
**SOAH DOCKET NO. 473-17-1764
PUC DOCKET NO. 46449**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

REDACTED

**Cross-Rebuttal Testimony of
Rachel S. Wilson**

**On Behalf of
Sierra Club & Dr. Lawrence Brough**

May 19, 2017

**Synapse Energy Economics, Inc.
Cambridge, Massachusetts**

Table of Contents

I. INTRODUCTION..... 1

**II. MR. NORWOOD FAILS TO ACKNOWLEDGE REASONABLY
ANTICIPATED CONDITIONS IN THE ELECTRIC SECTOR THAT LED
TO THE PRUDENT RETIREMENT OF WELSH 2..... 2**

**III. MR. NORWOOD IGNORES ENVIRONMENTAL COMPLIANCE
OBLIGATIONS AT WELSH 2 THAT FAVORED RETIREMENT 7**

V. [REDACTED] 13

VI. CONCLUSIONS AND RECOMMENDATIONS 15

1 **I. INTRODUCTION**

2 **Q. Please state your name, business address, and position.**

3 A. My name is Rachel Wilson and I am a Senior Associate with Synapse Energy
4 Economics, Incorporated (“Synapse”). My business address is 485 Massachusetts
5 Avenue, Suite 2, Cambridge, Massachusetts 02139.

6 **Q. Are you the same Rachel Wilson who submitted Direct Testimony in this**
7 **proceeding?**

8 A. Yes.

9 **Q. What is the purpose of your cross-rebuttal testimony in this proceeding?**

10 A. My cross-rebuttal testimony below responds to the Direct Testimony of Mr. Scott
11 Norwood, witness for Cities Advocating Reasonable Deregulation (“CARD”),
12 regarding the prudence of the retirement of Welsh Unit 2.

13 **Q. Please summarize the bases of Mr. Norwood’s determinations regarding**
14 **Welsh 2.**

15 A. According to Mr. Norwood, Southwestern Electric Power Company’s
16 (“SWEPCO” or “the Company”) analysis of Welsh 2 featured two primary flaws
17 that rendered the Company’s retirement decision imprudent.¹ First, Mr. Norwood
18 asserts that the Company unnecessarily assumed that flue gas desulphurization
19 (“FGD”) and selective catalytic reduction (“SCR”) emission control technologies
20 were needed at the unit.² Second, Mr. Norwood states that the Company
21 inappropriately assumed a price on carbon dioxide (“CO₂”) that drove the results
22 of SWEPCO’s analysis to favor retirement rather than retrofit at Welsh 2.³

¹ See Direct Testimony of Scott Norwood at 19:19-26 (Apr. 25, 2017) (identifying “two major problems with SWEPCO’s Early-2011 analyses”).

² Direct Testimony of Scott Norwood at 10:13-16, 13:3-13, 19:19-22.

³ Direct Testimony of Scott Norwood at 10:13-16, 13:3-13, 19:22-25.

1 Mr. Norwood contends that the Company failed to correct these errors in spring
2 2012—a point by which SWEPCO should have re-evaluated its decision to retire
3 Welsh 2, yet did not do so because of the Company’s settlement with Sierra Club
4 and to avoid delays in the timely completion of the Turk power plant.⁴

5 **Q. Please provide a summary of your conclusions regarding Mr. Norwood’s**
6 **analysis of the prudence of Welsh 2’s retirement.**

7 A. After reviewing Mr. Norwood’s testimony, I find that he does not provide any
8 evidence that SWEPCO’s decision to retire Welsh 2 was imprudent. His analysis
9 and recommendations rely in part on incorrect characterizations of the
10 contemporaneous and prospective regulatory landscape at the time SWEPCO
11 decided to retire the unit. Moreover, Mr. Norwood fails to incorporate into his
12 analysis the costs associated with environmental compliance at Welsh 2, other
13 factors that would have affected SWEPCO’s evaluation of the economics of the
14 unit, as well as the potential risks associated with the construction and operation
15 of the Turk plant. Finally, Mr. Norwood makes several calculation errors that
16 incorrectly represent the benefits of the continued operation of Welsh Unit 2.

17 **II. MR. NORWOOD FAILS TO ACKNOWLEDGE REASONABLY**
18 **ANTICIPATED CONDITIONS IN THE ELECTRIC SECTOR THAT LED**
19 **TO THE PRUDENT RETIREMENT OF WELSH 2**

20 **Q. What is the primary basis for Mr. Norwood’s argument that the retirement**
21 **of Welsh 2 was imprudent?**

22 A. Mr. Norwood asserts that FGD and SCR controls were unnecessarily assumed by
23 the Company in forward-looking calculations contemplating compliance with the
24 pending Cross-States Air Pollution Rule (“CSAPR”), the Mercury and Air Toxics
25 Standard (“MATS”), the Regional Haze Rule and associated Best Available
26 Retrofit Technology (“BART”) requirements, and the Prevention of Significant

⁴ Direct Testimony of Scott Norwood at 15:3–16:15, 17:4–19:15.

1 Deterioration (“PSD”) permitting program. He also states that SWEPCO erred
2 when the Company included in its analysis costs incurred in response to carbon-
3 related regulation.

4 **Q. Do you agree that it was imprudent for SWEPCO to assume that FGD and**
5 **SCR controls would be necessary for compliance at Welsh 2?**

6 A. No. During the Company’s decision period at issue in this docket, it was expected
7 in the electric industry that the combined CSAPR and MATS rules would require
8 installation of these technologies to meet emission limits. A November 2011
9 study by the North American Electric Reliability Corporation (“NERC”) states
10 that the SO₂ limit under MATS “effectively requires bituminous and lignite coal-
11 fired units to retrofit a FGD scrubber (at \$400-\$900/kW) and a dry sorbent
12 injection (\$50/kW) or spray dry scrubber (\$500-\$900/kW) on sub-bituminous
13 coal units.”⁵ A similar contemporaneous study done by ICF International for the
14 Edison Electric Institute required in its Base Case that all coal units install a wet
15 or dry FGD unit, as well as activated carbon injection and a baghouse in order to
16 comply with regulations on mercury and air toxics, as well as SCR by 2018 to
17 comply with NO_x restrictions.⁶ Given these assumptions, it was both reasonable
18 and prudent for SWEPCO to have assumed that FGD and SCR controls would be
19 necessary for compliance at Welsh 2.

20 **Q. Do you agree that it was imprudent of SWEPCO to include a price on CO₂ in**
21 **its analysis of Welsh 2?**

22 A. No. Mr. Norwood calls the inclusion of a CO₂ price in SWEPCO’s analysis an
23 “unfounded assumption.”⁷ However, prudence is not determined retrospectively

⁵ NERC, *Potential Impacts of Future Environmental Regulations*. extracted from the 2011 Long-Term Reliability Assessment, at 140 (2011), available at <<http://www.nerc.com/files/epa%20section.pdf>>.

⁶ ICF International for the Edison Electric Institute, *Potential Impacts of Environmental Regulation on the US Generation Fleet*, at iv (2011), available at <https://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2011_IRP/EEIModelingReportFinal-28January2011.pdf>.

⁷ Direct Testimony of Scott Norwood at 16:26-28.

1 with the benefit of perfect hindsight; rather, it is evaluated based on what was
2 known and reasonably foreseeable at the time of the relevant decisions. To that
3 end, with respect to the apparent probability and cost implications of CO₂
4 regulation at the time of SWEPCO's Welsh 2 retirement decision-making, most
5 utilities assumed that regulations were imminent in SWEPCO's decision period at
6 issue in this docket and thus prudently included a CO₂ price in their Reference
7 Case forecasts for resource planning purposes.⁸

8 **Q. Do you believe that reasonable electric system resource planning includes**
9 **only those risk factors that can be known with certainty?**

10 A. Absolutely not. The purpose of examining proposed and expected regulations is to
11 examine if a utility would make different choices in the near term in light of
12 future risks, and make prudent choices in light of the likelihood and
13 corresponding costs of those risks. Accordingly, the economic viability of existing
14 units should be tested rigorously in the face of anticipated, not only current, risk
15 factors. Thus, SWEPCO should have considered the costs of all environmental
16 regulations that were reasonably anticipated to affect its solid fuel fleet during the
17 analysis period. In this case, that prudent consideration would have included not
18 only the CSAPR, MATS, Regional Haze/ BART, and PSD regulations, but also
19 other regulations that were pending but not final at the time, like the Coal
20 Combustion Residuals ("CCR") rule (the costs of which were included in
21 SWEPCO's analysis), Effluent Limitation Guidelines ("ELGs") and updates to
22 the National Ambient Air Quality Standards ("NAAQS"). Additionally, in light of
23 the Supreme Court's decision in *Massachusetts v. EPA*, EPA's carbon pollution
24 endangerment finding under the Clean Air Act, and a subsequent settlement
25 agreement, which together required EPA to regulate carbon emissions from power
26 plants by a date certain, any prudent utility would have also incorporated
27 compliance with carbon regulations into its analysis of whether to retire or retrofit

⁸ Direct Testimony of Rachel Wilson at 38:12–40:2 & Figure 3.

1 a facility.⁹ Indeed, during the relevant decision period, most utilities, including
2 SWEPCO’s parent company, incorporated and relied on carbon costs in their
3 Reference forecasts, as is shown in Figure 3 of my Direct Testimony.¹⁰

4 **Q. Were there any additional factors affecting Welsh 2 during this time period**
5 **that were ignored by Mr. Norwood?**

6 A. Yes. Mr. Norwood completely ignores the critical fact that the development of the
7 shale gas industry had led to a dramatic decline in natural gas prices during 2011
8 and 2012, which would have affected the economics of Welsh 2. Table 2 of Mr.
9 Norwood’s testimony shows that, under a Low Band Scenario with low natural
10 gas prices, SWEPCO’s results favor retirement of Welsh 2.¹¹ And, as I discussed
11 in my Direct Testimony, and Kevin Woodruff also discussed in his Direct
12 Testimony on behalf of the Office of Public Utility Council (“OPUC”), the
13 natural gas price forecast used in SWEPCO’s Early 2011 Analyses, as well as all
14 subsequent analyses, were much higher than other contemporary third party
15 forecasts. Thus, whereas Mr. Norwood fails to acknowledge this key factor, the
16 use of a more reasonable contemporaneous natural gas price forecast favored
17 retirement at Welsh 2 by an even greater margin than what SWEPCO considered.

18 Mr. Norwood notes that in Spring 2012, a panel of SWEPCO experts reevaluated
19 the compliance cost estimates at the Welsh units, which resulted in a reduction in
20 the cost of the necessary environmental retrofits. He cites this as evidence to
21 support his assertion that the retrofits at Welsh 2 were in fact more economic than
22 retirement of the unit. However, Mr. Norwood fails to note that a reevaluation of
23 the economics with an updated forecast of natural gas prices would have had the
24 opposite effect, favoring retirement of Welsh 2. That conspicuous omission in Mr.

⁹ See 75 Fed. Reg. 82,392 (Dec. 30, 2010) (notice of Settlement Agreement in *State of New York, et al. v. EPA*, No. 06–1322 (2d Cir.), requiring EPA to issue regulations for carbon emissions from new and existing sources by a certain date and following the Supreme Court’s decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007)).

¹⁰ Direct Testimony of Rachel S. Wilson at 6:23–17:4 (Apr. 25, 2017) & Exhibit RSW-2.

¹¹ Direct Testimony of Scott Norwood at 10: Table 2.

1 Norwood’s analysis, among other errors, is fatal to his conclusion that Welsh 2’s
2 retirement was imprudent.

3 Finally, Mr. Norwood repeatedly asserts that SWEPCO should have re-evaluated
4 the prudence of retiring Welsh 2 based on the Spring 2012 environmental
5 compliance assessment, but fails to acknowledge the December 2011 federal
6 district court order requiring the Company to retire the unit. The reasonableness
7 of SWEPCO’s 2011 retrofit decision must be judged in light of the circumstances,
8 information, and available options existing at the time, without benefit of
9 hindsight.¹² The Company’s Spring 2012 assessment is not relevant to the
10 prudence of retiring Welsh 2 because the Company was no longer in a position to
11 re-evaluate the binding order to retire the unit. Mr. Norwood’s testimony fails to
12 account for this fact, and fails to evaluate or quantify the litigation costs or
13 construction delay costs that would have been associated with refusing to comply
14 with the court order.

15 **Q. In conclusion, what is the outcome of a retrofit versus retirement analysis at**
16 **Welsh 2 taking into account the reasonably anticipated environmental**
17 **regulations and the updated forecasts of natural gas prices, each of which**
18 **Mr. Norwood’s analysis fails to recognize?**

19 A. The consideration of these factors certainly favored retirement of Welsh 2.

¹² *E.g.*, Public Utility Commission of Texas, *Application of Southwestern Electric Power Company for Authority to Change Rates and Reconcile Fuel Costs*, Docket No. 40443, Order on Rehearing at 5 (Mar. 6, 2014).

1 **III. MR. NORWOOD IGNORES ENVIRONMENTAL COMPLIANCE**
2 **OBLIGATIONS AT WELSH 2 THAT FAVORED RETIREMENT**

3 **Q. Does Mr. Norwood make any statements about the control technologies and**
4 **associated costs that would have been necessary at Welsh 2 in order to**
5 **comply with any environmental regulations?**

6 A. No, he does not. In fact, in Table 4 of his testimony, Mr. Norwood unfoundedly
7 assumes that environmental compliance costs at Welsh 2 are **zero** over
8 SWEPCO's analysis period from 2011 to 2040

9 Mr. Norwood states that after the Company's Spring 2012 analysis, which
10 revisited the necessary environmental controls at its solid fuel units, compliance
11 costs for the fleet dropped by 73 percent.¹³ However, as shown in Table 4 in his
12 testimony, that assumes that costs of environmental controls at Welsh 2 have
13 dropped from \$513.9 million to zero, implying that if SWEPCO had not been
14 subject to a court ordered requirement to retire the unit, there would have been no
15 environmental compliance costs whatsoever at Welsh 2.¹⁴ To be sure, Welsh 2's
16 retrofit costs are zero because, plainly, SWEPCO chose to retire the unit instead
17 of comply. However, had Welsh 2 continued to operate, SWEPCO would have
18 had to install environmental controls at the unit at some cost.¹⁵ Mr. Norwood thus
19 falsely represents the costs associated with environmental compliance at Welsh 2
20 in particular, as well as for SWEPCO's solid fuel fleet as a whole.

21 **Q. With which environmental regulations would Welsh 2 have had to comply?**

22 A. SWEPCO's evaluation of the economics of Welsh 2 considered the CSAPR,
23 MATS, Regional Haze, PSD, and CCR rules. These rules represent the minimum
24 with which SWEPCO would have to comply. As noted above, I state in my direct

¹³ Direct Testimony of Scott Norwood at 14:25-28.

¹⁴ Direct Testimony of Scott Norwood at 14:22-15:2 & Table 4.

¹⁵ Direct Testimony of Mark A. Becker at 13: Table 3.

1 testimony that SWEPCO should have also considered environmental regulations
2 relating to ELGs and revisions to the NAAQS.¹⁶

3 **Q. How would the continued operation of Welsh 2 have affected SWEPCO's**
4 **compliance with CSAPR, for one?**

5 A. The continued operation of Welsh 2 naturally would have resulted in additional
6 emissions of SO₂ and NO_x, regulated under CSAPR. Mr. Norwood failed to
7 evaluate whether compliance with CSAPR would have led to additional costs at
8 Welsh 2 through the installation of emission control technologies or through the
9 purchase of additional emissions allowances for SO₂ and NO_x—SWEPCO's
10 current compliance strategy.¹⁷

11 **Q. Did Mr. Norwood consider any CSAPR compliance costs in his evaluation of**
12 **Welsh 2?**

13 A. No, he did not. As such, his calculations may be skewed towards the conclusion
14 that retrofitting would have been more economical than retirement.

15 **Q. How would the continued operation of Welsh 2 have affected SWEPCO's**
16 **compliance with MATS?**

17 A. If the same technologies installed at Welsh Units 1 and 3 would have also been
18 necessary at Welsh 2 for MATS compliance (which is a well-founded assumption,
19 unlike Mr. Norwood's treatment of the three units as equivalent for purposes of
20 cost comparison), MATS would have necessitated the installation of activated
21 carbon injection ("ACI") as well as a baghouse.¹⁸

22 **Q. Did Mr. Norwood consider those MATS compliance costs in his evaluation of**
23 **Welsh 2?**

24 A. No, he did not. This failure further skews his calculations in favor of retrofitting.

¹⁶ Direct Testimony of Rachel Wilson at 6:23–17:4 & Exhibit RSW-2.

¹⁷ Direct Testimony of John C. Hendricks at 8:5-7 (Dec. 2016).

¹⁸ SWEPCO Response to OPUC RFI 1-8, Attachment 1 (Mar. 2, 2017).

1 **Q. How would the continued operation of Welsh 2 have affected SWEPCO’s**
2 **compliance with the Regional Haze Rule?**

3 A. Welsh 2 is a BART-eligible unit under the Regional Haze Rule.¹⁹ As described by
4 Michael Nasi in his Direct Testimony in support of the Company’s application,
5 the U.S. Environmental Protection Agency (“EPA”) considered requiring FGDs at
6 the Welsh Units under the Texas Reasonable Progress Federal Implementation
7 Plan (“FIP”); and while EPA concluded that FGDs were not merited at the time,
8 “nothing about the reasonable progress FIP ensured that such controls would not
9 be imposed in the not-so-distant future under a BART FIP, which, as previously
10 noted, does in fact impose such controls.”²⁰

11 Moreover, when SWEPCO decided to retire Welsh 2, the Company knew or
12 should have known that it could be required to install best available control
13 technology, such as FGD for SO₂ or SCR technology for NO_x. Indeed, by 2012,
14 several other states had already submitted Regional Haze State Implementation
15 Plans (“SIPs”) required similarly-sized and vintage coal-fired electric generating
16 units to install such controls.²¹ Further, EPA’s regional haze regulations make
17 clear that “presumptive” BART SO₂ emission rates for eligible units, such as
18 Welsh 2, require either 95% reduction in emissions or meeting an emission rate of
19 0.15 lb/mmBTU.²² These rates are typically achieved through the installation of a
20 scrubber. Thus, at the time SWEPCO was evaluating whether to install MATS

¹⁹ Direct Testimony of Michael J. Nasi at 21:9 (Dec. 2016).

²⁰ Direct Testimony of Michael Nasi at 23: 3-5.

²¹ See, e.g., 76 Fed. Reg. 49,711 (Aug. 11, 2011) (proposed rule approving BART determination that required scrubber at Hudson power plant in New Jersey); 76 Fed. Reg. 52,617 (Aug. 23, 2011) (proposing to approve Kansas SIP that required scrubbers as BART for La Cygne and Jeffrey Energy plants); 76 Fed. Reg. 58,596 (Sept. 21, 2011) (proposal to approve scrubbers as BART for Stanton and Milton R. Young power plants in North Dakota); 76 Fed. Reg. 76,646 (Dec. 8, 2011) (EPA finalizing South Dakota Regional Haze BART determination requiring scrubber to control SO₂ emissions at Big Stone); 76 Fed. Reg. 78194 (Dec. 16, 2011) (proposing to approve Kentucky Regional Haze SIP that required scrubbers as BART for HL Spurlock and Cooper power plants); 77 Fed. Reg. 24,028 (Apr. 12, 2012) (proposed rule requiring scrubber as BART for Colstrip power plant in Montana); 77 Fed. Reg. 72,512, 72,548 (Dec. 5, 2012) (finalizing rule proposed in July 2012, which required scrubber at Cholla power plant in Arizona).

²² 40 C.F.R. Pt. 51, App’x Y § (IV)(E)(4).

1 controls or retire Welsh 2, any prudent utility operator would have also
2 considered the additional risk and potential cost of complying with the Regional
3 Haze Rule’s BART requirements.

4 **Q. Did Mr. Norwood consider Regional Haze or PSD compliance costs in his**
5 **evaluation of Welsh 2?**

6 A. No, he did not. In fact, without citing any source and without conducting any
7 analysis, Mr. Norwood suggests that there was “[a]bsolutely no[.]” need to limit
8 emissions from Welsh 2 to protect air quality in the Caney Creek National
9 Wildlife Refuge.²³ In fact, as noted Welsh 2 was BART-eligible, meaning that it
10 would be required to install the best available retrofit technology if it were found
11 to be a sufficient contributor to visibility impairment at any protected area,
12 including Caney Creek. As SWEPCO notes in its application, and as EPA,
13 Arkansas, and Texas recognized, the unit did, in fact, contribute to visibility
14 impairment, and therefore would have required BART.²⁴ Again, such an
15 omission serves further to mask the true economics that contemporaneously
16 supported SWEPCO’s decision to retire Welsh 2.

²³ Direct Testimony of Scott Norwood at 18:23.

²⁴ Direct Testimony of McCellon-Allen at 33; *see also* Arkansas Department of Environmental Quality, Regional Haze Rule, State Implementation Plan, App’x 10-2 at 41-42 (Sept. 9, 2008) (depicting impacts from Welsh power plant to Caney Creek), available at <<https://www.regulations.gov/document?D=EPA-R06-OAR-2008-0727-0002>>; *id.*, App’x 2.1 at 18-19, 34 (EPA comments to Arkansas noting that East Texas coal plants, which includes Welsh, have greater impacts to Caney Creek than Arkansas plants); Texas Commission on Environmental Quality, revisions to the State Implementation Plan Concerning Regional Haze, Project No. 2007-016-SIP-NR at 11-21 (Feb. 25, 2009) (noting East Texas impacts to Caney Creek), available at <https://www.tceq.texas.gov/airquality/sip/bart/haze_sip.html>.

1 **IV. MR. NORWOOD'S WELSH 2 DETERMINATIONS ARE PREMISED ON**
2 **CALCULATION ERRORS**

3 **Q. Mr. Norwood presents a number of calculations to support his assertion that**
4 **Welsh 2 should have continued to operate. Do you agree with his**
5 **methodology and the resulting values of the benefits associated with the**
6 **operation of Welsh 2?**

7 A. No. The calculations that Mr. Norwood makes throughout his testimony in
8 support of retrofitting Welsh 2 are flawed and the resulting values that he presents
9 throughout his testimony are inaccurate, thus they should not be adopted by the
10 Commission. Specifically, Mr. Norwood makes the following errors, discussed
11 further below:

- 12 1. In Table 2 of his testimony, Mr. Norwood incorrectly takes an average of all
13 the scenarios analyzed by SWEPCO in its Early 2011 Analyses and concludes
14 that there are benefits to retrofitting Welsh 2 that average \$71 million in
15 CPWRR.
- 16 2. In Table 2 of his testimony, Mr. Norwood incorrectly combines the
17 compliance costs associated with all three Welsh Units and quantifies the
18 decline in cost that SWEPCO experienced from the Early 2011 Analyses to
19 that which was ultimately incurred by the Company.
- 20 3. Finally, Mr. Norwood makes unsupported assertions about the cost of
21 replacement energy due to the retirement of Welsh 2.

22
23 **Q. Why is Mr. Norwood incorrect, first, in taking an average of all the Welsh 2**
24 **retirement scenarios to arrive at the conclusion that there are net benefits**
25 **associated with retrofitting the unit?**

26 A. That is problematic for two reasons. First, it is inappropriately simplistic to take a
27 straight average of the Cumulative Present Worth of Revenue Requirements
28 (“CPWRR”) outcome values, because all of the scenarios should not be given the
29 same weight. SWEPCO evaluated the retirement of Welsh 2 under four different
30 scenarios: Path B, Low Band, Base, and CO₂ Sensitivity. It is not correct, as Mr.
31 Norwood’s averaging assumes, that SWEPCO considered each of these scenarios
32 to be equally likely to occur. As part of best practices in resource planning, a

1 utility should evaluate different resource portfolios under a range of sensitivity
2 scenarios in order to determine the areas in which it might be subject to risk. It
3 should also assign probabilities to each of the scenarios it evaluates in order to
4 determine the best and most robust resource portfolio. Therefore, a simple
5 average across all scenarios is not an appropriate statistic to apply to the
6 Company's results.

7 Secondly, SWEPCO did not perform an analysis under each of the four scenarios
8 in each of the five months from January to May 2011. Evaluations under the Path
9 B Scenario were not performed in January or May, and evaluations under the Low
10 Band Scenario were not performed in January, February, or March. The Low
11 Band Scenario favors retirement of Welsh 2, and to take a simple average without
12 three of these (likely negative) values skews the resulting value in the positive
13 direction, i.e., in favor of installing retrofits at the unit.

14 **Q. Why is Mr. Norwood further incorrect to combine the compliance costs for**
15 **the three Welsh Units?**

16 While Welsh Units 1-3 have many similarities, and have some environmental
17 costs in common as a result of being part of the same plant, they should not be
18 considered together for the purposes of environmental compliance, as Mr.
19 Norwood seems to do. Mr. Norwood's testimony generally lumps the three units
20 together throughout his testimony, seeming to assume that the same controls
21 would or would not be required at all of the units for compliance with
22 environmental regulations.²⁵ By way of example, as BART-eligible sources
23 under the Regional Haze Rule, Welsh 1 and 2 were much more likely to require
24 controls than Unit 3.²⁶ It is thus a mistake to assume that all of the Welsh units

²⁵ See, e.g., Direct Testimony of Scott Norwood at 10:6–11:4 & Table 3 (addressing the units collectively: the “compliance costs for the Welsh units,” “the Welsh coal units,” and “Welsh 1, 2 & 3”).

²⁶ Welsh 1 and 2 were BART-eligible units, while Welsh 3 was not. See Direct Testimony of Michael J. Nasi at 21:9.

1 would receive equal treatment under the environmental regulations considered in
2 this docket.

3 **Q. Why are Mr. Norwood’s assertions regarding the prudence of retiring Welsh**
4 **2 and the costs of replacement power problematic?**

5 A. Mr. Norwood states that SWEPCO’s decision to retire Welsh 2 was imprudent
6 because it is “likely to result in approximately \$1 billion of additional replacement
7 power and energy costs over the next 20 years.”²⁷ However, this assertion is
8 flawed for at least three reasons. First, he offers no independent basis or support
9 for either of those estimates in his testimony or his associated workpapers,
10 making it impossible for other parties in this docket to review their accuracy.
11 Second, the only basis for this assertion appears to be conclusory credit opinions
12 issued by third-party credit agencies like Moody’s about the financial condition of
13 the SWEPCO’s parent, AEP, not any specific cost for replacement energy.²⁸
14 Those credit reports do not actually support the proposition for which Mr.
15 Norwood cites them, and it is impossible to meaningfully review those credit
16 agencies’ assumptions. Third, each of the credit reports upon which Mr.
17 Norwood relies is dated 2015 or 2016, more than three years after a court entered
18 an order requiring SWEPCO to retire the unit. As a result, the Commission thus
19 should not give weight to those assertions, unfounded in the record.

20 **V.** [REDACTED]
21 [REDACTED]

22 **Q. Did you review SWEPCO’s bids of Welsh 2 into the Southwest Power Pool**
23 **(“SPP”) compared to the unit’s variable operation and maintenance costs?**

24 A. Yes. I reviewed the bids, energy revenues, and production costs at Welsh 2.

²⁷ Direct Testimony of Scott Norwood at 3:6-7.

²⁸ CARD Response to Sierra Club RFI 1-1 through 1-3 (May 18, 2017) (invoking SWEPCO Response to CARD RFI 1-2).

1 **Q. How has Welsh 2 performed in SPP’s Integrated Marketplace (“IM”)?**

2 A. [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]

9 [REDACTED]

[REDACTED]

10

11 [REDACTED]
12 [REDACTED]
13 [REDACTED]

²⁹ This analysis is based on SWEPCO Response to Sierra Club RFI 2-1, HIGHLY SENSITIVE Attachments 5, 7, and 8; *see* Direct Testimony of Rachel Wilson at 57; *see also id.* at 49-65.

³⁰ Analysis based on SWEPCO’s response to Sierra Club RFI 2-1, HIGHLY SENSITIVE Attachments 4, 5, 6, and 7; *see* Direct Testimony of Rachel Wilson at 56; *see also id.* at 49-65.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]

12 **VI. CONCLUSIONS AND RECOMMENDATIONS**

13 **Q. What are your conclusions regarding Mr. Norwood’s analysis of the**
14 **prudence of the Welsh 2 retirement?**

15 A. After reviewing Mr. Norwood’s testimony, I find that he incorrectly characterizes
16 the regulatory landscape that would have been reasonably considered during the
17 time of SWEPCO’s retirement versus retrofit decision-making; fails to properly
18 incorporate into his analysis the reasonably anticipated costs associated with
19 environmental compliance at Welsh 2, as well as other factors that would have
20 affected the SWEPCO’s evaluation of the economics of the unit; and makes
21 several calculation errors that misstate the true costs and benefits of the continued
22 operation of Welsh Unit 2.

23 **Q. What would the resulting outcome have been if Mr. Norwood had correctly**
24 **accounted for these factors?**

25 A. Had Mr. Norwood correctly accounted for reasonably anticipated environmental
26 compliance costs and natural gas prices, the analysis would have shown that the
27 contemporaneous economics favored SWEPCO’s decision to retire at Welsh 2.

1 **Q. What is your conclusion with respect to the prudence of SWEPCO's decision**
2 **to retire Welsh Unit 2?**

3 A. I believe that SWEPCO made a prudent decision when it announced that it would
4 retire Welsh 2.

5 **Q. Does that conclude your testimony?**

6 A. Yes.

SOAH DOCKET NO. 473-17-1764
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APPLICATION OF SOUTHWESTERN
ELECTRIC POWER COMPANY FOR
AUTHORITY TO CHANGE RATES

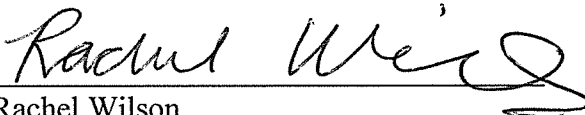
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BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS

AFFIDAVIT OF RACHEL S. WILSON FOR CROSS-REBUTTAL TESTIMONY

State of Massachusetts)
County of Middlesex)

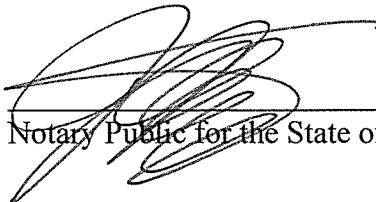
Affiant Rachel S. Wilson, being first duly sworn, states the following: I am of legal age and a resident of the State of Massachusetts. I certify that my Cross-Rebuttal Testimony filed herewith on Friday, May 19, 2017, on behalf of the Sierra Club and Dr. Lawrence Brough, is true and correct to the best of my knowledge and belief after reasonable inquiry.


Rachel Wilson

SUBSCRIBED AND SWORN to me, JANICE CONYERS, notary public, on this 19 day of May, 2017.



JANICE CONYERS
Notary Public
Commonwealth of Massachusetts
My Commission Expires
July 27, 2018


Notary Public for the State of Massachusetts
My Commission expires: 7/27/18