

BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, MN 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
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IN THE MATTER OF A COMMISSION
INVESTIGATION INTO XCEL ENERGY'S
MONTICELLO LIFE CYCLE
MANAGEMENT/EXTENDED POWER
UPRATE PROJECT AND REQUEST FOR
RECOVERY OF COST OVERRUNS

Docket No. E002/CI-13-754
OAH Docket No. 48-2500-31139

SURREBUTTAL TESTIMONY OF CHRISTOPHER J. SHAW

ON BEHALF OF

**THE DIVISION OF ENERGY RESOURCES OF
THE MINNESOTA DEPARTMENT OF COMMERCE**

SEPTEMBER 19, 2014

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TABLE OF CONTENTS

Section	Page
I. INTRODUCTION.....	1
II. STANDARD OF REVIEW	1
III. RESOURCE PLANNING AND CERTIFICATE OF NEED BACKGROUND	7
IV. STRATEGIST MODELING	17
V. CONCLUSION.....	21

1 I. INTRODUCTION

2 Q. Please state your name.

3 A. My name is Christopher J. Shaw.

4

5 Q. Are you the same Christopher J. Shaw who filed Direct Testimony in this proceeding?

6 A. Yes.

7

8 Q. What is the purpose of your Surrebuttal Testimony?

9 A. In my Surrebuttal Testimony, I respond to Xcel Energy's Rebuttal Testimony of David
10 M. Sparby, James R. Alders, and Timothy J. O'Connor regarding the appropriate
11 standard of review, the Minnesota Department of Commerce's (Department or DOC)
12 use of my cost-effectiveness analysis, resource planning and certificate of need
13 background, and Strategist modeling.

14

15 II. STANDARD OF REVIEW

16 Q. What was the purpose of the cost-effectiveness analysis you conducted as described
17 in your Direct Testimony?

18 A. As discussed in my Direct Testimony, I used the Strategist capacity expansion model
19 to assess whether the same decision to proceed with the project would have been
20 made in 2008 if the total costs of the Monticello life-cycle management (LCM) and
21 extended power uprate (EPU) project had been used at that time.¹ In my Direct
22 Testimony, I also explained why it is important for Northern States Power, d/b/a Xcel

¹ DOC Exhibit No. ___ at 11 (Shaw Direct).

1 Energy (Xcel or the Company) to provide reasonably accurate cost estimates in
2 Certificate of Need (CN) proceedings:

3 As the Department has stated in past proceedings, cost
4 estimates are used extensively in CN proceedings and
5 relied upon by the [Minnesota Public Utilities
6 Commission] Commission in comparing proposed
7 projects to alternatives. Thus, this comparative analysis
8 requires reasonable cost estimates to ensure that this
9 cost comparison is valid. Since comparisons of
10 proposed projects to alternatives based on relative costs
11 is a critical part of any CN analysis, it is important for
12 utilities to provide accurate estimates of project costs;
13 not doing so adversely affects the integrity of the CN
14 process and could harm ratepayers.

15
16 Further, approval of utility projects in CNs and similar
17 proceedings is not a blank check for any utility to recover
18 from ratepayers all costs that are incurred to construct a
19 project. In rider filings for example, the Department has
20 routinely recommended that cost recovery be capped in
21 the rider rates at the level of costs approved in the CN to
22 ensure that utilities have the appropriate incentives to
23 provide reasonably accurate cost estimates of proposed
24 projects in CNs and to minimize those costs in practice.
25 The integrity of CN proceedings depends on utilities
26 providing reasonably accurate information, such as cost
27 estimates.

28
29 Even though rider recovery is typically limited to the cost
30 estimates in a utility's CN, a utility is free to try to
31 demonstrate to the Commission in its subsequent rate
32 case, or in a proceeding such as this, that costs in
33 excess of the CN-approved levels are reasonable to
34 charge to ratepayers; however, the burden is on the
35 utility to make such a showing if it wants to recover cost
36 overruns from ratepayers.

37
38 As the Commission stated in its April 22, 2010 Order
39 Approving 2010 RES Rider, etc. regarding to cost caps in
40 Xcel's RES rider (Docket No. E002/M-09-1083):

41
42 Xcel will be allowed to seek recovery, on a
43 prospective basis, of additional costs at
44 the time of its next rate case, upon a
45 showing that it is reasonable to require

1 ratepayers to pay for any such additional
2 costs. This approach allows Xcel to
3 recover the majority of the costs for
4 projects eligible for RES rider recovery
5 promptly, while providing at least some
6 incentive for Xcel to minimize costs and
7 help protect ratepayers.²
8

9 Thus, as the Commission stated, and Xcel acknowledged,³ it is Xcel's burden to prove
10 that it is reasonable for Xcel to recover any costs from ratepayers above the levels
11 used in the certificates of need. However, as explained by DOC Witness Campbell,
12 the Department concluded that Xcel has not met its burden regarding recovery of
13 costs that are more than double the amounts that Xcel represented for the
14 Monticello LCM and EPU in authorization proceedings before the Commission.⁴

15 Thus, I performed an analysis to evaluate the cost-effectiveness of the Monticello
16 EPU using actual costs that Xcel requests it be allowed to recover from ratepayers.
17

18 **Q. Xcel is critical of your use of actual costs in assessing whether Xcel's proposed cost**
19 **recovery is reasonable.⁵ How do you respond?**

20 **A.** Xcel confuses a general prudence standard with the Department's application of our
21 proposed remedy in this case. As noted above, the Department concluded that Xcel
22 failed to show that it is reasonable for Xcel to recover all of the cost overruns at
23 Monticello from ratepayers. In other words, Xcel has not shown that it would be
24 reasonable to charge in its rates all of the cost overruns or that all of the cost
25 overruns were prudently incurred.

² DOC Exhibit No. ___ at 12-13 (Shaw Direct).

³ Xcel Exhibit No. ___ at 9 (Sparby Rebuttal).

⁴ DOC Exhibit No. ___ at 6-9, 11, 22, 34 (Campbell Direct); DOC Ex. ___ at 25-26 (Campbell Surrebuttal).

⁵ Xcel Exhibit No. ___ at 11-12 (Sparby Rebuttal).

1 Q. Why didn't the Commission disallow Xcel's proposed cost recovery in the Company's
2 2012 rate case (Docket No. E002/GR-12-961), when Xcel requested cost recovery of
3 the cost overruns?

4 A. The Commission's Order stated that "[t]he project proceeded as the record for [that]
5 case was being developed, preventing a final determination of the project's
6 prudence" in the 2012 rate case. Thus, rather than taking final action on cost
7 overruns in Xcel's 2012 rate case, the Commission opened this investigation to allow
8 for further record development:

9 The Commission shares the Department's concern
10 regarding the project's significant cost overruns. The
11 Commission will open a separate docket to investigate
12 whether the Company's handling of the LCM/EPU project
13 was prudent, and whether the Company's request for
14 recovery of the Monticello LCM/EPU cost overruns is
15 reasonable. The project proceeded as the record for this
16 case was being developed, preventing a final
17 determination of the project's prudence at this time.
18 Investigating the project costs in a separate proceeding
19 will promote development of a complete record on the
20 issue, and allow the Commission to make a prudence
21 determination outside the considerable time pressure
22 involved in a rate case.⁶
23

24 Q. Why do you focus on actual costs of the project compared to the costs that Xcel
25 indicated for the projects when the Company requested approval from the
26 Commission?

27 A. As DOC Witness Mr. Crisp discussed in his direct and surrebuttal testimonies, and as
28 evidenced by the significant cost overruns, Xcel's cost estimates when the Company
29 requested approval of changes to Monticello were inadequately developed. As I

⁶ Findings of Fact, Conclusions of Law and Order at 19, Docket No. E002/GR-12-961, September 3, 2013.

1 pointed out in my direct testimony, this inadequate development of costs was more
2 than a minor oversight by Xcel; it actually harmed ratepayers:

3 **Q. Do your conclusions mean that if the actual costs**
4 **of the EPU were accurately estimated at the time**
5 **of the 2008 EPU CN, the Department would have**
6 **recommended that the CN for the EPU not be**
7 **granted?**

8 **A.** Yes. If the actual costs and timing of the EPU had
9 been known, other alternatives would have been
10 more cost-effective. Attached as DOC Exhibit
11 No.____ (CJS-7) is a comparison of expansion
12 plans, with and without the addition of the EPU.⁷
13

14 **Q. Why did you perform the Strategist analyses for this proceeding?**

15 **A.** My analysis of the extent to which the EPU was not cost-effective, given that Xcel's
16 estimated costs were not adequately developed when the Company requested
17 approval of the EPU, feeds into Ms. Campbell's analysis.

18 As Ms. Campbell discusses,⁸ typically the Department would recommend
19 disallowance of the entire cost overrun unless the utility could show that its cost
20 overruns were reasonable. I note in particular the language on page 5 in the
21 Commission's April 22, 2010 Order in Docket No. E002/M-09-1083 that Ms.
22 Campbell discussed, which required Xcel to justify cost overruns before charging
23 those costs to ratepayers:

24 No amounts above what Xcel initially indicated the
25 projects would cost will be allowed to flow through the
26 RES rider. Nor will additional cost overruns be eligible
27 for deferred accounting.

28 However, Xcel will be allowed to seek recovery, on a
29 prospective basis, of additional costs at the time of its
30 next rate case, *upon a showing that it is reasonable to*
31 *require ratepayers to pay for any such additional costs.*

⁷ DOC Ex. ____ at 32 (Shaw Direct).

⁸ DOC Ex. ____ at 26-28, Campbell Direct

1 This approach allows Xcel to recover the majority of the
2 costs for projects eligible for RES rider recovery
3 promptly, while providing at least some incentive for Xcel
4 to minimize costs and help protect ratepayers.
5 (Emphasis added)

6 However, in this case, as Ms. Campbell discusses in her testimonies, the
7 Department recommended that only the portion of the cost overrun that was not
8 cost-effective be disallowed. In order to determine the cost-effectiveness of
9 Monticello, actual, total costs must be used in the Strategist runs; however, all other
10 factors (e.g., costs of natural gas, costs of complying with carbon regulations) are
11 kept at the 2008 levels as I discussed in my Direct Testimony.

12
13 **Q. Mr. Alders stated that Xcel does not agree that “an after-the-fact assessment of ‘cost-**
14 **effectiveness’ is the correct basis to assess prudence or to judge our decisions.”⁹**

15 **How do you respond?**

16 **A.** The Department did not apply the standard that Mr. Alders attributes to us. Mr.
17 Sparby made similar claims¹⁰ and referred to the summary of my conclusions in my
18 Direct Testimony.

19 To be clear, my Direct Testimony provides an appropriate cost-effectiveness
20 analysis to be used to determine an appropriate prudence adjustment based on the
21 specific circumstances in this case. In-other-words, my cost-effectiveness analysis is
22 only one part of the Department’s overall review and recommended adjustment. Ms.
23 Campbell provided the Department’s testimony on the correct application of the
24 prudence standard in this case which relies on the testimony of all Department
25 witnesses.

⁹ Xcel Exhibit No. ___ at 2 (Alders Rebuttal).

¹⁰ Xcel Exhibit No. ___ at 11-12 (Sparby Rebuttal).

1 Q. Do you have another comment on the issues of cost-effectiveness and prudence?

2 A. Yes. I appreciate the opportunity to clarify that, as a general matter, continued cost-
3 effectiveness does not equate with prudence. For example, Ms. Campbell discussed
4 numerous projects in which the Commission denied at least some costs that
5 exceeded the level approved in the respective CN proceedings.¹¹ However, in my
6 review of the record in those proceeding, there was not a dispute that the projects
7 remained cost-effective. Thus, in general, a showing of cost-effectiveness is not
8 necessarily a showing that costs were prudently incurred.

9
10 **III. RESOURCE PLANNING AND CERTIFICATE OF NEED BACKGROUND**

11 Q. Mr. Alders stated that your rejection of Xcel's "implementation analysis" suggests
12 that "the Company should not have spent money before receiving the Certificate of
13 Need for the uprate."¹² Similarly, Mr. O'Connor responded to your criticism of Xcel's
14 implementation analysis by stating that he "take[s] this to mean we should have
15 waited to get the Certificate of Need before spending significant money in
16 furtherance of the Program."¹³ Is it your position that Xcel should not have spent
17 money before it received a CN?

18 A. No. While the Company would be at risk for recovery of such costs from ratepayers
19 prior to approval of a CN or any other required certification, Xcel chooses how to
20 spend such money in light of that risk and other factors. Xcel must abide by the law,
21 such as Minn. Stat. §216B.243, subd. 2 which states that "No large energy facility

¹¹ DOC Exhibit No. ____ at 22-26 (Campbell Direct).

¹² Xcel Exhibit No. ____ at 3 (Alders Rebuttal).

¹³ Xcel Exhibit No. ____ at 55 (O'Connor Rebuttal).

1 shall be sited or constructed in Minnesota without the issuance of a certificate of
2 need by the commission.”

3 Instead, it is my position that any analysis of cost-effectiveness for a large
4 energy facility should be based on a reasonable estimate of total costs, not on an
5 inadequately developed estimate of some portion of the total costs. By not including
6 reasonable estimates of the total costs of a proposed project or alternative, a cost-
7 effectiveness analysis is biased toward the projects with large amounts of costs
8 excluded and muddies the responsibility of the Commission in assessing whether to
9 issue a CN, especially when alternatives are available, as required in Minn. Stat.

10 §216B.243, subd. 3(6):

11 Subd. 3. **Showing required for construction.**

12 No proposed large energy facility shall be certified for
13 construction unless the applicant can show that demand
14 for electricity cannot be met more cost effectively
15 through energy conservation and load-management
16 measures and unless the applicant has otherwise
17 justified its need. In assessing need, the commission
18 shall evaluate:

19 (6) possible alternatives for satisfying the energy
20 demand or transmission needs including but not limited
21 to potential for increased efficiency and upgrading of
22 existing energy generation and transmission facilities,
23 load-management programs, and distributed generation;

24
25 **Q. How do you respond to Mr. Alders’ discussion about consideration of “sunk costs”?**

26 **A.** Mr. Alders stated that, from a cost-effectiveness perspective, sunk costs should be
27 “eliminated from the calculation.”¹⁴ Excluding sunk costs, or any project costs, from
28 a cost-effectiveness analysis is unreasonable as it provides biased results. Further,

¹⁴ Xcel Exhibit No. ___ at 30 (Alders Rebuttal).

1 Mr. Alders' discussion of "sunk costs" refers only to internal discussions within Xcel
2 about whether or not to move ahead with the projects at Monticello, rather than any
3 discussion with regulators about whether it made sense to continue with the
4 Monticello project.¹⁵ If Xcel wishes to exclude costs incurred prior to a CN filing, or
5 any costs, for the cost-effectiveness analysis conducted in a CN, then Xcel should not
6 expect to recover any of the excluded costs from ratepayers.

7
8 **Q. Did Mr. Alders have other overall notes about the analysis you performed?**

9 A. Yes. He noted that there were "additional resource planning considerations" and
10 "additional context" surrounding the 2003 - 2008 timeframe¹⁶ that he believed
11 were not considered and should have been considered. However, Mr. Alders did not
12 identify any important considerations that were not included in the 2007 IRP or 2008
13 CN for the EPU.

14 Specifically, Mr. Alders identified factors such as the value of carbon-free
15 generation,¹⁷ coal plant emissions,¹⁸ the high cost of natural gas,¹⁹ and the
16 Company's forecast²⁰ as important considerations. However, all of these factors
17 were appropriately considered in both the 2007 IRP and 2008 CN, and Mr. Alders
18 does not indicate otherwise. Further, I already provided that information in my Direct
19 Testimony where I stated that:

20 Under its base case assumptions, Xcel calculated that
21 the Monticello EPU would result in a net present value of
22 revenue requirements (PVRR) savings of \$169 million in

¹⁵ Xcel Exhibit No. ___ at 30 (Alders Direct).

¹⁶ Xcel Exhibit No. ___ at 5-6 (Alders Rebuttal).

¹⁷ *Id.* at 5.

¹⁸ *Id.* at 6, 11-12.

¹⁹ *Id.*

²⁰ *Id.*

1 2008 dollars, compared to the next best alternative.²¹
2 When the \$29 million cost of the new stream dryer was
3 included, the projected PVRR savings was reduced to
4 \$128 million.²² Xcel's baseline cost assumptions were
5 the same assumptions used in the Company's 2007
6 IRP.²³ Those assumptions include a \$20 per ton cost of
7 CO₂ emissions starting in 2010, escalated at 2.5 percent
8 per year, and a natural gas cost of \$8.38 per MMBTU in
9 2008 dollars. Excerpts from Xcel's IRP describing
10 additional assumptions are included as DOC Exhibit No.
11 ____ (CJS-3).²⁴
12

13 In addition, I stated that:

14
15 In the 2008 CN proceeding, the DOC reviewed the cost-
16 effectiveness of the proposed Monticello EPU by
17 comparing the costs as presented by Xcel for the EPU
18 (\$133 million including the steam dryer) to other
19 alternatives available to meet Xcel's capacity and energy
20 needs. Like Xcel, the DOC used the Strategist capacity
21 expansion model to compare the Monticello EPU to
22 alternative capacity expansion options. The DOC relied
23 on its preferred case as developed in the 2007 Xcel IRP
24 proceeding. Those assumptions included a \$17 per ton
25 cost of CO₂, the midpoint of the Commission's range of
26 \$4 to \$30 per ton, and the same gas costs relied upon
27 by Xcel. Excerpts from the DOC's (formerly the Office of
28 Energy Security, or OES) comments on Xcel's 2007 IRP
29 regarding the DOC's preferred case and preferred case
30 expansion plan are attached as DOC Exhibit No. ____
31 (CJS-4).
32

33 In the 2008 EPU CN proceeding, the DOC compared the
34 proposed Monticello EPU to a biomass alternative, a
35 wind alternative, a coal alternative, and an
36 unconstrained alternative, which allowed the Strategist
37 model to choose the most cost effective options to meet
38 needs.²⁵ Under the unconstrained main case, the DOC
39 concluded that the Monticello EPU would result in
40 approximately \$330 million in 2008 dollars in terms of

²¹ Docket No. E002/CN-08-185, Xcel Petition at 6-18.

²² *Id.*

²³ Docket No. E002/RP-07-1572

²⁴ DOC Exhibit No. ____ at 4 (Shaw Direct).

²⁵ Even though Department Witness Dr. Steve Rakow determined that a coal facility could not be built by the 2011 date proposed for the EPU, the Department included a coal alternative in its analysis to provide a broad range of cost information to the Commission.

1 net present value of social costs (PVSC) savings as
2 compared to the next best alternative. Excerpts from Dr.
3 Steve Rakow's Direct Testimony regarding the cost-
4 effectiveness of the Monticello EPU in the 2008 EPU CN
5 are included as DOC Exhibit No. ____ (CJS-5).²⁶
6

7 Thus, my Direct Testimony provided considerable context to the assumptions relied
8 upon in the proceedings in which the Commission determined that Xcel should
9 proceed with the EPU. While the 2004 IRP may provide additional historical context,
10 the 2007 IRP and 2008 CN were the proceeding relied upon by the Commission in
11 granting the CN for the EPU and included the factors identified by Mr. Alders.
12

13 **Q. Xcel stated several times that the Commission required the Company to add capacity**
14 **to the nuclear facilities, which then made it necessary for Xcel to pursue the design,**
15 **procurement and construction activities on a parallel basis.²⁷ Are these statements**
16 **accurate?**

17 **A.** No, these statements do not accurately represent what occurred during and after the
18 Company's 2004 IRP. As summarized in Xcel's initial filing in the 2004 IRP (Docket
19 No. E002/RP-04-1752), the issue at that time was not whether to add capacity to
20 Xcel's nuclear power plants, but whether to shut down or continue operations at the
21 plants:

22 *If continued operation of our nuclear plants is not the*
23 *state's preferred option, immediately begin resource*

²⁶ DOC Exhibit No. ____ at 5 (Shaw Direct).

²⁷ For example:

- Mr. Sparby stated that the Commission's 2004 IRP Order directed Xcel to "take swift action." Xcel Ex. ____ at 22 (Sparby Rebuttal);
- Mr. Sieracki stated that "Xcel Energy decided that the LCM/EPU Program needed to be implemented on an expedited basis based on a combination of factors, including (i) direction from the Minnesota Public Utilities Commission ("Commission") to submit a plan for additional baseload resources including nuclear power uprates." Xcel Ex. ____ at 11 (Sieracki Rebuttal).

1 *acquisition for up to 700 MW of peaking and 400 MW of*
2 *intermediate capacity and energy for installation in*
3 *2011 and 2012. Immediately begin evaluation and*
4 *selection process for up to 1,600 MW of additional base*
5 *load resources to come on line in the 2011-2015*
6 *timeframe. If Monticello and Prairie Island are required*
7 *to shut down, Xcel Energy will need to immediately*
8 *replace the capacity and energy supplied from those*
9 *units. While it is unlikely that we would have a base load*
10 *resource option available to replace Monticello as early*
11 *as 2011, one strategy would be to bridge the gap with*
12 *peaking resources until new base load facilities can be*
13 *brought on line. Given the time frame for replacing the*
14 *Monticello plant, it is likely that Xcel Energy would need*
15 *to participate in the construction of facilities for*
16 *contingency replacement.*²⁸

17
18 **Q. Did anything occur during the 2004 IRP regarding proposals to uprate the nuclear**
19 **plants?**

20 A. Yes. As Mr. Alders noted,²⁹ it was Xcel that first raised the possibility of increasing
21 the capacity of the nuclear power plants, in its November 2005 filing:

22 **Q. AT WHAT POINT DID THE COMPANY RAISE THE**
23 **POSSIBILITY OF A MONTICELLO UPRATE WITH**
24 **THE COMMISSION?**

25 A. We identified the likely benefits of an uprate at
26 Monticello in our Report on Baseload Study
27 Development Process Study and Options
28 (“Baseload Report”), filed with our November 23,
29 2005 Reply Comments in our 2004 Resource
30 Plan proceedings.
31

32 **Q. Did Xcel provide any information in that filing regarding what would be required to**
33 **extend the life of Monticello?**

34 A. Yes. Xcel stated:

²⁸ Xcel’s October 31, 2004 initial filing in its 2004 resource plan, page 1-8.

²⁹ Xcel Exhibit No. ____ at 8 (Alders Rebuttal).

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Our analysis shows that relicensing our nuclear facilities and operating them for another 20 years results in nearly one billion dollars in savings to our customers over a 30 year period, even considering the need for additional investments to keep the facilities in top working condition and to provide additional spent nuclear fuel storage. Our current Action Plan has us filing our Certificate of Need with the Commission and Relicensing Application with the NRC for Monticello in later 2004 and early 2005, and we will make similar filings for Prairie Island in 2008.³⁰

...

Our Certificate of Need Application will describe the program of life cycle management that has been integral to the operation of the Monticello plant over the years. As part of the operation and management of the plant, Xcel Energy routinely invests and upgrades systems so that the plant remains in top shape over time. Xcel Energy invests an average of about \$10 million dollars annually in the Monticello plant to keep systems operating well. No major structural changes to the reactor or the storage pool will be needed. Potential capital improvements included in the Resource Plan model include:

- Cable replacements;
- Implementing Improved Technical Specifications;
- Future possible security upgrades;
- New steam dryer;
- Electrical Breaker replacement;
- Repairs to cooling towers;
- Constructing an Independent Spent Fuel Storage Installations;
- Repair or replacement of Main Steam and Feedwater pipings;
- Upgrading to a next generation process computer and IT improvements;
- Replacing primary containment bellows;
- Replace/rebuild main control room instrumentation and control equipment due to obsolescence;
- Replace feedwater heaters;

³⁰ Xcel's October 31, 2004 initial filing in its 2004 resource plan, pages 1-17, 1-18.

- Replace generator rotor and rewind refurbish generator stator;
- Replace static exciters and,
- Complete under vessel cable replacement.

It should be noted that this is a representative list. Items may be added as new information becomes available. Likewise, some items may not be necessary to safe and reliable plant operations. In total the projects listed represent some \$125 million that have been included in the model over and above the routine Capital of \$10 million invested each year and is considered representative of the order of magnitude that Xcel Energy conservatively estimates is needed over the 20 years of additional operation.³¹

Q. Why is this information helpful to this proceeding?

A. It's helpful to compare Xcel's statements in the instant case with the Company's statements in the context when Xcel was proposing changes to Monticello. For example, in the instant case Xcel stated that:

Because we did not need a Certificate of Need for spending money in furtherance of appropriate LCM work, we were not taking on a substantial risk by proceeding with a joint initiative.³²

However, as noted above, Xcel acknowledged in 2004 that a CN for the independent spent fuel storage installation (ISFSI) would include analysis of the LCM.

Q. What other factors that took place at that time are important to consider in this proceeding?

A. Xcel's 2004 IRP involved significant work on developing a competitive bidding process for baseload resources. For example, Xcel held numerous stakeholder meetings and the Commission issued an Order on May 31, 2006 titled: "Order

³¹ Xcel's October 31, 2004 initial filing in its 2004 resource plan, pages 8-8, 8-9.

³² Xcel Exhibit No. ___ at 24 (Sparby Rebuttal).

1 *Establishing Resource Acquisition Process, Establishing Bidding Process under Minn.*
2 *Stat. §216B.2422, Subd. 5 and Requiring Compliance Filing.”* Thus, there were
3 other options to add baseload power to Xcel’s system.
4

5 **Q. What did the Commission’s Order in the 2004 IRP require?**

6 A. The requirements of the Commission’s Order are different than indicated by Xcel.
7 Rather than directing Xcel to “take swift action”³³ in a manner that did not allow
8 proper planning, design and construction of the EPU, the Commission’s Order after
9 Reconsideration in Xcel’s 2004 resource plan (October 18, 2006) did not require
10 Xcel to pursue an EPU for Monticello. The Commission requested that Xcel file a
11 report on the “nature, costs, and benefits of the proposed plant upgrades without
12 diverting limited resources to a premature certificate of need proceeding.”

13 Regarding CNs for nuclear facilities, the Commission’s Order after
14 Reconsideration stated:

15 Currently, ordering paragraph 11 reads as follows:

16
17 11. By December 31, 2006, Xcel shall make a filing
18 requesting any mandatory Commission review or
19 approval for any upgrades to its Sherco, Prairie Island,
20 and Monticello baseload facilities discussed in its
21 resource plan filing.
22

23 The Company asked that this paragraph be changed to
24 limit the December 2006 filing to a report on the
25 planned upgrades and to move the deadline for any
26 necessary applications for certificates of need for these
27 upgrades to September 1, 2007. The Company
28 explained that planned upgrades to the Sherco plant
29 would not require a certificate of need, making a report
30 sufficient, and that it would be more efficient to file
31 certificate of need applications for upgrades to the two

³³ Xcel Exhibit No. ___ at 22 (Sparby Rebuttal).

1 nuclear facilities, Prairie Island and Monticello, after final
2 action on pending applications for additional nuclear
3 waste storage at Monticello and for the relicensing of the
4 Monticello plant.

5
6 The Company proposed that ordering paragraph 11 be
7 modified to read as set forth below:

8
9 11. By December 31, 2006, Xcel shall make a filing
10 providing additional detail on its planned upgrades to its
11 Sherco, Prairie Island, and Monticello baseload facilities.
12 Xcel shall file any required certificates of need for these
13 upgrades no later than September 1, 2007.

14
15 The Department concurred with the Company's request,
16 pointing to the efficiencies to be gained by avoiding a
17 premature certificate of need filing.

18
19 The Commission agrees with the parties. The detailed
20 report the Company will file in December 2006 will
21 adequately *apprise regulators and stakeholders of the*
22 *nature, costs, and benefits of the proposed plant*
23 *upgrades without diverting limited resources to a*
24 *premature certificate of need proceeding.*
25 (Emphasis added)

26 Moreover, a request to file a certificate of need should not be construed as providing
27 any indication as to whether the Commission would approve the CN. Instead, the CN
28 proceeding provided the forum for the Commission to evaluate whether Xcel should
29 proceeding with EPU. If Xcel's proposed timeline required additional costs or risk,
30 those costs and risk should have been incorporated into the CN filing for evaluation
31 by the Commission.

32
33 **IV. STRATEGIST MODELING**

34 **Q. In the 2008 EPU CN, did Xcel model the LCM and EPU together as one project?**

35 **A.** No. Xcel compared the costs of the incremental 71 MW of capacity provided by the
36 EPU to a 71 MW Coal PPA alternative, a 71 MW Biomass alternative, and an

1 “Unconstrained” alternative in which the Strategist model was allowed select the
2 least-cost expansion plan from available alternatives.³⁴ Xcel’s base model included
3 Monticello through 2030 in every scenario. Thus, the alternatives analysis in the
4 2008 EPU CN proceeding focused entirely on the incremental value of the EPU, not
5 the project as a whole.

6
7 **Q. Mr. Alders stated that Xcel modeled the actual costs of the Monticello LCM and EPU**
8 **in its “perfect foresight” case and used it to show the value of the Program, even if**
9 **we had known the costs would end up at \$665 million.”³⁵ Was Xcel’s “perfect**
10 **foresight” case the only instance in which Xcel used actual costs of the Monticello**
11 **LCM and EPU its modeling?**

12 **A.** No. In every modeling run that Xcel conducted as described in Mr. Alders’ Direct
13 Testimony, Xcel used the \$665 million total cost of the Monticello LCM and EPU.
14 What differentiates the “perfect foresight” case is that all other assumptions were
15 updated to 2013 as well. As I stated in my Direct Testimony:

16 In Xcel’s foresight analysis, the Company used the
17 Strategist base model from the recent competitive
18 resource acquisition docket.³⁶ Those assumptions were
19 generally developed in 2013 and include the
20 significantly lower gas prices and lower load forecast as
21 compared to what was known in 2008. Mr. Alders
22 further described the assumptions included in the base
23 model from the competitive resource acquisition docket
24 on pages 36-38 of his Direct Testimony.

25
26 Regarding Xcel’s “perfect foresight” case, Mr. Alders continues his discussion by
27 stating that that, “if we assumed we had actually known the ultimate costs at the

³⁴Xcel Initial Filing, 6-14 – 6-15.

³⁵ Xcel Exhibit No. ____ at 22 (Alders Rebuttal).

³⁶ Docket No. E002/CN-12-1240.

1 outset and used the same 58.4/41.6 percent LCM/EPU split as in the Certificate of
2 Need, the Program was cost-effective in 2008 and in each subsequent year.”

3 I believe Mr. Alders is actually referring to his “Implementation Analysis of
4 Incremental 71 MW”³⁷ This analysis effectively subtracts the sunk costs from the
5 total \$665 million cost of the LCM and EPU.³⁸ As I’ve discussed above, a cost-
6 effectiveness analysis should be based on total costs. I note that, in his Direct
7 Testimony, Mr. Alders concluded that when the total costs of the LCM and EPU were
8 used with the 58.4/41.6 percent split, the EPU was not cost effective.³⁹

9 Mr. Alders also stated that “this modeling was not intended to support the
10 prudent investment test, but rather offered to provide context.”⁴⁰ I was not able to
11 find this disclaimer in Mr. Alders’ testimony; however, Mr. Alders did state that:

12 This implementation analysis takes into account the
13 capital already invested in the Program each year and
14 the investment remaining to complete the upgrades in
15 order to assess whether it was *prudent* to continue with
16 the implementation.⁴¹ [Emphasis Added]

17
18 Regarding Xcel’s “Implementation Analysis of Incremental 71 MW” Mr. Alders stated
19 that:

20 Table 16 summarizes the implementation analysis. As
21 can be seen from the table, the work at Monticello
22 remains cost effective in each of the years that we
23 analyzed. The implication being that in each year, when
24 taking into consideration the capital that had already
25 been spent on the project and the remaining capital to-
26 go, the decision to continue to move forward on the

³⁷ Xcel Exhibit No. ____ at 58 (Alders Direct).

³⁸ Xcel actually added the sunk costs to the alternative scenario in which the EPU was not constructed, which yields the same result as subtracting the sunk costs from the EPU scenario.

³⁹ Xcel Exhibit No. ____ at 55 (Alders Rebuttal). Alders Direct, p. 55.

⁴⁰ *Id.*

⁴¹ Xcel Exhibit No. ____ at 5 (Alders Direct).

1 project would have been *prudent* and in our customers
2 best interest.⁴² [Emphasis Added]
3

4 **Q. Why did you change by 12 MW the capacity of the Monticello EPU compared to what**
5 **Xcel model?**

6 A. As I stated in My Direct Testimony, “I changed the capacity in order to reflect the
7 actual timing of the capacity increase.”⁴³ Mr. Alders is critical of my adjustment to
8 the capacity of the Monticello EPU and stated that, rather than the actual capacity of
9 Monticello, the capacity modeled in 2008 should be used.⁴⁴ However, use of the
10 actual capacity at Monticello is consistent with my decision to update the costs of
11 Monticello to actual costs. My cost-effective analysis looks at whether the same
12 decision to proceed with the project would have been made had actual costs been
13 known at the time. If the actual capacity of the resource is not reflected, the actual
14 cost of that capacity will not be accurate. Adding capacity that was not realized
15 effectively reduces the cost of the resource. Likewise, using an incorrect split that
16 does attribute the total cost of the EPU to the EPU unreasonable reduces the cost of
17 the EPU below the actual cost.

18
19 **Q. Other than the 12 MW reduction for 2010-2013, did you make any changes to Xcel’s**
20 **model?**

21 A. No. This was the only change I made to Xcel’s Strategist modeling. Mr. Alders
22 indicated that there are two models in this proceeding, and “the Company has been
23 unable to replicate the Department’s results using the Company’s modeling

⁴² Xcel Exhibit No. ___ at 57 (Alders Direct).

⁴³ DOC Exhibit No. ___ at 13 (Shaw Direct).

⁴⁴ Xcel Exhibit No. ___ at 23 (Alders Rebuttal).

1 practices.”⁴⁵ I have adopted Xcel’s model for my analysis. As I stated in my Direct
2 Testimony:

3 I conclude that the Commission should rely on Xcel’s
4 base model as reflected in Tables 12-15 above. As I
5 stated above, the Commission relied on both base
6 models in granting the 2008 EPU CN. However, Xcel’s
7 model contained updated information, and therefore
8 contained the most recent data in the record at the time
9 of the 2008 CN decision.⁴⁶
10

11 That is, while I also performed analysis using a different base model developed by
12 the Department in the 2008 EPU CN, I did not recommend that the Commission rely
13 on the Department’s base model. Thus, there are not two competing models in this
14 case. There is one model and, as noted above, the only change I made to Xcel’s
15 model was the 12 MW reduction in 2010-2013. The other adjustments noted in my
16 Direct, including the change to a 2008 discount year, all occur in a simple post-
17 processing Excel spreadsheet. Further, I provided all files, including spreadsheets,
18 necessary to re-create my results to Xcel in response to Xcel Information Request 24,
19 similar in format to the files Xcel provided me. Thus, I do not understand why Xcel
20 was “unable to replicate the Department’s results using the Company’s modeling
21 practices.”
22

23 **V. CONCLUSION**

24 **Q. Does This Conclude Your Surrebuttal Testimony?**

25
26 **A. Yes.**

⁴⁵ Xcel Exhibit No.____ at 24 (Alders Rebuttal).

⁴⁶ DOC Exhibit No.____ at 30 (Shaw Direct).