

**BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN**

**Application of Wisconsin Public Service Corporation
for a Certificate of Public Convenience and Necessity
for Construction of a Large Electric Generating Plant
with Associated Facilities, Known as Weston 4, at its
Existing Weston Generating Station Located in
Marathon County**

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Docket No. 6690-CE-187

**Surrebuttal Testimony of
David A. Schlissel and Geoffrey L. Keith**

Synapse Energy Economics, Inc.

**On Behalf of the
Citizens Utility Board of Wisconsin**

August 2, 2004

1 **Q. Mr. Schlissel, please state your name, position and business address.**

2 A. My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy
3 Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

4 **Q. Mr. Keith, please state your name, position and business address.**

5 A. My name is Geoffrey L. Keith. I am an Associate at Synapse Energy Economics,
6 Inc., 22 Pearl Street, Cambridge, MA 02139.

7 **Q. Have you previously submitted testimony in this proceeding?**

8 A. Yes. We filed direct testimony in this proceeding on June 25, 2004 and testimony
9 on Environmental Impact Statement issues on July 16, 2004.

10 **Q. In their rebuttal testimony, Messrs. Daavattila and Harpole argue that the**
11 **addition of Weston 4 will have no impact, or a positive impact, on the fuel**
12 **diversity of WPS's generation portfolio. Do you agree with these arguments?**

13 A. No we do not. First, Mr. Harpole states that the addition of Weston 4 “will not
14 have a significant impact on the fuel diversity of the WPS system.”¹ As noted in
15 our pre-filed direct testimony, under WPS’s plan F2NW, coal-fired capacity will
16 increase from 57.3 percent of WPS’s portfolio in 2003 to 63.9 percent in 2010,
17 despite the purchase of 235 MW from the gas-fired Fox Energy units. This is a
18 significant impact. Further, in terms of energy produced, the increase in coal-
19 fired generation is likely to be even larger than this, as Weston 4 would likely
20 operate at a higher capacity factor than many of WPS’s existing coal-fired units.

21 Second, Mr. Daavattila muses about how to define resource diversity and
22 concludes that the addition of Weston 4 “will help restore the historical diversity
23 of the WPS portfolio.”² As Mr. Daavattila notes, WPS has added several hundred
24 MW of gas-fired generation during the past 23 years, adding much-needed
25 diversity to a heavily coal-dependent company. Adding Weston 4 would reverse

¹ Pre-filed Rebuttal Testimony of David W. Harpole, at page 1, lines 12-13.

² Pre-filed Rebuttal Testimony of Steven J. Daavattila, at page 5, lines 1-9.

1 this trend of diversification – that is, it would add *more* of the resource on which
2 the company is currently *most* dependent. It is difficult to imagine a definition of
3 resource diversity in which this could be seen as restoring historical diversity. In
4 fact, Weston 4 would move WPS back toward its historical level of coal-
5 dependence.

6 Fuel diversity is a fundamental goal of utility portfolio management. It mitigates
7 fuel price risk and the risk of environmental regulatory costs. Further, coal-
8 intensive utilities today are in a particularly precarious position vis-à-vis potential
9 carbon regulations. While carbon regulations in the US remain the source of
10 debate, the magnitude of the cost these regulations would impose on coal-
11 intensive companies makes it imperative that these companies begin hedging
12 against this business risk.

13 **Q. If the Commission approved a CPCN for Weston 4, how much new coal-fired**
14 **capacity would be added in Wisconsin as a result of the Weston 4 and Elm**
15 **Road plants?**

16 A. Together the Weston 4 and Elm Road plants would add another 1,700 MW of
17 new coal-fired capacity to the Wisconsin system.

18 **Q. Does the licensing of so much new coal capacity contradict other actions**
19 **recently taken by the State of Wisconsin to reduce power plant carbon**
20 **dioxide emissions?**

21 A. Yes. The State of Wisconsin along with seven other states and the City of New
22 York have recently filed a lawsuit against five companies that are large emitters
23 of carbon dioxide.³ This lawsuit seeks to have each of the five companies (i) held
24 jointly and severally liable for contributing to an ongoing public nuisance, i.e.,
25 global warming and (ii) enjoined to abate its contribution to global warming by
26 requiring it to cap its carbon dioxide emissions and to reduce those emissions by a
27 specified percentage each year for at least a decade.

1 The lawsuit is based on the damages that carbon dioxide emissions cause through
2 global warming:

3 1. Carbon dioxide is the primary “greenhouse gas.”
4 Greenhouse gases trap atmospheric heat and thus cause global
5 warming. There is a clear scientific consensus that global warming
6 has begun, is altering the natural world, and that global warming
7 will accelerate over coming decades unless action is taken to
8 reduce emissions of carbon dioxide. This Complaint seeks an
9 order requiring defendants to reduce their emissions of carbon
10 dioxide, thereby abating their contribution to global warming, a
11 public nuisance.

12 * * * *

13 3. Global warming already has begun to alter the climate of
14 the United States. The threatened injuries to the plaintiffs and their
15 citizens and residents from continued global warming include
16 increased heat deaths due to intensified and prolonged heat waves;
17 increased ground-level smog with concomitant increases in
18 respiratory problems like asthma; beach erosion, inundation of
19 coastal land, and salinization of water supplies from an accelerated
20 sea level rise; reduction of the mountain snow pack in California
21 that provides a critical source of water for the State; lowered Great
22 Lakes water levels, which impairs commercial fishing, recreational
23 harbors and marinas, and hydropower generation; more droughts
24 and floods, resulting in property damage and hazard to human
25 safety; and widespread loss of species and biodiversity, including
26 the disappearance of hardwood forests from the northern United
27 States.

28 4. The risks of injury to the plaintiffs and their citizens and
29 residents from global warming increase with the speed and
30 magnitude of global warming. The speed and magnitude of global
31 warming is primarily dependent, in turn, upon the level of carbon
32 dioxide emissions. Thus, reducing carbon dioxide emissions
33 reduces the risks of injury to the plaintiffs and their citizens and
34 residents from global warming.

35 The lawsuit also emphasizes that there are practical, feasible and economically
36 viable options for reducing carbon dioxide emissions without significantly
37 increasing the cost of electricity to customers. These options include changing

³ The five defendants in this lawsuit are American Electric Power, Inc., the Southern Company, the Tennessee Valley Authority, Xcel Energy, and Cinergy Corporation.

1 fuels, improving efficiency, increasing generation from zero-or-low-carbon
2 energy sources such as wind, solar, and gasified coal with emissions capture, co-
3 firing wood or other biomass in coal plants, employing demand-side management
4 techniques, altering the dispatch order of their plants, and other measures. To a
5 significant degree, these options mirror the Wisconsin energy priorities law.

6 Licensing new coal-fired generating facilities, especially without requiring the
7 retirement of older, less efficient and dirtier facilities, would seem to be directly
8 contradictory to the State's efforts to reduce or reverse the pace of carbon dioxide
9 emissions and global warming.

10 **Q. Do you agree with the rebuttal testimony of PSCW staff witness Kitsemel**
11 **and WPS witness Daavettila that it is inappropriate to include in the EGEAS**
12 **analyses all of the transmission costs that are needed just because of Weston**
13 **4?⁴**

14 A. No. Although we recognize that it may be difficult to identify all of the
15 transmission upgrades associated with different generation alternatives, we
16 believe it is very important that such costs be considered. Ignoring such
17 transmission costs gives an incomplete picture of the relative economics of a
18 generation project such as Weston 4 compared to other possible central station
19 options. Ignoring the costs of necessary transmission upgrades also provides an
20 unfair advantage to large central station projects, which may need such upgrades,
21 as opposed to energy efficiency efforts, which will not, and distributed generation
22 options, which may not need as substantial upgrades.

23 In effect, not requiring applicants to present real alternative sites for their
24 proposed facilities (e.g. Weston and Pulliam, as opposed to the northern and
25 southern sides of the Weston site) has the effect of undermining those possible
26 locations that would not require significant transmission upgrades to support a
27 new plant.

⁴ Rebuttal Testimony of Jeffery A. Kitsemel, dated July 16, 2004, at page 3, lines 6-11. Pre-Filed Rebuttal Testimony of Steven A. Daavettila, at page 4, lines 1-7.

1 **Q. Does WPS witness Daavettila provide any evidence or analyses to support his**
2 **claim that the costs of necessary transmission upgrades are “in all likelihood**
3 **close to equivalent for most options”?**⁵

4 A. No. Nor is his statement credible without a detailed analysis of the costs of
5 different plant sites.

6 **Q. Do you have any comments regarding the rebuttal testimony of PSCW**
7 **witness Neumeyer and WPS witness Bournonnais which criticized your**
8 **testimony that ATC has stated that “Full generation operation [at Weston 4]**
9 **will not be allowed until all necessary 345-kV lines are placed in service”?**⁶

10 A. Yes. The ATC language cited by both Mr. Neumeyer and Mr. Bourbonnais does
11 state that Weston 4 will be allowed to “operate” before all necessary 345-kV lines
12 are placed in service. However, nothing in their testimony demonstrates that ATC
13 was not serious when it said that **full generation operation** of Weston 4 will not
14 be allowed until all necessary 345-kV lines are in service or that ATC has
15 changed its mind since it made this statement in March 2004.

16 It was not, and is not, our testimony that Weston 4 will not be allowed to operate
17 **at all** before the necessary 345-kV transmission upgrades are in place. Instead,
18 we merely believe that whatever restrictions on Weston 4’s operation will be in
19 effect before the needed 345-kV lines are available must be modeled in the
20 EGEAS analyses. Neither Mr. Neumeyer nor Mr. Bourbonnais identify in their
21 rebuttal testimonies what specific “operating limitations and restrictions” will be
22 placed on Weston 4 in the interim period before full generation operation is
23 allowed by the ATC.

⁵ Pre-Filed Rebuttal Testimony of Steven A. Daavettila, at page 4, lines 6-7.

⁶ Rebuttal Testimony of Donald G. Neumeyer, at page 1, line 13, through page 2, line 11.

1 **Q. Do you find the rebuttal testimony of WPS witness Harpole on the issue of**
2 **whether some of WPS’s older coal-fired capacity should be retired as a**
3 **condition to building Weston 4 to be persuasive?**⁷

4 A. No. First, as we have discussed previously, we disagree with WPS’s claim that
5 the addition of Weston 4 will not adversely impact the Company’s fuel diversity.
6 Second, Mr. Harpole’s concern that WPS will in all likelihood continue to need
7 the Pulliam 3-6 and Weston 1 units to meet its obligation to serve can be
8 addressed if WPS does not sell 150 MW of Weston 4 to the Dairyland Power
9 Cooperative. As we recommended in our testimony, the Commission should
10 establish a proceeding to examine which specific older coal-fired units can and
11 should be retired. That proceeding also could examine precisely what impact the
12 retirement of some of WPS’s older coal-fired units would have on costs.

13 **Q. Do you have any comment on Mr. Daavettila’s claim that you**
14 **mischaracterized what WPS did examine when you referred to “all-gas**
15 **scenarios”?**⁸

16 A. Mr. Daavettila is correct. WPS did not present any “all-gas scenarios” in its Need
17 & Wholesale Planning Analysis Document. Our mistake arose from the fact that
18 WPS summarized the results of its non-coal studies in Exhibit 16-5 of that
19 document under the heading titled “Gas Only.” But Mr. Daavettila is correct that
20 those scenarios whose results are referred to as “Gas Only” also did include some
21 wind and biomass capacity, as well as new gas units.

22 **Q. Have the rebuttal arguments presented in this case persuaded you that**
23 **Weston 4 is WPS’s best capacity expansion option right now?**

24 A. No, they have not. We continue to believe that a plan relying on a mix of
25 resources, including aggressive energy efficiency, renewable energy and gas-fired

⁷ Pre-Filed Rebuttal Testimony of David W. Harpole, at page 1, line 11, to page 2, line 12.

⁸ Pre-Filed Rebuttal Testimony of Steven A. Daavettila, at page 4, lines 17-21.

1 facilities, would better balance the competing goals of minimizing costs, risks and
2 environmental impacts. We believe that the EGEAS modeling performed for this
3 proceeding is informative, but should not carry as much weight as WPS and the
4 PSCW staff are giving it. Having modeled many regional power systems, we
5 understand that models can be excellent analytic tools, but they are rarely able to
6 capture all of the costs and benefits that should be considered. This is especially
7 true where, as here, the results of scenarios that project costs and benefits twenty
8 or more years into the future are relatively close in PVRR.

9 **Q. Please summarize why you believe that Weston 4 is not an attractive option**
10 **for Wisconsin residents and WPS ratepayers.**

11 A. Weston 4 is unattractive to us for three main reasons.

- 12 • The plant would burn low-sulfur coal, and the energy priorities law places
13 four resource options above this fuel in its order of preference. Only high-
14 sulfur fossil fuels are less desirable than low-sulfur coal under the law.
15 Coal imposes greater environmental impacts than the other four resources
16 and poses substantial CO₂ risk to WPS ratepayers.
- 17 • The plant would necessitate considerable new transmission infrastructure.
18 Other resources, such as conservation and load management, distributed
19 generation and cogeneration, would necessitate less. Transmission
20 infrastructure has detrimental social and environmental impacts.
- 21 • The plant would add a large amount of capacity to the WPS system at
22 once. Adding capacity in smaller increments reduces the risk of capacity
23 surpluses that can result from unforeseen events. For example, WPS plans
24 to sell excess capacity from Weston 4 to avoid having surplus capacity on
25 its own system.⁹ If the Company were unable to sell all of the surplus,
26 perhaps due to the severe transmission constraints the Company cites,
27 WPS ratepayers could well be paying for surplus capacity.

28 We believe that, if resource diversity, avoided transmission costs and the hedging
29 value of smaller capacity increments were included quantitatively in WPS's
30 analysis, an option other than Weston 4 would appear superior.

31 Finally, we believe that this proceeding demonstrates the need for substantial
32 changes in the long-term resource planning process used by Wisconsin's utilities.

⁹ Pre-filed Rebuttal Testimony of Steven J. Daavattila, at page 6, lines 6-7.

1 Historically, the Advanced Plan process required WPS to submit an integrated
2 resource plan (i.e., integrating transmission and generation planning) and
3 provided for a contested proceeding around that plan. Intervenors were allowed
4 to critique the plan and suggest improvements. Recently, Act 204 replaced this
5 process with the “Strategic Energy Plan” requirement. WPS is now required to
6 essentially update the Commission on its view of the state’s electricity needs and
7 its plans for meeting those needs. A contested proceeding is not held to review
8 and critique the plan to ensure that the Company is managing growth on its
9 system in an effective way.

10 Now WPS has come to the Commission with a near-term need for significant
11 baseload generating capacity, and the Company has argued that a large, capital-
12 intensive, transmission-intensive, plant, using the fifth of six fuels in the state’s
13 priorities list, is its best capacity expansion option. Further, this “optimal”
14 resource plan (F2NW) includes another large, coal-fired plant in the future. In the
15 context of this proposal, the Strategic Energy Plan process provides little comfort
16 that the Company has aggressively pursued resource options consistent with the
17 state’s priorities. We believe that a process including regular, in-depth contested
18 reviews of the Company’s long-term resource plan, involving a number of parties
19 and a requirement that the Company show that its plan meets key goals, would
20 result in better resource planning in Wisconsin and also better real world results.

21 **Q. Does this complete your surrebuttal testimony?**

22 A. Yes.

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