 48 at 4 (concluding that retrospective Dolet Hills analysis used "information reasonably available to SWEPCO at the time" the Company made the retrofit decision).
[127] PFD at 71-72.

being a net liability to customers to net benefit under the low gas price scenario.[128] The PFD improperly ignores this evidence that was in the Company's possession *at the time* of the retrofits—evidence that demonstrates that those retrofits were imprudent. Sierra Club takes exception to the ALJs' suggestion that Sierra Club's analysis was impermissibly based on hindsight.

b. SWEPCO's analyses relied on outdated gas prices, arbitrarily ignored environmental compliance risks, failed to separately evaluate the Welsh units, and arbitrarily ignored numerous available and likely lower cost options to retrofitting.

As Sierra Club explained in its post-hearing briefs, the record demonstrates that the SWEPCO's Early 2011 Unit Disposition analyses ignored or improperly evaluated several key variables that biased the Company's analysis, at each step, toward retrofitting rather than replacing Welsh Units 1 and 3, Flint Creek, and Pirkey. The PFD largely ignores those fundamental errors, and essentially adopts SWEPCO's flawed and inconsistent explanations for ignoring gas price forecast data in its possession, arbitrarily manipulating environmental compliance costs forecasts, refusing to separately evaluate Welsh Units 1 and 3, and ignoring the availability of lower cost alternatives to replacing its coal units with new NGCC units. For the reasons discussed below, Sierra Club takes exception to the PFD's recommended findings regarding the Welsh, Flint Creek, and Pirkey retrofits.

i. SWEPCO ignored evidence in its possession of falling gas price forecasts as well as expectations that prices would continue to stay low.

As explained in Sierra Club's post-hearing briefs,[129] SWEPCO arbitrarily ignored several factors that should have alerted the utility manager to the need for a thorough reevaluation of the Company's retire or retrofit decision with *updated* gas price forecasts. Given the critical

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[128] Tr. 2008:8-9; SWEPCO Ex. 10 (Becker Direct) at 14, Table 5.

[129] Sierra Club Initial Br. at 56-67; Sierra Club Reply Br. at 44-47.

importance of gas price forecasts to any "retrofit versus retirement" analysis, it was essential that SWEPCO incorporate the most up-to-date information and industry projections in developing a range of gas price forecasts that would inform its Unit Disposition analyses. The PFD recognizes that the Company's "did not use gas price forecasts *in its possession* . . . that indicated—consistent with real-time information from Henry Hub—that gas prices had dropped significantly by November 2009 and were *likely to stay low* into the future."[130] Despite this evidence, the ALJs suggest that this "is not in itself a reason a reason to find SWEPCO's choices imprudent."[131] That conclusion is erroneous, for several reasons.

First, the imprudence of SWEPCO's retrofit decision is not, as the ALJs suggest, simply a matter of choosing one gas price forecast over another.[132] SWEPCO ignored substantial and widespread evidence of falling gas price forecasts, disregarded expectations in the industry that gas prices would remain low, and failed to update its gas price forecasts to reflect the widely accepted downward trend in prices. At the time that the Company conducted its early disposition analyses, the Company had in its possession peer-reviewed and widely-used gas price forecasts[133] that were significantly below the Company's projections, but explicitly declined to incorporate those lower forecast into its Early 2011 Unit Disposition analyses.

SWEPCO did not only decline to use EIA's lower gas price projections in the Early 2011 analyses; it also declined to give adequate weight to other forecasts showing that gas prices would follow a new, significantly lower trajectory for the mid- to long-term. In fact, by the time SWEPCO conducted its April 2011 Unit Disposition analysis, the Company had obtained separate gas price forecasts from another industry consultant, whose *reference* case gas price

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[130] PFD at 69 (emphasis added).
[131] *Id.* at 70.
[132] *Id.*
[133] SWEPCO's Mr. Bletzacker admitted that the EIA forecast is a "great tool." Tr. 1954:11-14.

forecasts—*i.e.*, the forecast that the consultant considered the most likely pricing outcome at the time—showed an approximately 50% drop between June 2008, and November 2009.[134]

Although SWEPCO did eventually use the IHSCERA forecasts as its "*low*" gas price sensitivity in the April and May 2011 Unit Disposition analyses, that forecast should have been SWEPCO's reference price forecast in the April and May Unit Disposition analyses.[135] Indeed, SWEPCO admitted that the consultant's "consistent" pricing forecasts "closely matches"[136] the historic statistical outcome. This strongly suggests that SWEPCO's low gas price—*i.e.*, IHSCERA's base case forecast—should have been the Company's base case forecast in the Early 2011 analyses.

Second, contrary to the ALJ's proposed finding, SWEPCO did not use "regularly updated forecasts."[137] In fact, the Company failed to update its gas price forecasts to reflect the widely accepted downward trend in prices. As an initial matter, it is undisputed that during the period of time SWPECO conducted the Early 2011 Unit Disposition analyses, the Company had in its possession gas price forecasts—including both the EIA's Annual Energy Outlook[138] and IHSCERA forecasts[139]—that were widely accepted in the industry and significantly lower than the Company's gas price forecasts. It was arbitrary and unreasonable for the Company to refuse to *re-evaluate and update* its own gas price forecast to reflect those changes. And the Company

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[134] OPUC Ex. 3 at Exhibit KDW-6 (Page 2 to Attachment 4 to SWEPCO's Response to OPUC RFI 1-6a, noting that IHSCERA forecasts represented the consultant's base or reference case, which "closely matches and historical/statistical – 1.0 [standard deviation]").
[135] OPUC Ex. 3 (Woodruff Direct) at 15:9-14.
[136] *Id.*
[137] PFD at 70.
[138] SWEPCO witness Bletzacker admitted the EIA forecast is a "great tool," Tr. 1954:11-14, and SWEPCO witness Strunk relied on the EIA forecast to support the Company's retrospective Dolet Hills analysis. SWEPCO Ex. 48 at 38.
[139] In April 2011, SWEPCO noted that the IHSCERA forecasts were reliable, and "closely matches and historical/statistical – 1.0 [standard deviation]." *See* OPUC Ex. 3 (Woodruff Direct) at Exhibit KDW-6 (Page 2 to Attachment 4 to SWEPCO's Response to OPUC RFI 1-6a). IHSCERA's gas price forecasts also showed an approximately 50% drop between June 2008, and November 2009.

admits that updating gas price forecasts to reflect that downward trend would have directly "impact[ed] the outcome of unit disposition selections."[140]

The Company also failed to update its gas price forecasts in the years following the Early 2011 Unit Disposition analyses. Although the Company developed a slightly revised updated gas forecast in the fall of 2011,[141] which the company labeled as the "Fleet Transition—CSAPR (Base Band)" and "Fleet Transition—CSAPR (Low Band)" forecasts, SWEPCO continued to use *only* those two Fall 2011 forecast for its so-called "confirmation" disposition analyses through Dec. 2014. [142] By then, SWEPCO's gas forecast was in fact several *years* out of date.

The Company's Early 2011 and Fall 2011 forecasts were not only out of sync with widely used industry forecasts, including EIA's 2012 and 2013 forecasts and the HISCERA base case forecast, but they were out of sync with the Company's *own* Fundamentals Forecasts, which it used in other contexts. Indeed, in its application in support of its decision to build the coal-fired Turk power plant in PUCT Docket 40443, which the Company filed less than a year before conducted the Early 2011 Unit Disposition analyses at issue here, the Company predicted that gas prices would remain below $5.00 per MMBtu until 2015, below $6.00 until 2020, and would only reach $6.82 by 2030.[143] Here, by contrast, SWEPCO's base case forecast projected that gas prices would hit $7.00 by 2020, and would reach $8.84 by 2030. Given that gas prices dropped

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[140] OPUC Ex.3 (Woodruff Direct) at Exhibit KDW-2 (SWEPCO Resp. to TIEC RFI 8-7). As SWEPCO's witness Mr. Bletzacker acknowledged, when gas prices decrease, coal-fired power plants are "prejudiced" or "bumped out of the dispatch stack," Tr. 1133:3-8; 1131:7-8; 1132:2-3, thereby decreasing the benefit of retrofitting a coal unit relative to replacing it.

[141] Tr. 1986:25-1989:22; *see also* OPUC Ex. 3 at Exhibit KDW-4 (SWEPCO's response to OPUC RFI No. 1-11, which provided the gas and other commodity prices SWEPCO used for each of the Post-2011 analyses, as well as the Clean Power Plan sensitivities that the Company used in Summer 2014 and Summer 2015).

[142] Tr. 1986:25-1989:22; *see also* OPUC Ex. 3 (Woodruff Direct) at Exhibit KDW-4 (SWEPCO's response to OPUC RFI No. 1-11, which provided the gas and other commodity prices SWEPCO used for each of the Post-2011 analyses, as well as the Clean Power Plan sensitivities that the Company used in Summer 2014 and Summer 2015). SWEPCO developed this updated gas price forecast in Fall 2011. SWEPCO Ex. 46 at 9.

[143] PUCT Order 40443 ¶ 45.

precipitously from 2010 through the middle of 2011, SWEPCO's use of significantly higher gas price forecasts was arbitrary.

Moreover, in the years following the Fall 2011 forecast, Mr. Bletzacker had updated the Fundamentals Forecast, but SWEPCO failed to include those updates in its modeling runs during that period of time.[144] During that period, natural gas markets and forecasts continued to decline as a result of the continued expansion and success shale gas extraction, [145] yet the Company asserts that "there were no significant changes in long-term energy market fundamentals" warranting revised forecasts during that period.[146]

SWEPCO's Early 2011 Unit Disposition analyses, are also inconsistent with the Company's after-the-fact analysis of the prudence of the Dolet Hills retrofit, which relied on EIA's natural gas forecasts *instead* of the Company's 2011 natural gas forecasts. The PFD's suggestion that the EIA forecasts were not as "sophisticated" as SWEPCO's Fundamentals Forecast cannot be reconciled with their conclusion that it was prudent for the Company to rely on those very same EIA forecasts to support its retrospective Dolet Hills analysis.[147]

Third, the PFD suggests that SWEPCO's gas price forecasts "include[d] a more sophisticated modeling of potential mitigation costs."[148] But that is incorrect. While the Company assumed a $15/MWh price burden that it incorporated into its forecasts, Mr. Bletzacker admitted that the EIA forecast also includes a carbon price burden in its forecast. Mr.

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[144] Sierra Club Exs. 21 & 22 (Wilson Direct) at 25:4-7. It is also worth noting that SWEPCO's gas price projections have repeatedly proven incorrect. In PUCT Docket 40443, Mr. Bletzacker testified that there was "floor" of approximately $5.50 for natural gas prices. As noted above, natural gas prices fell to $2.45/MMBtu in March 2012, and fell even lower in 2013. *Id.* at 13:15; 23:18.
[145] Sierra Club Exs. 21 & 22 (Wilson Direct) at 22.
[146] SWEPCO Ex. 46 at 9:20-21.
[147] *Compare* PFD at 70 (concluding that the Fundamentals Forecasts are "more sophisticated" than EIA's forecasts) *with* PFD at 36-37, 48 (discussing SWEPCO's use of EIA forecasts in retrospective analysis, and ultimately concluding the analysis was prudent).
[148] PFD at 70.

Bletzacker asserted that the EIA carbon assumption is nothing like a carbon allowance, but then admitted that he had "no idea" and "no opinion of" the effect of EIA's carbon price adder.

Finally, contrary to the ALJ's proposed finding, the Company's gas price forecasts were not the product of "robust commodity price forecasts."[149] In fact, the Company only evaluated one true low gas price, it's Low Band forecast, and that low price was consistent with the forecasts that other industry consultants and experts had used as their base or reference price forecast. Given the critical importance of gas price forecasts to any "retrofit versus retirement" analysis, it was essential that SWEPCO incorporate the most up-to-date information and industry projections in developing a range of gas price forecasts that would inform its Unit Disposition analyses. The Company failed to do so, which biased the outcome of the analysis.

ii. SWEPCO failed to properly evaluate environmental compliance costs

The PFD correctly notes that SWEPCO did, in fact, study the implications of certain environmental regulations in the Company's Early 2011 Unit Disposition analyses, but the ALJs ignored evidence that SWEPCO arbitrarily manipulated the *timeline* for incurring those costs, which skewed the analysis towards retrofitting those units. It is undisputed that in its final Early 2011 Unit Disposition analysis, the Company departed from its earlier assumptions about compliance timeframes, and assumed (without any rationale) that it would not incur any additional costs associated with significant air pollution regulations until the mid- to late-2020s, if at all.[150] In effect, the Company assumed that the continued operation of the Welsh, Flint Creek, and Pirkey units would result in *zero* additional environmental compliance costs for more

[149] *Id.*
[150] *Compare* Sierra Club Ex. 4 at 2 (SWEPCO May 2011 Unit Disposition analysis assuming FGD and SCR controls for Welsh Units 1 and 3 in 2026-29 time frame) *with* Sierra Club Ex. 42 (April Unit Disposition Analysis assuming same controls in 2015-16 timeframe).

than a decade despite significant "uncertainty" in the regulatory landscape.[151] And, as SWEPCO witness Mr. Becker acknowledged, this *single changed variable* resulted in nearly a half billion dollar change in the expected cost of the retrofit scenario for the Welsh units—flipping the retrofit scenario from a net $38 million liability to customers under the Company's own low gas price forecast to a $522 million benefit.[152] The arbitrarily changed compliance timeline similarly altered the Flint Creek analysis, flipping the retrofit scenario from a $57 million liability under the Company's low gas price in April 2011, to a $15 million benefit in May 2011, just one month later.[153] In other words, had the Company held its environmental compliance timeframe constant, the final Early 2011 Unit Disposition analysis—conducted just weeks before the Company's decision to retrofit—would have demonstrated that retirement of Welsh and Flint Creek was clearly the least-cost option for customers, under the most-reliable gas price forecast.

This is not simply a matter of SWEPCO "fail[ing] to account for predicted regulatory compliance costs in the manner Sierra Club believes appropriate," as the PFD suggests.[154] Rather, the Company's manipulation of the compliance timeframe for significant additional environmental regulations was arbitrary and unreasonable for several reasons.

First, the timing of those environmental compliance costs is critically important to any "retire or replace" analysis. As Mr. Becker testified, deferring those capital investments to a later date was "one of the big drivers" in the change between the April and may analyses.[155] Indeed, in any retrofit versus retire modeling, deferring compliance costs to a later date makes

[151] SWEPCO Initial Br. at 36-37 (emphases added); *see also, e.g., id.* at 6 (recognizing "uncertainties associated with the ever more stringent environmental requirements").
[152] Tr. 2008:8-9; SWEPCO Ex. 10 (Becker Direct) at 14, Table 5.
[153] Tr. 2005-09; SWEPCO Ex. 10 (Becker Direct) at 18, Table 9.
[154] PFD at 71-72.
[155] Tr. 2009:9.

the retrofit scenario less expensive; conversely, the costs of the retrofit scenario become more expensive when those costs are moved forward in time.[156]

Second, although this single changed variable in the final Unit Disposition analysis resulted in a swing of hundreds of millions of dollars in the analysis, flipping the retrofit scenario from a significant net liability to customers to a benefit, the Company failed to clearly disclose or provide any explanation for the change. This was arbitrary and unreasonable.

Finally, the Company's May 2011 assumption that it would incur zero compliance costs for *more than a decade* is flatly inconsistent with the testimony of its own regulatory expert, who testified that "[b]y May of 2011, electric generators in Texas had received confirmation that EPA would be including Texas in the *annual* SO_2 and NOx programs, imposing more compliance burdens than initially proposed, subjecting Texas units to the full burdens of CSAPR."[157] And as SWEPCO witness Mr. Nasi explained, in May 2011, he had advised his clients to prepare to meet CSAPR's 2012 compliance requirements, which would have included consideration of SCR for NOx or FGD controls for SO_2. Similarly, Mr. Nasi advised his clients to prepare for compliance with the Regional Haze Rule, which, in 2011, presented a "continued threat" to Texas EGUs because EPA had not yet finalized a haze plan, and which could have also required similar SCR or FGD controls in the near term. In other words, at the same time that SWEPCO arbitrarily decided to defer for *more than a decade* any additional environmental compliance costs for its coal units in its disposition analyses, *its own regulatory expert* was advising coal-fired utilities to do the opposite—namely, to evaluate and consider starting to install expensive environmental controls like FGD and SCR as soon as 2012.

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[156] Tr. 2008:22-2009:7.

[157] SWEPCO Ex. 43 (Nasi Rebuttal) at 11:8-11 (emphasis in original).

The PFD fails to recognize that SWEPCO arbitrarily manipulated the costs of compliance with other proposed and pending environmental regulations, effectively assigning those regulations a zero cost. Had the Company used reasonable assumptions for those environmental compliance timelines, replacing at least a portion of the capacity from the Welsh or Flint Creek units would have been a lower-cost, lower-risk option than spending approximately $600 million propping up those aging solid-fuel units. SWEPCO failed to satisfy its burden of demonstrating the prudence of retrofitting those units, and Sierra Club takes exception to the PFD's findings.

iii. SWEPCO failed to properly evaluate or model Welsh 1 and 3 separately, as the Company had done with Welsh 2

As explained in its post-hearing brief,[158] SWEPCO arbitrarily failed to evaluate the Welsh Units 1 and 3 on an individual basis, as the Company recognized in its separate evaluation of Welsh Unit 2. The PFD failed to address that argument.

To demonstrate prudence, SWEPCO had an obligation to evaluate a "range of options which a reasonable utility manager would exercise or choose in the same or similar circumstances given the information or alternatives available" at the time.[159] Indeed, given the fundamental differences in environmental compliance risks between Welsh Units 1 and 3,[160] a reasonably prudent utility would have evaluated the units separately to determine whether it may be more economic to retrofit one and retire the other. Evaluating them together obscures this possibility. SWEPCO failed, however, to examine the units on an individual basis.

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[158] Sierra Club Br. at 74-75.
[159] *Entergy Gulf States,* 112 S.W.3d at 210.
[160] Welsh Unit 1 is a BART-eligible unit under the Clean Air Act's Regional Haze Rule—*i.e.*, it is an older unit that was in existence as of 1977. Accordingly, that unit could be required to meet more stringent "best available retrofit technology" emission limits that cannot be imposed upon unit 3, which is a newer unit. For BART-eligible units like Welsh Unit 1, EPA has frequently required operators to install BART controls in the form of a wet FGD to reduce SO_2 pollution, or SCR to reduce NOx pollution. SWEPCO Ex. 8 (Hendricks Direct) at 10: 6-9; *see also* Tr. 63-65 (SWEPCO witness Nasi explaining potential BART control requirements, and testifying that Welsh Unit 1 was BART-eligible).

Sierra Club submitted evidence demonstrating that there is, in fact, a significant net benefit to evaluating the Welsh units separately.[161] In the May 2011 analysis, for example, SWEPCO found (applying its arbitrary and environmental compliance assumptions, *see supra*) that retrofitting both Welsh units resulted in a net benefit of $522 million over retiring and replacing the units.[162] Had SWEPCO separately evaluated the retirement of Welsh Unit 1 and the retrofit of Welsh Unit 3, however, the cost of retirement would have dropped to $198 million.[163] Thus, there is clearly a net benefit to evaluating the units separately. Moreover, if the Company had continued to assume reasonable environmental compliance timelines, as it had done in the January through April 2011 analyses, the $198 million cost of retiring Unit 1 would have almost certainly flipped to a net benefit.[164]

Although SWEPCO contended that Sierra Club witness Rachel Wilson's opinion was based on a misunderstanding of a discovery response, Mr. Becker admitted that Ms. Wilson's analysis of the separate units did, in fact, correctly reflect the cost of retiring Welsh 3 and retrofitting Welsh 1, as indicated in SWEPCO's discovery response.[165] The PFD failed to address or resolve this issue.

iv. SWEPCO arbitrarily ignored the availability of lower cost alternatives to replacing its coal units with new NGCC units

In stark contrast to SWEPCO's retrospective Dolet Hills analysis, which the PFD notes was based on information "reasonably available" at the time,[166] SWEPCO failed to model or meaningfully evaluate any options other than retrofitting or replacing its coal units with new

[161] Sierra Club Exs. 21 & 22 at 30:21-23
[162] *See* SWEPCO Ex. 10 (Becker Direct) at14, Table 5.
[163] *Id.* at 30:24-31:1.
[164] Based on SWEPCO's own projection of more than $350 million to install a scrubber and more than $115 million to install SCR, any scenario requiring compliance with CSAPR or Regional Haze in the near term would have almost vastly increased the cost of retrofitting and continuing to operate unit 1.
[165] Tr. 2014:9-2015:2.
[166] PFD at 25.

natural gas units (except for Flint Creek), despite record evidence demonstrating that the Company was aware that some of these options—such as purchasing existing gas units, purchasing replacement capacity, power purchase agreements, or renewable energy purchases—could result in lower costs. The PFD fails to address any of Sierra Club's arguments relating to renewable energy options, such as solar, wind, or biomass, efficiency measures, or any combination of those options. The PFD does discuss longer-term power purchase agreements, but the ALJs' finding that it was reasonable for SWEPCO to refuse to evaluate other replacement options is flawed for several reasons.

For one, consideration of alternatives is essential to determining whether SWEPCO's proposal to retrofit its coal-fired fleet was reasonable, prudent, and in the public interest. Indeed, to demonstrate prudence, the Company bears the burden of demonstrating that it "conducted a reasoned investigation of all … alternatives *before* reaching its decision." [167] It is undisputed that SWEPCO refused to model any "Market Purchase" replacement option, where the Company purchases needed capacity and energy on the market. In finding it prudent for a utility to refuse to evaluate *all relevant alternatives,*[168] the PFD failed to hold SWEPCO to its burden of proof.

Moreover, SWEPCO's failure to evaluate a market purchases option for the Welsh, Flint Creek, and Pirkey units is fundamentally inconsistent with the after-the-fact analysis that the Company later submitted to support its Dolet Hills retrofit. The evaluation of a market purchase option was appropriate because that information was "reasonably available" at the time of the decision.[169] And as SWEPCO's Dolet Hills analysis makes clear, under virtually every scenario, replacement of Dolet Hills with market purchases was less expensive than replacing it with a

[167] *Gulf States*, 841 S.W. 2d at 47 (emphasis added).
[168] *Id.* (emphasis added).
[169] SWEPCO Ex. 48 (Strunk Rebuttal) at 4.

new NGCC.[170] The PFD's recommendation not only fails to hold SWEPCO to its burden of proof to show that it conducted a reasoned investigation of *all* options, but the PFD creates an arbitrary inconsistency regarding the standards for determining whether a utility investment decision is prudent. In essence, the PFD holds that a utility may, but need not, evaluate reasonably available options. That is not the law.

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In sum, the record demonstrates that SWEPCO's analyses were based on a series of assumptions that were consistently biased in favor of retrofitting the units; and, further, that if the Company *had* used reasonable assumptions for natural gas prices and further environmental compliance obligations, replacing at least a portion of the capacity from those coal-fired units likely would have been a lower cost and lower risk option than spending over $650 million on those aging solid-fuel units. The Commission should therefore reject the PFD's prudence recommendation regarding these units, and instead find that SWEPCO failed to satisfy its burden. Sierra Club recommends that the Commission disallow ten percent of the requested costs associated with the retrofits of Flint Creek, Pirkey, and Welsh Units 1 and 3 retrofits. Other public utility commissions have taken a similar approach to inadequately justified environmental compliance costs.[171] Alternatively, any prudence determination should be conditioned on SWEPCO, rather than ratepayers, assuming the full risk of the costs to comply with any future environmental regulations at its coal-burning units

B. Welsh Unit 2 Retirement – No exceptions.

C. Turk Power Plant Cost Cap [PO Issues 4, 5, 9, 10, 19] – No exceptions.

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[170] *See* SWEPCO Ex. 48 (Strunk Rebuttal) at 5, Table 1.

[171] *See, e.g.*, Indiana Utility Regulatory Commission, *Verified Petition of IPL for Approval of Clean Energy Projects et al.*, Cause No. 44242, Final Order at 31 (Aug. 14, 2013), available at: <http://www.in.gov/iurc/files/44242order_081413.pdf> (levying a financial penalty on Indianapolis Power & Light for poor management and for failing to present an appropriately rigorous analysis of its environmental compliance investments).

D. Materials and Supplies Adjustment [PO Issues 4, 5, 9, 19] – No exceptions.
E. ADFIT [PO Issues 4, 5, 9, 18, 19] – No exceptions.
F. Treatment of Transmission Invested Capital [PO Issues 9, 37, 41] – No exceptions.
G. Transmission and Distribution Capital Projects [PO Issues 4, 5, 9, 19, 49] – No exceptions.
H. Capitalized Supplemental Executive Retirement Plan [PO Issues 4, 5, 9, 19] – No exceptions.
I. Capitalized Incentive Compensation [PO Issues 4, 5, 9, 19] – No exceptions.
J. Dolet Hills Target Lignite Inventory Level [PO Issues 4, 5, 9, 10, 19] – No exceptions.
K. Sierra Club Settlement [PO Issues 4, 5, 9, 19, 54] – No exceptions.
L. Cash Working Capital [PO Issue 16] – No exceptions.
M. Pensions [PO Issues 9, 14] – No exceptions.

VI. Rate of Return [PO Issues 4, 5, 7, 8] – No exceptions.

A. Return on Equity [PO Issues 4, 5, 8] – No exceptions.
B. Cost of Debt [PO Issues 5, 8] – No exceptions.
C. Capital Structure / Overall Rate of Return [PO Issues 4, 7, 8] – No exceptions.

VII. Operating & Maintenance Expenses [PO Issues 4-6, 11, 20-22, 24-28, 30, 33-36, 43, 50, 51] – No exceptions.

A. Welsh Unit 2 O&M [PO Issues 4, 5, 6, 21] – No exceptions.
B. Production Maintenance Expense [PO Issues 4, 5, 6, 21] – No exceptions.
C. Depreciation and Amortization Expense [PO Issues 4, 5, 11, 21, 24, 25] – No exceptions.
D. Payroll Adjustment [PO Issues 4, 5, 6, 20, 21, 36] – No exceptions.
E. Incentive Compensation [PO Issues 4, 5, 21] – No exceptions.
F. Financial Counseling Expense [PO Issues 4, 5, 21] – No exceptions.
G. Supplemental Executive Retirement Plan (SERP) [PO Issues 4, 5, 21] – No exceptions.
H. Pensions and OPEB [PO Issues 21, 33] – No exceptions.
I. Distribution Vegetation Management Expense [PO Issues 4, 5, 21] – No exceptions.
J. Affiliate Charges [PO Issues 4, 5, 21, 34] – No exceptions.
K. Injuries and Damages [PO Issues 4 ,5, 21] – No exceptions.
L. Directors' / Officers' Liability Insurance [PO Issues 4, 5, 21] – No exceptions.
M. Storm Damage / Storm Recovery Costs [PO Issues 4, 5, 21] – No exceptions.
N. Rate Case and Regulatory Commission Expenses [PO Issues 4, 5, 21, 23, 43, 51] – No exceptions.
O. Back-Billed SPP Z2 Costs [PO Issues 4, 5, 21, 50] – No exceptions.
P. Transmission Expenses and Revenues [PO Issues 4, 5, 6, 20, 21, 36, 37, 41, 53] – No exceptions.
Q. Factoring Expense [PO Issues 4, 5, 21] – No exceptions.
R. Ad Valorem Taxes [PO Issues 4, 5, 21, 26] – No exceptions.
S. Federal Income Taxes [PO Issues 4, 5, 21, 28] – No exceptions.
T. Other Revenue Related Taxes [PO Issues 4, 5, 21, 26] – No exceptions.
U. Meter Reading Expense [PO Issues 4, 5, 21] – No exceptions.
V. Dues and Contributions [PO Issues 4, 5, 21, 30] – No exceptions.
W. Green Country Capacity Purchase Costs [PO Issues 4, 5, 21] – No exceptions.

VIII. Weather Normalization [PO Issues 4, 5] – No exceptions.
IX. Jurisdictional Cost Allocation [PO Issue 41] – No exceptions.
X. Cost Allocation [PO Issues 36-42, 44-46, 52, 53] – No exceptions.
A. Class Allocation of Production Costs [PO Issues 38, 41] – No exceptions.
B. Class Allocation of Transmission Costs [PO Issues 38, 41] – No exceptions.
C. Major Customer Account Representative Expense Allocation[PO Issues 38, 41] – No exceptions.
D. Uncollectible Expense Allocation [PO Issues 38, 41] – No exceptions.
E. Primary and Secondary Distribution Split for Accounts 364 and 365 [PO Issues 38, 41] – No exceptions.
F. Other Cost Allocation Issues [PO Issues 38, 41] – No exceptions.
XI. Revenue Distribution and Rate Design [PO Issues 38, 39, 45, 48, 52].
A. Revenue Distribution [PO Issues 38, 39] – No exceptions.

B. Distributed Renewable Generation [PO Issues 38, 45, 52]

1. No time limit on the grandfathering period is warranted for the few dozen existing DRG customers (and SWEPCO sought none); or at least, any such period should be lengthened beyond the PFD's recommendation

Sierra Club concurs with the PFD's recommendation in principle to grandfather the existing distributed renewable generation ("DRG") tariff for SWEPCO's current DRG customers. The ratepayers who have taken it upon themselves to responsibly invest substantial sums of their personal finances in DRG equipment and installation costs have not only relied on a regulatory regime that promoted DRG, but have also conserved energy themselves and commendably provided significant economic savings to other customers at the same time.[172] Meanwhile, it is noteworthy that such grandfathering would apply only to a few dozen customers, such that continuing the current tariff for them would have a near-zero effect on the

[172] As Sierra Club recognized in its post-hearing briefing, Sierra Club opposes tariffs that under-recognize the true value and benefits of DRG—or, by the same token, tariffs that overstate its true cost—thereby distorting the true economics in question and perversely disincentivize investment in the resource. In that vein, OPUC, like Sierra Club, advocated rejecting SWEPCO's proposed tariff revision, in part implicating those general concerns, and instead supported maintaining the current tariff for future as well as existing DRG customers. *See* OPUC Ex. 6 at 46:8–50:11; *but see* PFD at 365 ("The ALJs are also persuaded that the preponderance of the evidence supports Staff's position that failure to amend the DRG rate as proposed by SWEPCO would effectively credit owners of DRG resources as if they were transmission and distribution owners, which they clearly are not."). In this case, Sierra Club dedicated its limited resources on the DRG issue to the question of grandfathering.

Company's revenue or other customers' rates; whereas, by contrast, a failure to grandfather would have a significant impact on existing DRG customers' bills.[173] Given that these customers invested in DRG equipment in reasonable reliance on the current, Commission-approved tariff, it would be unfair to them (and unnecessary) to revoke the current tariff and replace it with one that fails to recognize their true systemic contributions while undercutting them financially.

While Sierra Club agrees that the PFD's conclusion that grandfathering is appropriate, Sierra Club takes exception to the PFD's recommendation that the grandfathering period be limited to a mere five years.[174] SWEPCO did not propose any such limit on the grandfathering period for current DRG customers (who, again, are very few). Sierra Club agrees that no such time limit is fair or necessary. Sierra Club submits that, at most, any expiration period added to the current tariff should be pegged to the useful life of existing customers' DRG equipment. Alternatively, if a fixed time limit is to be imposed, 20 years would be a more appropriate period.

A five-year grandfathering period is unreasonably brief. First, it would fail to allow adequate time for customers who recently invested in DRG equipment and installations to recoup their sunk costs, which are substantial. These families and businesses reasonably relied on the continuation of the current, Commission-approved DRG tariff when they made their decisions to invest in DRG. At a minimum, fairness and regulatory predictability require that they be allowed to recover those costs. The Commission should note that a full payback period could take decades for an average residential customer. A customer in the current DRG rate with a 7

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[173] *See* SWEPCO Ex. 39 at 24:15-19 ("There are currently 47 customers taking service under the existing DRG tariff (Tariff Sheet No. IV-59), including 36 Residential, 2 General Service and 9 Lighting and Power customers who will remain on the current DRG tariff."); *see also* Cross-Rebuttal Testimony of Melissa Whited, Sierra Club Ex. 41, at 10:12-15 & n.11 ("SWEPCO's proposed tariff revision reduces the DRG compensation rate by approximately 50 percent, which would lead to a substantial increase in existing DRG customers' monthly electricity bills.").

[174] PFD at 365.

kW solar photovoltaic ("PV") system would save approximately $390 annually on their bill under the existing DRG rates.[175] Meanwhile, the recently-reported median installed residential price for PV in Texas is approximately $3.40 per watt, which, after the 30 percent federal tax credit, translates to approximately $17,000 for a typical residential solar PV system in SWEPCO's territory.[176] A simple payback analysis—dividing the installed cost of the solar array of $17,000 by the annual savings of $390—renders a payback period of 43.5 years.[177]

A decision to be fair to the few current DRG customers by declining to impose any time limit on grandfathering them—or, if a grandfathering limit is to be imposed, extending the PFD's recommended 5-year period substantially—would be consistent with recent decisions by other commissions and regulatory bodies under analogous circumstances. As shown below in Table 9, grandfathering periods approved in recent cases have included an 'indefinite' period in Hawaii, 'life of equipment up to 25 years in Iowa, and 20 years from the date of interconnection or the date of the order in other jurisdictions.

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175 Sierra Club Ex. 41, at 10:15-17 & n.12. testimony (pages 10-11 and Exhibit MW-3)

176 *Id.* at 11:3 & n.13.

177 Recent estimates of the installed cost of solar reported by EnergySage are as low as $2.87/watt. A 7 kW system installed at this price would have a payback period of approximately 36 years under the existing DRG rates. *See* EnergySage, "How Much Do Solar Panels Cost in the U.S. in 2017?" (2017) available at <http://news.energysage.com/how-much-does-the-average-solar-panel-installation-cost-in-the-u-s/>. This includes the 30% federal tax credit, but does not include any additional costs of maintenance that a PV customer might incur.

Table 9: Selected DRG Tariff Grandfathering Precedent		
State	*Docket & Order Information*	*Grandfathering Term/Duration*
Arkansas	APSC Docket No. 16-027-R, Order No. 10 (Mar. 8, 2017), at 142.[178]	**20 years from date of order**
Arizona	ACC Docket No. E-01345A-16-0036, Decision No. 76374 (Sept. 19, 2017), at 20.[179]	**20 years from date interconnection**
California	CPUC Rulemaking 12-11-005, Decision 14-03-041 (Apr. 4, 2014), at 20.[180]	**20 years from interconnection**
Hawaii	HPUC Docket No. 2014-0192, Order 33258 (Oct. 12, 2015), at 164.[181]	**Indefinite**
Iowa	Docket No. TF-2016-0323, Order Requiring Revised Tariff (Feb. 3, 2017).[182]	**Life of equipment (up to 25 years)** for Net Billing Private Generation Pilot Tariff

Even adopting the PFD's 5-year recommendation would be significantly out of step with recent precedent—conspicuously and needlessly leaving current Texas DRG customers prejudiced compared to their counterparts in other states.

In conclusion, assuming that a new DRG tariff is to be adopted, Sierra Club concurs with SWEPCO's omission of any time limit on the grandfathering period for current customers and urges the Commission to reject the PFD's recommendation to impose one. In the alternative, if a time limit is to be imposed, Sierra Club urges the Commission not to adopt the PFD's 5-year proposal—which would be far too brief to allow cost recovery for most customers and would be drastically out of step with other jurisdictions—and instead to tie any such limit to the useful life

178 Available at <http://www.apscservices.info/pdf/16/16-027-R_212_1.pdf>.
179 Available at <http://docket.images.azcc.gov/0000182797.pdf>.
180 Available at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K386/89386131.PDF>.
181 Available at <http://dms.puc.hawaii.gov/dms/OpenDocServlet?RT=&document_id=91+3+ICM4+LSDB15+PC_DocketReport59+26+A1001001A15J13B15422F9046418+A15J13B31859H489831+14+1960>.
182 Available at < https://efs.iowa.gov/cs/groups/external/documents/docket/mdax/njey/~edisp/1612827.pdf>.

of the equipment or, alternatively, set it at no less than 20 years from the date of interconnection or from the date of the Commission's forthcoming order.

C. Other Rate Design Issues [PO Issues 38, 48] – No exceptions.

XII. TCRF and DCRF Issues [PO Issues 21, 44] – No exceptions.

A. Transmission Cost Recovery Factor and Distribution Cost Recovery Factor Baseline Values [PO Issues 38, 46] – No exceptions.

B. Refund of Over-Recovered Amounts of TCRF Revenues [PO Issues 44] – No exceptions.

XIII. Other Issues [including but not limited to PO Issues 17, 21, 22, 27, 31, 32, 44]

A. Ratepayers should not be forced to subsidize months-long periods of financial shortfalls during which the Company chooses to generate and dispatch unnecessarily and uneconomically in the SPP energy market

This final issue seems all the more timely in the wake of recent announcements that some of Texas's largest coal-burning power plants—Vistra Energy's subsidiary Luminant's Monticello, Sandow, and Big Brown plants—will be retired soon because, as Vistra has conceded, *"low wholesale market prices" mean these old units can no longer compete economically* against the growing quantity of cheaper natural gas and renewable energy.[183]

As it turns out, SWEPCO has found itself in the same bind, but rather than retiring or letting the units sit idle during months of seasonally low wholesale market prices, the Company has been asking its customers to pay more than they should or would if the Company were operating the plants in an economically rational way, putting ratepayers first. The record in this case reveals that SWEPCO has effectively been asking its customers to subsidize its voluntary, utterly avoidable, loss-producing practice of pre-committing its uneconomic coal units to be dispatched during long periods when prevailing SPP energy market prices are low enough that the Company doesn't break even selling its energy into the marketplace.

[183] Houston Chronicle, "Vistra Energy to close two more Texas coal plants" (Oct. 13, 2017) (quoting Vistra spokesperson Allan Koenig), available at <http://www.chron.com/business/energy/article/Vistra-Energy-to-close-two-more-Texas-coal-plantd-12275283.php>. These plants collectively comprise 4,100 MW of generation. Their decommissioning is subject to ERCOT approval. *Id.*; *see also id.* ("These closures are because these two sites are economically challenged.").

Specifically, SWEPCO's total variable costs of operating and producing energy from its coal units have, for discernible and significant periods (*i.e.*, months), exceeded the revenue the Company has received in the SPP marketplace for selling that energy. Given that SWEPCO has recited no obligation to run these units for reliability or other mandated reasons, the obvious rational decision would have been not to dispatch these units during these uneconomical stretches, and instead to supply its customers with energy acquired from the SPP energy market (energy produced by other, more economical plants). But no, as it has admitted, instead SWEPCO has made it its practice to pre-commit these units to be dispatched into the SPP market *without ever even considering*, what its total variable costs are or whether those costs exceed its revenues. Then—in what is the capstone of unreasonableness here—the Company seeks to foist the resulting unnecessary economic loss onto its ratepayers, asking them to pay the difference between its SPP market revenues and its (higher) total variable production costs. [184]

This problem is apparently a relatively new phenomenon, resulting from the coalescence of a new marketplace coupled with an accelerating structural shift to new, more efficient generation sources: The SPP Integrated Marketplace ("IM") was not launched until mid-2014, and it was then that SWEPCO began competing in that marketplace with other energy producers. Meanwhile, there has been a dramatic uptick in the amount of new capacity with lower variable costs coming online and available for dispatch in the SPP.[185] Perhaps SWEPCO simply has not yet come to appreciate the extent that this fresh market dynamic creates this uneconomical (and avoidable and ratepayer-harming) pattern. Or, maybe SWEPCO realizes (like Vistra and an

[184] *See* 16 TAC §§ 25.231(b), 25.235(a), 25.236(d)(1)(a) (expenses that are not "reasonable and necessary" are not recoverable from ratepayers).

[185] *See, e.g.*, SPP Marking Monitoring Unit, *2015 State of the Market* (Aug. 15, 2016), p. 2-3, *available at* <https://www.spp.org/documents/41597/spp_mmu_state_of_the_market_report_2015.pdf> ("Generation in the market by fuel type is changing as a result of two primary factors: 1) increased installed wind generation capacity and output; and 2) declining natural gas prices. Wind-sourced generation continues to increase.... On the other hand, coal generation has declined....").

increasing number of other coal-reliant utilities across the nation) that their solid fuel units are uneconomical for long stretches of the year but wants to keep the units running to maintain them in the return-earning status of "used and useful"—and feels confident, in the meantime, that it can recover the losses during the months the units run at a loss from its captive customers. Whatever the reason, the record establishes that SWEPCO has been incurring unnecessary operating losses for months at a time and has been unreasonably passing those losses along to customers.

Neither SWEPCO nor the PFD quarrel with the facts on their own terms. Instead, both SWEPCO and the PFD respond chiefly by rejecting Sierra Club's premise. In a word, they suggest that the comparison of its total variable production costs to its SPP market revenues is simply inapposite and irrelevant. Rather, they say, it is fine for SWEPCO to consider only the Company's *incremental* costs (not *total* costs), which is what they say is contemplated under SPP bidding guidelines. To that end, SWEPCO witness A. Naim Hakimi offered a telling analogy to a widget company that dedicates itself to producing a minimum number of widgets, and adjusts the number of widgets it makes above that number to optimize its *incremental* costs, *yet does not consider and does not care if it costs the factory more in total to make each widget than what it sells each widget for.* Just imagine how long that widget factory would operate that way without monopolized, captive customers.

Below, Sierra Club first provides a review of the record and arguments in this case on this issue—a fuller review than those correspondingly offered for issues above, given the comparative traditional unfamiliarity of this issue. Second, Sierra Club provides its exceptions to the PFD, pointing out that it fails to confront Sierra Club's fundamental critique and thus fails to grapple with the problem established in the record.

1. **Overview of the record establishing SWEPCO's uneconomic dispatch practices, and the arguments made below**

As noted, SWEPCO has embarked on a practice of operating its solid-fuel power plants in a steadily and avoidably uneconomic manner for certain months at a time; and then—what is precisely unreasonable—asking that its customers in effect to subsidize its unnecessary, loss-producing behavior by paying for the difference between the revenue it recovers from dispatching into the SPP energy market revenues, on the one hand, and its own *higher* total variable costs of production, on the other hand.[186] More specifically, the record in this case demonstrates that, from 2015 and continuing through 2016,[187] SWEPCO chose regularly to "pre-commit" its fuel units to necessarily dispatch into SPP's energy market for long stretches of time when its units' total variable costs of energy production—that is, fuel and other variable operating costs only, as provided by the Company itself—consistently and discernibly exceeded the total revenues that the Company received from bidding and selling that energy into the marketplace. Nearly all the Company's solid fuel units' total variable production costs exceeded SPP energy revenues for substantial uninterrupted spans of time, as the testimony of Sierra Club expert Rachel Wilson catalogues.

<u>The record reveals steady stretches of discernibly uneconomic dispatch</u>

During discovery in this case, Sierra Club sought explore (among other topics) whether SWEPCO's units have performed economically, in competition with other sources of generation that bid into the energy market. Put another way, Sierra Club wanted to determine whether and

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[186] This issue featured relatively prominently in this case: four sets of voluminous discovery responses, written testimony from both Sierra Club and the Company, testimony at the hearing on the merits, and post-hearing briefs. *See, e.g.*, Sierra Club Exs. 21 & 22 (Wilson Direct) at 44:21–65:2; Sierra Club Exs. 24 & 25 (Wilson Cross-Rebuttal) at 3:4–4:7; Rebuttal Testimony of A. Naim Hakimi, SWEPCO Ex. 51, at 4:3–14:6; Tr. at 2257:19–2275:15, 2287:7–2292:25 (Hakimi Cross, Redirect, Re-cross) (Jun. 15, 2017).

[187] These were the only two full years since the advent of SPP's IM, and hence were the only two years' worth of data that Sierra Club requested from SWEPCO in discovery.

to what extent SWEPCO has lost money on a net basis in its energy market transactions during months-long periods, and then asked that its (captive) customers effectively subsidize that unnecessary loss-producing behavior by paying the difference between the Company's total variable energy costs and its (lesser) revenues.

Sierra Club obtained the necessary data largely by issuing a series of discovery requests to SWEPCO, in response to which the Company provided voluminous (and often protected) spreadsheets of data, along with explanations of the Company's operational and accounting practices.[188] Sierra Club sought this data for 2015 through 2016, which were the only full years between the mid-2014 launch of SPP's IM, and the instant litigation. Sierra Club's discovery requests sought the following information, *inter alia*, regarding the Pirkey, Flint Creek, Dolet Hills, Turk, and Welsh units 1, 2 (prior to its April 2016 retirement), and 3: Daily submissions of bids into the SPP energy market; reason for / mode of dispatch for each hour (*e.g.*, self-committed, reliability, etc.); variable costs of production at the most temporally granular basis available; locational marginal price of energy on an hourly basis; hourly net output; hourly energy market revenues received from SPP. SWEPCO provided cost data in dollars per MMBtu, so Sierra Club used monthly unit-specific heat rate data, derived from generation and fuel consumption data collected by the EIA, to convert SWEPCO's costs into units of \$/MWh, in conjunction with variable cost estimates of environmental control technologies published by EPA to compare against the cost data SWEPCO provided.[189]

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[188] *See* SWEPCO Response to Sierra Club RFI 1-23 (Mar. 20, 2017), Sierra Club Ex. 12; SWEPCO Response to Sierra Club RFI 2-1 (Apr. 6, 2017), Sierra Club Ex. 13; SWEPCO Supp. Response to Sierra Club RFI 2-1 (Apr. 21, 2017), Sierra Club Ex. 14; SWEPCO Response to Sierra Club RFI 3-4, 3-6, 3-10 (May 2, 2017), Sierra Club Ex. 16; SWEPCO Response to Sierra Club RFI 4-2–4-9 (Jun. 2, 2017), Sierra Club Ex. 17.

[189] *See* Sierra Club Exs. 21 & 22 at 56:1–57:3, 60:11-15. In response to Sierra Club's requests for data in the most temporally granular units available, SWEPCO provided cost data on a monthly basis. Therefore, Ms. Wilson aggregated the hourly data provided by SWEPCO to monthly levels, taking an average of bid

To be clear, Sierra Club's analysis incorporated only the variable costs of production provided by SWEPCO—fuel costs, variable operations and maintenance ("O&M") expenses, consumables, and emissions costs—and thus excluded infrastructure expenses and similar non-variable sunk costs.[190] Sierra Club's analysis therefore reveals when units lost money on a net basis simply by virtue of being operated—that is, when their variable production costs exceeded their revenues.[191]

Sierra Club's analysis demonstrates that SWEPCO consistently bid its solid fuel units into the energy market at prices markedly below their total variable energy-production costs. As a result, for months-long stretches identified in Ms. Wilson's Direct Testimony, the Company consistently received less revenue from selling that energy on the market than its total operational costs. Ms. Wilson's testimony provides a number of specific statistics detailing, and several charts visually depicting, just how uneconomically each of the units performed from 2015 through 2016. Some units performed worse than others, although each was uneconomic for a substantial period of time. The majority of the units operated uneconomically roughly half the time they were dispatched, with four units failing to produce net positive revenues during *any month* for the eight-month period from October 2015 through May 2016.[192] All in all, the record shows that combining the losses from these discrete periods of avoidable stretches of

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prices for each bidding segment and summing total generation and energy revenues for the period. Ms. Wilson estimated monthly net operational revenues for each unit by subtracting the product of monthly variable costs and monthly net generation from gross energy revenues; then she estimated the percentage of time each unit operated uneconomically by calculating the number of hours in which that unit operated despite its monthly production cost exceeding the relevant hourly locational marginal price.

[190] *See, e.g.*, Sierra Club Ex. 13 (SWEPCO Response to Sierra Club 2-1(g)) (identifying the above cost categories as the production costs SWEPCO considers variable on a short-term basis for the purposes of dispatch at existing units); *see also* SWEPCO Ex. 51 at 5:4-7 (similar).

[191] That net operating loss thus does not even factor in non-variable costs, such as capital expenditures and fixed O&M, which are typically considered sunk and not included in a generator's energy market bid. *See* Sierra Club Exs. 21 & 22 at 55:9-17; *see also* Tr. at 2259:5-13, 2260: 6-10, 20-25 (Hakimi Cross) (Jun. 15, 2017) (acknowledging these premises of Ms. Wilson's calculations).

[192] *See* Sierra Club Exs. 21 & 22 at 56:1-11 & Fig. 8, 57:1-7 & Fig. 9; *see also id.* at 52:1–55:7, 56:12–57:1, 57:8–58:7.

uneconomic dispatch, identified in Ms. Wilson's testimony, SWEPCO's total variable energy-production costs during such periods exceeded its energy market revenues by a total of ***$20.5 million*** from 2015 through 2016 for the Pirkey, Flint Creek, Dolet Hills, Turk, and Welsh units altogether.[193]

SWEPCO's inapposite and, in any event, inadequate responsive arguments

SWEPCO did not challenge that above calculations and conclusions on their own terms. That is to say, SWEPCO did not deny those calculations or conclusions: neither the Company's testimony, nor its testimony at the hearing, challenged the veracity of Sierra Club's data or the accuracy of Sierra Club's arithmetic.[194] Nor did counsel for the Company pose a single question to Ms. Wilson on the topic over the course of an entire morning cross-examining her on other issues. Therefore, the record in this case is clear and *undisputed* on the key point that there were entire months when Company units' variable costs of generating energy consistently and substantially exceeded the revenue the Company earned from selling that energy on SPP's IM, as specified in Ms. Wilson's Direct Testimony.

Specifically, SWEPCO contends that comparing total variable costs of producing energy to the revenues it earns from selling that energy on SPP's IM is, simply, inapposite to Company decision-making.[195] Instead, SWEPCO explains through the rebuttal testimony of witness A.

[193] Sierra Club Exs. 21 & 22 at 60:19-25, 64:25–65:65; Tr. at 680:1-6 (Wilson Cross) (Jun. 8, 2017) (correcting the figure in her prefiled written Direct Testimony to read $20.5M).
[194] *See* SWEPCO Ex. 51 at 4:4–14:6 (Mr. Hakimi's rebuttal testimony not identifying any inaccuracies with Sierra Club's data, or with its calculations given the premise of comparing total energy production costs to SPP energy market revenues—instead arguing about the correct inputs for comparison in the calculations, and describing SWEPCO's unit commitment decision process); Tr. at 2265:8–2265:16 (Hakimi Cross) (Jun. 15, 2017) (further declining to "challeng[e] the veracity of the raw data that she put into the analysis" or "how she did the math," and not "disput[ing] [Ms. Wilson's] cost figures for total variable operating cost").
[195] *See* SWEPCO Ex. 51 at 4:5–6:16; Tr. at 2262:17-24 (Hakimi Cross) (Jun. 15, 2017) (confirming that Mr. Hakimi's essential critique is "that [Ms. Wilson] simply has the wrong premise on the cost side," "[a]nd the correct premise is not to look at total variable costs, as she did, but instead to look at incremental variable costs of the units because that's what SWEPCO actually bases its bids on").

Naim Hakimi, the Company's bids "represent the *incremental* costs of energy generated above each unit's lowest operating point".[196] SWEPCO's explanation, in other words, is that it commits in advance to dispatch its units at some minimum output level (regardless of market price) and then may ultimately bid and dispatch above that minimum level based on the unit's incremental (as opposed to total) production costs—seeking to optimize its revenue after the commitment that the unit will in fact necessarily generate energy and dispatch into the market.[197] Meanwhile, SWEPCO advises, the total variable cost of producing energy "*is not even taken into consideration* when a dispatch decision is made".[198]

It is important to note that *SWEPCO does not rely on or cite any regulatory obligation to dispatch its units*, such as any requirement to dispatch the units for reliability purposes or to respond to congestion.[199] Nor does SWEPCO deny that the Company alternatively could have supplied its customers with energy purchased from the marketplace without generating the power itself—the economically rational choice that, Ms. Wilson explains, a utility like SWEPCO would be expected to make when its total variable production costs exceed market prices.[200]

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[196] SWEPCO Ex. 51 at 5:3-4 (emphasis added).
[197] *See, e.g.*, Sierra Club Ex. 13 (SWEPCO Response to Sierra Club RFI 2-1(d) Highly Sensitive Attachment 4) (identifying units' hourly reason for / mode of dispatch—*e.g.*, "self-dispatched," "economic," "reliability," or other); SWEPCO Ex. 51 at 10:12-14 (explaining that "SWEPCO typically self-schedules the solid fuel units"); Sierra Club Ex. 17 (SWEPCO Response to Sierra Club RFI 4-4(a)) (confirming that Mr. Hakimi's analysis is "based on a scenario in which the unit is online," asked whether his analysis is "based on the assumption that the units will in fact continue to operate and dispatch regularly at some level").
[198] SWEPCO Ex. 51 at 7:3-4 (emphasis added); *see also* Tr. at 2264:1-7 (Hakimi Cross) (Jun. 15. 2017) ("A. And so just to wrap it up, that threshold mistake that you say [Ms. Wilson is] making is to factor in on the cost side the total variable production cost, whereas, in fact, *that's not actually taken into consideration* when the dispatch decision is made, and, rather, it's the incremental costs that are looked at? A. That's correct." (emphasis added)).
[199] *See* Tr. at 2276:16-21 (Hakimi Cross) (Jun. 15, 2017) ("A. … And so those are basically some of the key parameters of why the Company self-schedules the units. Q. And is that—does that fall within the—SWEPCO being required to dispatch for reliability purposes? A. No, not per se."); *see also* Sierra Club Exs. 21 & 22 at 51 n.77, 58:8–59:6 & Fig. 9.
[200] *See, e.g.*, Sierra Club Exs. 21 & 22 at 51:11-21.

A telling analogy is offered by Mr. Hakimi to capture and clarify SWEPCO's dispatch paradigm: He compares SWEPCO to a widget company that is dedicated to producing some number of widgets at its factory despite the fact that the Company sells each widget for less than the average total cost to make it.[201] As Mr. Hakimi explains, SWEPCO's view is that, if the *incremental* cost of making new widgets at the factory is $0.50 per widget, and the widget company sells those widgets on the marketplace at a price of $0.60 per widget, then it necessarily follows that the factory is economically viable—based on the reasoning that the widget company has "increased its net revenues by $0.10 per widget based on its incremental cost of production."[202] Strikingly, SWEPCO believes that the factory remains sound *even if the total cost of producing the widgets at the factory is $0.62 widget—i.e.*, two cents per widget *more* than what the company receives for selling them on the market.[203] Mr. Hakimi reasons that the company need only consider, given the premise that the factory will in fact operate, what level of output is justified when comparing revenues to incremental costs; it need not take total variable operating costs at all. And, to leave no doubt about SWEPCO's position, Mr. Hakimi confirmed during cross-examination that "the salient point" in the widget analogy "is *not* that *the Company is losing 2 cents per widget* when you compare sale price to total variable production costs" but, "instead, what is considered and what needs to be considered is revenues compared to incremental cost" (emphasis added).[204]

SWEPCO's obviously problematic paradigm—being satisfied with losing two cents per widget on a net basis—becomes even more problematic when one considers the additional layers

[201] SWEPCO Ex. 51 at 7:6-16.
[202] *Id.* at 7:9-15.
[203] *Id.* at 7:10-13 ("[T]he analogy to Ms. Wilson's analysis would be for someone to come along and claim that the total factory cost for producing all widgets was $0.62 per widget and therefore the company lost $0.02 for each new widget produced. This conclusion is incorrect because in reality the company increased its net revenues by $0.10 per widget based on its incremental cost of production.").
[204] Tr. at 2277:23–2278:4 (Hakimi Cross) (Jun. 15, 2017).

of the widget factor hypothetical that are needed to more fully and accurately complete the analogy (yet which Mr. Hakimi omitted). To that end, imagine further that:

- The widget company in Mr. Hakimi's hypothetical sells the widgets that it produces into a large widget marketplace that exists for buying and redistributing widgets produced at many different factories in amounts needed to satisfy the continuing widget needs of consumers across the region. Some factories are more cost-efficient than some others, naturally.

- Our widget company supplies local customers, over whom the company has a monopoly on suppling widgets, with widgets obtained and distributed from that pool of widgets sold into the marketplace by the various widget-producing factories.

- Although our company is responsible for providing widgets to local consumers on the supply of widgets, it does not need to make the widgets it sells to its local customers at its own factory; rather, it can supply its local consumers with widgets produced at other factories whether or not it produces any itself.

- The true average variable cost of producing widgets at *other* factories—which is to say, the market price of widgets—is $0.60 per widget. (Recall that the same production cost at the company's factory is $0.62 per widget, by contrast.)

- Our widget company persists in making widgets at its factory, with a policy of pre-committing to do so, and sells the widgets on the market at $0.60 per widget.

- The company then seeks to recover $0.62 per widget from its local monopoly customers; the customers effectively pay $0.60 per widget as the market energy cost, and another $0.02 per widget to cover the company's shortfall.

- The company alternatively could have charged its local customers only $0.60 per widget—the market price—and still avoided any net operating losses, if the company had chosen not to operate its factory, and instead had supplied its customers with widgets from the market that were produced at the other, more cost-efficient factories.

Under that fuller, more accurate analogy, Mr. Hakimi's widget company's business practice becomes all the more plainly unreasonable and unnecessarily prejudicial to customers

SWEPCO responded that aforementioned analysis, while accurate on its own terms, is inapposite because it is based on a misunderstanding of the Company's actual bidding, dispatch, and accounting paradigms. To that end, SWEPCO explained that, in the Company's view, it *did not and does not even need to consider* whether the Company is consistently spending more simply to run its units and produce energy, than it makes selling that energy on the market—energy that, crucially, SWEPCO does not itself have to produce in order to reliably serve its customers. That rather astounding viewpoint was made crystal clear in a widget-factory analogy the Company offered to illustrate its dispatch philosophy.[205]

In secondary fashion, Mr. Hakimi also asserts as a separate argument that Sierra Club's cost-revenue calculus inappropriately excludes revenues that the Company receives from two sources other than energy sales—namely: (1) the "sale of ancillary services," *i.e.*, "Spinning Reserves, Supplemental Reserves, Regulation Up, and Regulation Down"; and (2) "congestion related revenues from the SPP IM," which are "based on transmission paths designated by SWEPCO that have a potential for being congested."[206] According to Mr. Hakimi, factoring in those revenues would add $17 million to SWEPCO's revenue from the units at issue from 2015-2016.[207] This argument is fatally flawed in several ways, as Sierra Club explained in its post-hearing Initial Brief and as is discussed in the section below identifying exceptions to the PFD on this issue.[208] However, it must be noted that *even if* $17 million were properly added (which it is not) to the revenue side in Sierra Club's calculations, *that still would not cover the $20.5 million shortfall that Sierra Club has identified.*

<u>Unreasonableness of SWEPCO's attempted recovery of unnecessary losses from ratepayers</u>

As discussed above, Sierra Club has demonstrated in the record that the Company's pre-commitment continually to dispatch its solid fuel units into the SPP energy market has resulted in steady, months-long spans of time in which each unit except Pirkey has suffered substantial financial losses by virtue that commitment to dispatch. That is, Sierra Club has shown, and

[205] *See* SWEPCO Ex. 51 at 7:6-16; Tr. at 2277:23–2278:4 (Hakimi Cross).
[206] SWEPCO Ex. 51 at 9:1–10:8.
[207] *Id.* at 9:7-8; Tr. at 2268:17-24 (Hakimi Cross) (Jun. 15, 2017).
[208] Sierra Club Initial [Post-Hearing] Brief at 100-101.

SWEPCO has not denied, that units' total variable operating costs have exceeded market revenues for substantial stretches of time, resulting in financial shortfalls that SWEPCO then effectively asks its ratepayers cover. Crucially, this result is avoidable, as the record shows SWEPCO is under no obligation continually to run as such, and instead could choose not to operate certain units during predictably uneconomic stretches while still supplying its customers with cheaper-made energy from more cost-efficient generation dispatching into the market.

SWEPCO's primary response has been just to resist the notion that a prudent utility should examine whether its revenues from selling its product in a market continuously fall short of covering its total variable costs to make that product, and act on that information to avoid at least its long, steady, discernible stretches of uneconomic operation. Recalling the widget factory to which SWEPCO analogized itself, imagine how long that factory—*losing money with each widget it makes and sells on the market*—would choose to stay open during uneconomic stretches absent the benefit of an effective subsidy from monopoly ratepayers.

It is unclear whether SWEPCO simply did not discern that its solid fuel units have been losing money in this (avoidable) manner during months-long stretches over the past two years—possibly due to the relatively new dynamics of SPP's IM.[209] Or perhaps the Company fails to appreciate its available option, and the concomitant would-be savings, of electing not to dispatch units during these predictably uneconomical months (*e.g.*, periods of relatively low demand). Or conceivably SWEPCO sees nothing unusual or problematic with burdening its customers with an extra, avoidable differential of the Company's higher production costs on top of market costs. To that end, SWEPCO seems to harbor no concern about treating SPP energy revenues as mere "offsets" to its total variable production costs, which it apparently thinks will necessarily be

[209] *See supra* n.185 & accompanying text.

higher than its market energy revenues during months at a time; and then forcing ratepayers to bear that differential through fuel charges (or, if not that, through base rates).[210]

Such shortfalls between the Company's total revenues from the SPP energy market, and its total variable costs of energy production are not reasonable and necessary during long, consistent, discernible spans of time, as detailed in Ms. Wilson's testimony. Therefore, those discernible, avoidable, irrational losses should not be recoverable from its customers.[211]

2. The PFD's analysis is unsupported by the record and fundamentally fails to grapple with the problem identified

The PFD recommends that the Commission reject Sierra Club's arguments and proposed disallowance, reasoning at bottom that "[t]he preponderance of the credible evidence on this issue weighs heavily in the Company's favor."[212] To that end, the PFD first notes that "Mr. Hakimi testified persuasively that the manner in which SWEPCO schedules and bids its generation into the SPP IM is on the basis of incremental cost, which is fully consistent with

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[210] Tr. at 1340:5-13 (Aaron Cross) (Jun. 12, 2017) (explaining that "[t]he revenue from sale of energy in SPP" "does go to fuel as an offset," which means "[a] reduction of the total fuel cost" borne by ratepayers); *id.* at 1340:18–1341:3 (confirming that, other than SPP energy sales, revenue from the fuel tariff, and base rates, no other mechanism or source of revenue pays down the Company's variable costs energy production); *id.* at 1341:9-16 ("A. ... [T]here's no other offsets to variable O&M through off-system sales, and those are all consumed within the fuel clause. Q. Okay. And so just one more time for me. The SPP energy revenue reduces that which you would need to recover through the fuel charge or[] base rates or some combination thereof? A. I would say through the fuel charge. Q. Through the fuel charge. Okay.").

[211] 16 TAC §§ 25.231(b), 25.235(a), 25.236(d)(1)(a); *see, e.g.*, *CenterPoint Energy Hous. Elec., LLC v. Pub. Util. Comm'n of Texas*, 212 S.W.3d 389 (Tex. App.–Austin 2006, pet. for rev. abated, judgm't vacated w.r.m.) (affirming the Commission's disallowance of a portion of utility's request for fuel-related revenue, in light of the utility's failure to carry its burden to prove the full requested amount reflected "reasonable and necessary expenses"); *see generally Cities for Fair Util. Rates v. Pub. Util. Comm'n of Texas*, 924 S.W.2d 933, 935 (Tex. 1996) ("Restated, the rule [reflected in PURA § 2.203(a)] is that a utility's rates must be set so as to produce revenues equal to the sum of two amounts. One is the utility's 'reasonable and necessary operating expenses,' including taxes and depreciation. The other is 'a reasonable return on its invested capital used and useful in rendering service to the public.'").

[212] PFD at 388.

Section G.2.5 of the SPP IM Market Protocols,"[213] reasoning that "[b]ecause Ms. Wilson's analysis does not attempt to mirror the protocol requirements, [] its applicability to the facts in this case is not particularly germane and not probative."[214] The PFD also found that "Ms. Wilson's analysis is clearly flawed when she clearly failed to account for Ancillary Services and Congestion revenues SWEPCO receives from the SPP. The revenues are not insignificant, and their exclusion from Ms. Wilson's analysis calls into question the accuracy and utility of Sierra Club's proposed adjustment and disallowance."[215] That is the whole of the PFD's analysis (beyond reciting some of the arguments advanced by the parties).[216] The PFD's analysis is both inapposite and incorrect.

First, the PFD's reliance on Section G.2.5 of the SPP IM Market Protocols is inappropriate and, in any event, simply inapposite to Sierra Club's point. As a threshold procedural matter, it appears that the very first time Section G.2.5 was ever mentioned—let alone invoked as a core rule practically dispositive of this case, as the PFD suggest—was in SWEPCO's post-hearing Reply Brief, in a sentence unsupported by any record citation.[217] Neither SWEPCO nor the PFD quoted or explained Section G.2.5; rather, it appears that the PFD

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[213] *Id.* at 389.
[214] *Id.*
[215] *Id.*
[216] Sierra Club notes, here, that it is sometimes difficult to tell whether the PFD's recitation of a party's argument, within a section's summary-of-the-record portion, is meant implicitly to be an endorsement and adoption of such argument, and thus whether such recitation of the record formally requires an exception. For instance, the PFD used the phrasing "SWEPCO points out," *id.* at 388, or omitted altogether omits any such qualifying phrase expressly indicating that it was the Company advancing the contention, *see, e.g.*, *id.* (within the paragraph reciting SWEPCO's arguments, concluding with a sentence stating simply: "A unit that has been idled, which is what Sierra Club seeks, cannot provide Spinning Reserve."). To the extent the PFD does indeed mean implicitly to adopt such recited arguments, Sierra Club naturally takes exception to them and believes that its post-hearing briefing, together with the instant Exceptions, rebut such arguments advanced by the Company. Moreover, to the extent the PFD purports to provide a totally comprehensive and accurate summary of the parties' respective arguments, Sierra Club takes exception to any parts of said summary that are inconsistent with Sierra Club's arguments herein and below.
[217] [Post-hearing] Reply Brief of SWEPCO (July 20, 2017), at 126 ("Not only does SWEPCO bid its generation into the SPP IM based on the incremental cost of providing energy, it is required to do so by Section G.2.5 of the Market Protocols for the SPP IM." (with no citation, record or otherwise)).

simply took SWEPCO's Reply Brief at its word that the protocol does in fact compel the utility to behave in the way it does. For one, if Section G.2.5 compelled SWEPCO to operate in this manner—if it was such a crucial, illuminating, and hand-tying rule—SWEPCO and its witness, Mr. Hakimi, would have cited G.2.5 at some point earlier in the proceeding, such as in written testimony, in discovery responses on this subject, or in oral testimony during cross-examination at the hearing. But in any event, notwithstanding the many opportunities to raise Section G.2.5 early on, SWEPCO waited to cite it for the first time in its post-hearing Reply Brief, thereby depriving Sierra Club of an opportunity to confront that contention. Accordingly, because SWEPCO never invoked the rule or put into the record any testimony regarding its impact, reliance on the protocol is procedurally improper.[218] The Commission should thus reject it as a basis for its decision.

Moreover, even were the Commission to hold that SWEPCO's belated invocation of Section G.2.5 was proper and that the rule was otherwise before it—and further assuming that the Commission is also willing to accept SWEPCO's one-sentence assurance in its Reply Brief that the protocol does compel the Company to structure its bids the way it does—the PFD still fundamentally misses the point when it concludes that SWEPCO's "schedul[ing] and bid[ding] its generation into the SPP IM is on the basis of incremental cost" is "consistent with Section G.2.5 of the SPP IM Market Protocols."[219] As Sierra Club has shown—*and as the PFD does not*

[218] *See, e.g., McAlester Fuel Co. v. Smith Int'l, Inc.*, 257 S.W.3d 732, 737 (Tex. App. 2007) (issues raised for first time in a reply brief are ordinarily waived); *Application of Houston Lighting and Power Company for Authority to Change Rates*, Docket No. 9850, 17 Tex. P.U.C. Bull. 3063, Examiners' Report (Sept. 3, 1991), 1991 WL 790283, at *140 ("Because this second alternative was raised for the first time in OPC's reply brief, the other parties have had no opportunity to address this recommendation and the impact of adopting this proposal has not been developed in the record. Accordingly, the examiners also find a lack of record support for OPC's second alternative recommendation."); *see also* Tex. Gov't Code § 2001.051 ("In a contested case, each party is entitled to an opportunity . . . to respond and present evidence and argument on each issue involved in the case.").
[219] PFD at 389.

dispute—for months-long stretches at a time, SWEPCO's total variable cost of producing energy from its uneconomic coal plants has exceeded its SPP market revenues, and SWEPCO has passed the losses on to its customers. SWEPCO, for its part, has forthrightly admitted that it *never even takes that comparison into account.*[220] Thus, SWEPCO winds up like the widget factory in its own analogy—losing two cents per widget, and asking its customers to cover that avoidable extra two cents. Sierra Club's point is independent of what Section G.2.5 may say about setting bids based on incremental costs (which neither SWEPCO nor the PFD explained): Sierra Club's fundamental quarrel is with SWEPCO recovering excess costs, unnecessary losses from customers because SWEPCO has put pre-committing its coal plants on autopilot, always pre-committing them for dispatch, without ever examining the consequences.

In light of this, it would seem advisable for SWEPCO to decide to start comparing total variable costs to energy market revenues, monitoring whether it is dispatching uneconomically on that net basis for months at a time on a net basis, and stop doing so during the consistently uneconomical stretches of time. Either way, however—even if the Company remains dedicated to dispatching its units at some minimum output level, no matter what, then the Company should not be allowed to recover the amount by which its total variable costs exceed its market revenues from customers—the Commission should not allow it to recover from customers the economic loss that it has avoidably created, *i.e.*, the amount above which customers would have paid if the Company had chosen simply to supply them with energy from the market that was produced by more cost-efficient generation sources.

[220] SWEPCO Ex. 51 at 7:3-4, 7:6-16, 7:10-13; Tr. at 2264:1-7 (Hakimi Cross) (Jun. 15. 2017) ("Q. And so just to wrap it up, that threshold mistake that you say [Ms. Wilson is] making is to factor in on the cost side the total variable production cost, whereas, in fact, *that's not actually taken into consideration* when the dispatch decision is made, and, rather, it's the incremental costs that are looked at? A. That's correct." (emphasis added)); *see also supra*.

Second, the PFD's determination that "Ms. Wilson's analysis is clearly flawed when she clearly failed to account for Ancillary Services and Congestion revenues SWEPCO receives from the SPP"—a contention that Mr. Hakimi raised in his written rebuttal testimony—and the PFD's finding that Ms. Wilson's omission therefore "calls into question the accuracy and utility of Sierra Club's proposed adjustment and disallowance,"[221] are unfounded. For one, Mr. Hakimi's suggestion that Ancillary Services and Congestion revenues should have been included is baseless and would result in misleading double-counting, as discussed below. Mr. Hakimi's suggestion is in error for at least three reasons:

(1) Mr. Hakimi was unable clearly to confirm whether, how, or to what extent such revenues are in fact dedicated towards paying down the Company's total variable costs of energy production—as opposed to being injected into a broad, undifferentiated pool of funds, some of which may or may not reduce the Company's variable energy costs, as opposed to covering other costs.[222] Specific accounting was necessary for these extra revenues to have the relevance Mr. Hakimi suggested they should, and to avoid misleadingly double-counting these revenues as benefits in both this context and some other computation bearing on ratepayer contributions.

(2) Mr. Hakimi's suggestion failed to recognize that certain of these other revenues are mutually exclusive with energy revenues. For instance, as Mr. Hakimi recognized, Spinning

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[221] PFD at 389.

[222] *See* Tr. at 2269:16–2272:13 (Hakimi Cross) (Jun. 15, 2017) ("I think what happens to those revenues is they help offset certain costs that SWEPCO incurs on the load side for paying for its share of ancillary services. So, ultimately, I mean, the SWEPCO customers get the benefit of those revenues. … Now, for ancillary service revenues that come in, they don't directly go and offset fuel. What happens is there is another process where we go through and look at how many ancillary service payments SWEPCO is making. And then, if there are revenues coming in on the units, they help offset the costs that we're paying on the load side. … So ancillary service doesn't go and credit against fuel right away. It kind of goes about through some other adjustments before it ends up as a credit back to the customers. … [U]ltimately, it hits the reconcilable fuel expenses.")

Reserves only earn revenue when a unit is not generating energy.[223] Thus, Mr. Hakimi would have Sierra Club factor in revenues earned when units are not dispatched into the energy market, though the point of Sierra Club's analysis was to critique the economics when units are dispatched. Meanwhile, to the extent the PFD means to endorse the claim, recited in its summary section, that "[a] unit that has been idled, which is what Sierra Club seeks, cannot provide Spinning Reserve,"[224] such a claim is utterly inapposite: Sierra Club's point is that SWEPCO should not be permitted to *double-count* its energy/generation revenue and its spinning reserve revenue because, as is plain and as Mr. Hakimi acknowledged, a unit cannot earn revenue for both at the same time.

(3) Mr. Hakimi suggested factoring in only the *revenues* from ancillary and congestion services. But, as he conceded on cross-examination, both those services also have their own unique *costs*, which are independent from and additional to the variable energy-production costs that Sierra Club counted.[225] In other words, Mr. Hakimi's proposal would recognize only the added financial benefits of these services, but not their added costs.

Finally, even if the Commission put aside all these valid critiques of Mr. Hakimi's suggestion to fold in an additional $17 million to SWEPCO's credit in Sierra Club's calculation, *that still would not make up for the $20.5 million in avoidable losses that Sierra Club identified.* The PFD says nothing about what is to be made of that remaining $3.5 million difference; rather, it essentially suggests that, because Sierra Club was wrong not to include spinning reserve and congestion revenues (which it was not, for the reasons explained above), that alleged error infects the credibility of Sierra Club's entire critique.

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[223] *Id.* at 2272:21-25.
[224] PFD at 388.
[225] *Id.* at 2272:16–2275:1.

Respectfully, Sierra Club submits, such reasoning is an analytical dodge that fails to actually grapple with the arguments Sierra Club has made or with the record in this case documenting this new, unreasonable practice of asking ratepayers to subsidize periods of avoidable uneconomic dispatch.

XIV. CONCLUSION – No exceptions (to form/wording)

XV. PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDERING PARAGRAPHS

A. Findings of Fact

As explained below, Sierra Club takes exception to **FOF ¶¶ 31-36, 48-52, 319, & 345-346.**

Rate Base – Dolet Hills

FOF ¶¶ 31–32. Sierra Club takes exception to these two proposed findings, which describing SWEPCO's retrospective economic analysis—*i.e.*, analysis that the Company submitted, as an independent and alternative theory of prudence, for the first time in the Company's rebuttal case—insofar as the findings admit the evidence into the record and condone such testimony as having been offered procedurally properly in rebuttal rather than in direct testimony. Sierra Club further takes exception to ¶ 31's statement that the analyses used "information that was reasonably available to SWEPCO at the time" insofar as that statement that suggests that the retrospective analysis was substantively defensible (in addition to procedurally proper). Sierra Club proposes the following findings instead:

- After filing its application in this matter, SWEPCO retained independent consultant Kurt Strunk to perform new, retrospective economic modeling analysis to support the retrofit decision at Dolet Hills. SWEPCO submitted this modeling and related testimony as the purported rebuttal testimony of Mr. Strunk. SWEPCO offered this *post hoc* method of establishing the prudence of the Dolet Hills retrofit decision in the alternative to the Company's independent claim that its contemporaneous decision-making sufficed to establish the prudence of the Dolet Hills retrofit.

- Intervenors and Joint Movants Sierra Club, OPUC, and CARD jointly objected to SWEPCO's offer as rebuttal testimony of a new and independent theory for the prudence of the Dolet Hills retrofit. On the first day of the hearing, the ALJs noted Joint Movants' objection as preserved, and ordered that their respective expert witnesses be permitted to provide live oral supplemental testimony at the hearing in response to Mr. Strunk's written testimony, and further that Mr. Strunk in turn be permitted to respond in kind.

- As the party with the burden of proof, SWEPCO was required to file any written testimony and exhibits supporting its direct case on the same date as its application. The Company may not wait to present, in its rebuttal testimony, evidence and argument in the vein of a fundamentally new, independent and alternative theory of its *prima facie* case for prudence; rather, to the extent SWEPCO wanted to rely on such a theory, it must have been included in its direct case. SWEPCO's omission of the retrospective theory from its direct case fundamentally prejudiced the intervenors—who had finished filing their written testimony and thus had no opportunity to respond in adequate fashion to the Company's new theory—as well as the Commission's decision-making process, and contravened applicable rules and precedent setting out the adversarial burden-shifting framework under which the Company must prove prudence.

- SWEPCO has identified no justification for failing to present in its direct testimony a retrospective case, if it ever wished to rely on that theory as an alternative basis for prudence. Mr. Strunk's purported rebuttal testimony is thus stricken and disallowed to the extent that it makes a retrospective case for the prudence of Dolet Hills, as identified in the Joint Movants' objection.

- Accordingly, unable to rely on a retrospective showing of prudence—and also having failed to establish prudence in its contemporaneous decision-making, as discussed above—SWEPCO has failed to carry its burden to show that its decision to invest in the Dolet Hills retrofits was prudent. Therefore, SWEPCO's request to include the associated $56.2 million in rate base is denied.

FOF ¶¶ 33-36. Sierra Club takes exception to these proposed findings because, and to the extent, that they fail to hold SWEPCO to its "heavy burden" of demonstrating that the Company's decision to invest $56 million in retrofitting Dolet Hills was prudent. Had the ALJs rigorously reviewed the numerous quantifiable errors and fundamental flaws in SWEPCO's after-the-fact analysis, as they were required to do, it would have been clear that SWEPCO failed to meet its burden of demonstrating the prudence of the Dolet Hills retrofit investment.

- Sierra Club proposes the following findings instead:

  - SWEPCO's retrospective retrofit analysis improperly included in its economic model the $34 million cost associated with the unrecovered capital at the adjacent Oxbow lignite mine. When that error is corrected in the model itself, retrofitting Dolet Hills becomes more uneconomic (*i.e.*, more expensive) for ratepayers under all scenarios.

  - Further, SWEPCO's retrospective analysis used carbon dioxide price forecasts that were inconsistent with those that SWEPCO had used in its separate 2011 Unit

Disposition analyses for the Welsh, Flint Creek, and Pirkey power plants. When that error is corrected in the model itself, retrofitting Dolet Hills becomes more uneconomic (*i.e.*, more expensive) for ratepayers under all scenarios.

- The analysis also included inaccurately low fuel prices for the continued operation of the Dolet Hills plant.

- When those erroneous inputs are corrected in the model itself, a majority of the scenarios in the Company's own economic model favor retiring and replacing Dolet Hills rather than retrofitting it as the least-cost option for ratepayers.

- Moreover, the retrospective analysis assumed the plant would incur zero additional capital costs to meet impending and existing (non-carbon) environmental compliance obligations, even though the Company had information that it would need to invest in technology to comply with Clean Water Act requirements, and that it might need to replace or upgrade its thirty-year old scrubber.

- SWEPCO's witness admitted that the capital costs of installing a scrubber at Dolet Hills "would change" the outcome of his analysis, and could "reverse" his conclusion that the retrofit was the least cost option for ratepayers.

- SWEPCO's retrospective economic analysis fails to satisfy the Company's heavy burden of demonstrating that the Dolet Hills retrofit investment was prudent.

Rate Base – Flint Creek, Pirkey, and Welsh Units 1 and 3

FOF ¶¶ 48–52. Sierra Club takes exception to these proposed findings insofar as they find that SWEPCO met its burden to show that the Company prudently decided to invest more than $638 million in pollution controls necessary to continue operating Welsh Units 1 and 3, Flint Creek, and Pirkey.

- Sierra Club proposes the following findings instead:

  - The record demonstrates that SWEPCO's analyses ignored or improperly evaluated at least four key variables that biased the Company's analysis toward retrofitting rather than replacing Welsh Units 1 and 3, Flint Creek, and Pirkey.

  - SWEPCO's Early 2011 Unit Disposition analyses relied on forecasts that were out of date or significantly higher than those widely used in the industry at the time, including forecasts that SWEPCO had in its possession at the time. SWEPCO had in its possession other industry forecasts showing that gas prices would follow a new, significantly lower trajectory for the mid- to long-term. Had SWEPCO relied upon the significantly-lower and widely-accepted industry gas price forecasts, the results of the unit disposition analyses would have shown that retrofitting the Welsh, Flint Creek, and Pirkey units was more expensive to customers than replacing the units.

- SWEPCO also failed to properly evaluate or model the real environmental compliance costs associated with known or proposed regulations.

- The timing of those assumed costs is critically important to any "retire or replace" analysis. Deferring those capital investments to a later date results in a cost savings under any retrofit analysis, whereas assuming the costs occur sooner in time increases the cost of retrofitting the units. In the Company's final Unit Disposition analysis, in May 2011, the Company departed from its earlier assumptions about compliance timeframes, and assumed that it would not incur any additional costs associated with significant air pollution regulations until the mid- to late-2020s, if at all. This single changed variable likely resulted in nearly a half billion dollar change in the expected cost of the retrofit scenario for the Welsh units—flipping the retrofit scenario from a net $38 million liability to customers under the Company's (flawed) low-band gas price to a $522 million benefit. For Flint Creek, those environmental cost assumptions resulted in a $57 million liability under the April 2011 low gas scenario.

- SWEPCO failed to properly evaluate or model Welsh 1 and 3 separately, as the Company had done with Welsh 2.

- SWEPCO arbitrarily ignored the availability of lower cost alternatives to replacing its coal units with new NGCC units. Evidence demonstrates that the Company was aware that alternatives, such as converting its existing coal units to natural gas, purchasing existing gas units, purchasing replacement capacity, power purchase agreements, renewable energy options such as solar could result in lower costs.

- SWEPCO thus failed to satisfy its burden of demonstrating that it acted reasonably and prudently planned and constructed the environmental retrofit projects at Flint Creek, Pirkey, and Welsh Units 1 and 3.

<u>Distributed Generation</u>

FOF ¶ 319. Sierra Club takes exception to the proposed finding that "a five-year transition period is reasonable to mitigate the effect of the new DRG rate on the 47 existing DRG customers on the SWEPCO system." Rather, as discussed above, Sierra Club submits that no time limit on the grandfathering period is appropriate; or, alternatively, if one is to be imposed, that a period measured by the useful life of the installed equipment or, alternatively, 20 years from the date of the interconnection or the forthcoming order would be fair and appropriate.

- Sierra Club proposes instead: "SWEPCO's proposal to indefinitely grandfather existing DRG customers is fair to those customers who invested in reliance on the current tariff, will have a near-zero effect on rates and revenue, is consistent with grandfathering precedent in other jurisdictions, and is otherwise reasonable." *OR* "It is reasonable to grandfather the current DRG tariff for existing DRG customers for a period of [the useful life of their DRG equipment *OR* 20 years from the date of their DRG equipment's interconnection *OR* 20 years from the date of this Order]."

Other Issues

FOF ¶ 345. To the extent that the proposed finding, "SWEPCO generation is to bid into the SPP IM based on 'offer' curves that represent the incremental cost of dispatching generation at any given point of dispatch," means to find, further and implicitly, that SWEPCO should never consider, among other things, whether its *total variable costs* are consistently exceeding its SPP energy market revenues, Sierra Club takes exception to such finding. Sierra Club submits that the Company should consider the latter, as discussed above.

FOF ¶ 346. Sierra Club takes exception to the proposed finding, "The evidence establishes that SWEPCO has correctly bid its coal units into the SPP IM based on the incremental costs of the units and has realized revenues in excess of the associated incremental costs from the SPP IM," insofar as it suggests that SWEPCO "correctly" should not take into account the comparison of *total variable* costs to SPP energy market revenues. Sierra Club submits that the Company should consider the latter because, as explained with greater detail and lucidity above, that latter comparison bears on whether the Company later saddles its ratepayers with an additional price to cover the expense that could have been avoided if SWEPCO had not generated and dispatched but rather had simply supplied its customers with cheaper-produced energy acquired from the SPP market without itself dispatching. Even assuming that SWEPCO's bid calculation method is consistent with SPP market protocols, that does not excuse the Company from considering as a threshold matter whether its bidding practices and patters are ultimately serving to increase its customers' bills unnecessarily. Sierra Club further takes exception insofar as this FOF suggests that the calculation of revenues above *incremental* costs is the sole relevant determinant of the economic rationality of generating and dispatching into SPP, for essentially the same reason.

- Sierra Club proposes instead, in lieu of **FOF ¶¶ 345 and 346**:
    - The record establishes that, from at least 2015 through 2016, SWEPCO chose to pre-commit to dispatch its solid-fuel units into the energy market of SPP IM for steady, months-long stretches of time when units' total variable costs of energy production discernibly exceeded the total revenues that the Company received from bidding and selling that energy into the marketplace. As detailed in Sierra Club's expert analysis, based on data provided largely by SWEPCO itself, the Company consistently bid each of its solid fuel units into the energy market at prices markedly below their total

variable energy-production costs for months-long uninterrupted spans of time. As a result, SWEPCO received less revenue from selling that energy on the market than its total operational costs. All told, for these discerned stretches of uneconomical dispatch, SWEPCO's total variable energy-production costs exceeded its energy market revenues by a total of $20.5 million from 2015 through 2016 for the Pirkey, Flint Creek, Dolet Hills, Turk, and Welsh units combined

- The record does not reflect any regulatory obligation requiring SWEPCO to dispatch in the manner it has (*e.g.*, some requirement to dispatch for reliability purposes). The record does, however, reflect that SWEPCO could have supplied its customers with power acquired from the SPP IM without itself generating and dispatching.

- SWEPCO's core response to Sierra Club's argument has consistently been to attack Sierra Club's premise: SWEPCO contends that comparing total variable costs of producing energy to the revenues it earns from selling that energy on SPP's IM is inapposite to Company decision-making. To that end, SWEPCO explains that it simply pre-commits to dispatch units as a matter of course, and adjusts output levels based on incremental costs without even considering how total variable costs compare to its market revenues.

- SWEPCO's admitted failure to compare its total variable costs to its market revenues means that the Company does not take into account whether it is incurring losses by virtue of choosing to generate and dispatch—losses that are documented in the record and, on this record, were utterly avoidable.

- Because those net variable operating losses—incurred during the long, steady stretches of discernibly uneconomic dispatch—were unnecessary and otherwise unjustified, it is unreasonable for the Company to ask its ratepayers to subsidize the resultant financial losses, billing its customers not only for the market cost of energy but *also* for the differential between the market cost and the Company's own higher total variable costs of generation. *See* 16 TAC §§ 25.231(b), 25.235(a), 25.236(d)(1)(a).

- SWEPCO secondarily asserted that Sierra Club's cost-revenue calculus inappropriately excluded revenues that the Company receives from two sources other than energy sales, namely the sale of ancillary services, and congestion related revenues. Notably, even adding the $17 that SWEPCO identifies as associated with ancillary services and congestion-related revenues would not cover the $20.5 million shortfall that Sierra Club has identified.

- In any event, SWEPCO's suggestion to add such revenues is unreliable, at least based on this record, for at least three defects. First, the Company was unable clearly to confirm whether, how, or to what extent such revenues are in fact dedicated towards offsetting the Company's total variable costs of energy production; yet such accounting would be necessary in order for these extra revenues to have the relevance SWEPCO suggests they should, to avoid misleadingly double-counting those revenues as benefits in both this context and some other computation bearing on ratepayer contributions. Second, that argument fails to recognize that certain of these other revenues are mutually exclusive with energy revenues. Third, the Company suggested only factoring in the *revenues* from ancillary and congestion services, yet conceded that they also carry their own unique costs, which are independent from and additional to the variable energy-production costs, that SWEPCO's $17 million figure does not likewise account for.

- Accordingly, it is appropriate to reduce SWEPCO's requested revenue in the $20.5 million amount that, the record shows, it unnecessarily incurred by pre-committing to dispatch during steadily and obviously uneconomic months, when units' total variable costs of energy production were substantially exceeding their total energy market revenues.

- Furthermore, SWEPCO is advised that, whether or not the Company chooses to revisit its dispatch paradigm, the Company will not in the future be allowed to recover unnecessary and unreasonable operating expenses of the kind, and under the circumstances, discussed in this case—when: (a) the Company is under no regulatory obligation to dispatch its units continuously at minimum levels; (b) its units are running and dispatching uneconomically—on a net basis when comparing a unit's total variable costs of energy production to its total market revenues—for substantial, steady periods of time (*e.g.*, uninterrupted periods of months) that, as such, reasonably could have been predicted or promptly discerned; *and* (c) the Company has the ability to serve its customers with market-acquired energy without generating power itself.

B. Conclusions of Law

Sierra Club takes exception to **COL ¶ 18** and provides a clarification regarding **COL ¶ 31**.

<u>COL ¶ 18</u>. Sierra Club takes exception to the proposed conclusion that "SWEPCO prudently determined to implement the environmental compliance retrofits at its Dolet Hills, Flint Creek, Pirkey, and Welsh Units 1 and 3 generating facilities."

- Sierra Club proposes instead:

- SWEPCO failed entirely to carry its burden to prove that its Dolet Hills retrofit decision was prudent, in light of the Company's failure to conduct prudent contemporaneous analysis as well as its failure to present retrospective analysis, as an alternative method of showing prudence, in a procedurally proper manner [or, in the alternative to that procedural ground: ...as well as its failure to carry its "heavy burden" to show prudence through the method of post hoc retrospective analysis]. Therefore the SWEPCO's request to add the cost of the Dolet Hills retrofit to rate base is wholly denied.
- SWEPCO failed to carry its burden to prove that its actual contemporaneous decision-making behind the retrofit decisions pertaining to Flint Creek, Pirkey, and Welsh Units 1 and 3 Hills were prudent. SWEPCO will therefore be disallowed ten percent of those costs, and accordingly may add only ninety percent of those retrofits' respective costs to rate base.

COL ¶ 31. Sierra Club has no exceptions to the PFD's *wording* of the proposed conclusion that "SWEPCO's rates, as approved in this proceeding, are just and reasonable in accordance with PURA § 36003"; Sierra Club only takes exception insofar that means to reincorporated the foregoing, substantive findings and conclusions of the PFD to which Sierra Club has taken exception as provided above.

C. Proposed Ordering Paragraphs

Sierra Club has no exceptions to the PFD's wording of the proposed ordering paragraphs; Sierra Club only takes exception insofar as they substantively reincorporated the foregoing parts of the PFD to which Sierra Club has taken exception. Therefore, Sierra Club offers no exception to the form of the PFD's proposed ordering paragraphs provided that the Commission concurred with Sierra Club's critiques and its proposed new findings of fact and conclusions of law above.

Dated this 16th day of October, 2017.

Respectfully submitted,

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Counsel for Sierra Club & Lawrence Brough

CERTIFICATE OF SERVICE

I, Joshua Smith, certify that a copy of Sierra Club and Dr. Lawrence Brough's Exceptions to the Proposal for Decision was served on October 16, 2017, upon the parties of record in this proceeding by hand delivery, fax, and/or U.S. Mail.

By: ____________________

Joshua Smith
Counsel for Sierra Club & Lawrence Brough