

MPUC Docket No. E-6472/M-05-1993
OAH Docket No. 12-2500-17260-2

BEFORE THE
MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
100 Washington Square, Suite 1700
Minneapolis, Minnesota 55401-2138

FOR THE
MINNESOTA PUBLIC UTILITIES COMMISSION
127 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

In the Matter of the Petition of Excelsior Energy Inc.
and Its Wholly-Owned Subsidiary MEP-I, LLC For Approval of Terms and Conditions For The
Sale of Power From Its Innovative Energy Project Using Clean Energy Technology Under
Minn. Stat. § 216B.1694 and a Determination That the Clean Energy Technology Is Or Is
Likely To Be a Least-Cost Alternative Under Minn. Stat. § 216B.1693

**PREPARED SURREBUTTAL TESTIMONY
OF
EXCELSIOR ENERGY INC. AND MEP-I LLC**

STEPHEN D. SHERNER

OCTOBER 31, 2006

1 Unit One Power Purchase Agreement (PPA). My testimony also responds to Department
2 witness Dr. Amit's inaccurate assessment of the transmission costs associated with
3 Mesaba Unit One.

4 East Range Capacity

5 **Q What discrepancies did Mr. Schiro identify in his Rebuttal Testimony?**

6 A In Mr. Schiro's Rebuttal Testimony at pages 1-3, he points out that the MISO
7 generator interconnection (GI) request for the East Range site is for 552 MW while the
8 PPA is for 598 MW, and that the MISO GI request for the West Range site is for 600
9 MW while the PPA is for 603 MW.

10 **Q Can you provide an explanation for the discrepancy at the East Range site and the**
11 **reason for the discrepancy?**

12 A Yes. The original GI request to MISO in October 2004 for the West Range site
13 was submitted based upon a preliminary plant design provided by Bechtel Engineering.
14 Once Excelsior chose its project partners and determined that the plant output could reach
15 over 600 MW net at the plant site, MISO was approached about changing the capacity
16 level of the GI request (G477).

17 Since the MISO System Impact Study Agreement was already signed and studies
18 were underway, MISO determined that such a change would be "Material" and could not
19 be made without impacting the Project's place in the interconnection queue. As such,
20 Excelsior was left with two viable options: (1) cancel the G477 request and studies in
21 progress and submit a new GI request for the larger plant output, thus losing queue
22 position, or (2) submit an additional GI request for the incremental capacity amount,
23 which would be studied later based upon its position in the MISO Queue.

1 While these two options were being considered, Excelsior's focus had shifted to
2 the West Range site and the GI request (G519) and studies associated with this preferred
3 site. Accordingly, the decision was made to complete the G477 (East Range site) studies
4 based upon the requested 531 MW summer, 552 MW winter output levels to hold its
5 queue position and obtain the transmission information associated with this backup
6 (alternate) site as soon as possible.

7 When the Commission decided as a part of this Proceeding that it wanted
8 comparable PPA analyses for both the West and East Range sites, Excelsior decided to
9 pursue the studies of the incremental capacity that I outlined in my Rebuttal Testimony.
10 *See* Rebuttal Testimony of Stephen D. Sherner, at 32-34. These studies were completed
11 and provide timely answers with respect to the generator interconnection/power injection
12 issues that could arise as the result of the higher capacity level at the East Range site for
13 the purpose of developing the record in this Proceeding.

14 As I noted in my Rebuttal Testimony, these studies indicate that the higher power
15 injection level of 600 MW does *not* cause any adverse impacts requiring Network
16 Upgrades. These studies were completed outside of the MISO GI process. Therefore, in
17 order for these results to be 'official' such that Mesaba Unit One could be operated at the
18 598 MW level, a new GI request for the incremental MWs would have to be submitted to
19 MISO and then studied through their processes. If and when it becomes clear that the
20 East Range site may be selected, Excelsior will adhere to the appropriate MISO processes
21 to ensure that the full output of Mesaba Unit One can be delivered to Xcel under the PPA.

1 **Q Do you have any observations regarding projects currently pending in the MISO**
2 **interconnection queue that could impact any additional capacity at the East Range**
3 **site?**

4 A Yes. There are at least two other large generators proposed for the Northeast
5 Minnesota area that are already in the MISO GI Queue – an 800 MW unit at two sites and
6 the Mesaba Unit Two at the West Range site – that would have to be included in the
7 studies associated with the new East Range GI request along with any identified Network
8 Upgrades required for their interconnection and power deliveries. That is, under MISO’s
9 Tariff, higher queued projects have to be treated as if they are on the system when lower
10 queued project are studied. Since Excelsior controls the Mesaba Unit Two request, it
11 should be able to make an agreement with MISO for the Mesaba Unit One incremental
12 capacity to be considered first, but this is not the case with the 800 MW unit request.

13 Ultimately, in the event the Commission determines that Mesaba Unit One should
14 be sited at East Range, Excelsior would immediately submit the GI request for the
15 incremental capacity and work with MISO to expedite its processing using, if necessary,
16 the ‘Out of Queue’ and Optional Study provisions set forth in MISO’s Tariff to obtain
17 approval of the final plant design output.

18 **Q What information is known about the 800 MW unit GI requests?**

19 A From the MISO GI Queue it is known that the two Network Resource
20 Interconnection Service (NRIS) requests 38742-01 and 38742-02 were submitted
21 by Great River Energy for an 800 MW coal unit to be located near Minnesota Power’s
22 Minntac or Hibbtac substations with an in-service date of 2012. Based upon the
23 attached Xcel response to Excelsior’s Information Request No. 43, attached as

1 Exhibit ____ (SDS-10), Xcel is a potential partner with Great River Energy and Minnesota
2 Power in exploring the interconnection of this baseload generation resource.

3 **Q Has this project impacted Excelsior?**

4 A Yes, to some extent. Through my discussions with the MISO Project Manager for
5 the Mesaba Units about the reason for the delays in starting the System Impact Study
6 (SIS) for Mesaba Unit Two at West Range (G597), I learned that significant MISO
7 resources were tied up in the studies for the 800 MW unit GI requests, and concluded that
8 it made little sense to start the G597 studies until network upgrade solutions were
9 identified for this higher queued project.

10 In checking on the status of the Mesaba Unit One Network Integrated
11 Transmission Service (NITS) requests, submitted by Xcel on July 19 and August 2, I was
12 told that the System Impact Study (SIS) associated with these requests were next in the
13 queue once the area study engineer finished the SIS in progress. Earlier this summer I
14 had been told that MISO was studying Transmission Service Requests (TSR) associated
15 with one of the 800 MW sites and still had the other to complete before the Mesaba Unit
16 One NITS requests could be studied – so these studies appear to be taking significant
17 time and resources.

18 **Q What implications do these 800 MW unit GI and TSR requests have on the Mesaba
19 Energy Project (MEP) transmission efforts?**

20 A These requests have added significant complexity, uncertainty, and caused delays
21 in Excelsior's efforts to obtain the answers on the transmission issues associated with the
22 MEP. While this is the nature of the open queuing process being followed by MISO, I
23 am perplexed as to why these requests remain in the MISO Queues given that:

- 1 • Xcel has indicated in these proceedings that it has no baseload needs until 2015.
- 2 • Minnesota Power forecasted in their 2004 IRP a baseload need of 200 MW in
3 2011-2012 and that the Taconite Harbor generation transfer would satisfy this
4 need for new generation until at least 2015.
- 5 • Great River Energy is taking a large ownership position in Big Stone II, now
6 scheduled to be in-service in 2011, and their 2005 Resource Plan indicates no
7 need for baseload generation before 2013. See “2005 Great River Energy
8 Integrated Resource Plan” at:
9 http://www.greatriverenergy.com/partners/_images/2005_irp_public.pdf.

10 It would seem unlikely that this unit will proceed as proposed especially if the
11 Commission orders Xcel to purchase power from Mesaba Unit One to meet its baseload
12 needs starting in 2011. Notwithstanding the tenuous nature of this project, it remains an
13 obstacle to Excelsior determining its future transmission needs in the region.

14 West Range Capacity

15 **Q Do you have any response to Mr. Schiro’s discussion of the 3 MW discrepancy in**
16 **capacity between the generator interconnection request and the proposed PPA at**
17 **the West Range site?**

18 **A** Yes. This 3 MW discrepancy, which is 0.5% of the projected capacity of Mesaba
19 Unit One, should not be an issue. First, this 0.5% difference is well within the accuracy
20 of the system study models and plant design models being utilized by MISO. Second,
21 based upon the advice and input from the Transmission Owner Ad Hoc Study Group,
22 MISO decided that studies of winter peak conditions were unnecessary since the
23 transmission system is not heavily loaded or normally stressed with large power transfers

1 at this time of year. Winter season is the only time that the plant output could reach 603
2 MW. Under these circumstances, it is extremely unlikely that MISO would find this
3 small difference in capacity to be a ‘material change’ requiring restudy or a new GI
4 request. Until the plant and generator outlet facilities designs are finalized, there is no
5 reason for Excelsior to pursue this issue further.

6 Transmission Costs

7 **Q Explain why you believe the transmission costs analysis included in DOC witness
8 Dr. Amit’s Rebuttal Testimony is not credible?**

9 A In Dr. Amit’s Rebuttal Testimony at pages 5-8, he discusses and compares the
10 transmission costs of Mesaba Unit One, Sherco 4, and Big Stone II. In doing so,
11 Dr. Amit improperly chose to ignore the cost estimates of network upgrades provided by
12 Excelsior in favor of those provided by Xcel witness Richard Gonzalez. As noted in my
13 Rebuttal Testimony, Mr. Gonzalez’s analyses suffer from several infirmities. Moreover,
14 Dr. Amit provided a comparison based upon transmission cost estimates from various
15 Commission proceedings resulting in an inappropriate ‘apple to oranges’ comparison.

16 **Q Please explain.**

17 A In the original filing to this Proceeding, Excelsior provided cost estimates (2005
18 dollars) for both the generator outlet (GO) facilities and potential network upgrades
19 (NUs) for power delivery. These are found in Section IV, pages 89-90. Table 15
20 identifies the GO costs as \$18.4 MM and \$99 MM for the West and East Range sites,
21 respectively. Table 17 indicates that the cost of NUs as \$75 MM and \$255 MM for the
22 West and East Range sites, respectively.

1 These same cost estimates were updated in my supplemental direct testimony.
2 See Supplemental Testimony of Stephen D. Sherner, at 10-13. Specifically, revised
3 Table 15 shows that the GO cost estimates had changed to \$17 MM and \$73 MM (2006
4 dollars) for the West and East Range sites, respectively. I also explained that the MISO
5 SIS had identified the need for a network upgrade necessary to solve local injection
6 issues at the West Range site which was estimated to cost \$53 MM. Accordingly, the
7 total cost of transmission for the West Range site to achieve Energy Resource
8 Interconnection Service was now \$70 MM (2006 dollars). The SIS for East Range did not
9 identify any interconnection/injection issues requiring network upgrades. In my Rebuttal
10 Testimony, I provided additional explanation of the \$75 MM and \$255 MM network
11 upgrade cost estimates. *See* Rebuttal Testimony of Stephen D. Sherner, at 12-13.

12 **Q What cost estimate was used by Dr. Amit for network upgrades associated with the**
13 **Mesaba Project in his transmission cost comparison?**

14 A Dr. Amit used the \$180 M cost estimate for network upgrades provided by Xcel
15 witness Richard Gonzalez in his Direct Testimony. In my Rebuttal Testimony, however,
16 I demonstrate that the studies that were the basis for the network upgrades proposed by
17 Mr. Gonzalez were not credible or reasonable. *See* Rebuttal Testimony of Stephen D.
18 Sherner, at 14-16. In particular, I demonstrated that Mr. Gonzalez's conclusion that a
19 new 345kV circuit was required for delivery of the output of Mesaba Unit One to the
20 Twin Cities was not justified. Compounding this error, while Mr. Gonzalez's study
21 included the new Boswell-Riverton 230kV line, his cost estimate did not include this
22 Network Upgrade cost. As such, through his reliance on Mr. Gonzalez's erroneous
23 analysis, Dr. Amit's transmission cost comparison is not reasonable.

1 Q Are there other issues with the transmission cost estimates used by Dr. Amit in his
2 comparison that are problematic?

3 A Yes. First, Dr. Amit also derived his \$91 MM Sherco 4 cost estimate from
4 Mr. Gonzalez Direct Testimony. See Direct Testimony of Richard Gonzalez, at 8. This
5 updated cost estimate was provided by Mr. Gonzalez based upon a previous 2005 Xcel
6 Base Load Siting Final Report. In my Rebuttal Testimony, I challenged the
7 comparability of this estimate to those for Mesaba Unit One. See Rebuttal Testimony of
8 Stephen D. Sherner, at 18-19. In sum, while the study methodology utilized in this 2005
9 effort allows a reasonable comparison between the alternate generation sites under
10 evaluation by Xcel, there is no assurance that evaluation of power delivery replicates the
11 MISO Deliverability Analysis necessary for NRIS or the evaluation methodology utilized
12 by MISO for granting NITS (firm transmission service). Further, since the study does not
13 include all higher queued generators and does not indicate that all known firm
14 transmission reservations have been included, it likely represents a highly conservative
15 approach and an understatement of the cost of network upgrades.

16 Second, the cost estimate Dr. Amit uses for Big Stone II is only for generator
17 outlet facilities designed to address interconnection/local injection issues, and does not
18 include the cost of network upgrades for firm power delivery. Also, the cost estimate
19 relied on by Dr. Amit has increased significantly, as reflected in the Prefiled
20 Supplemental Direct Testimony of Dean Pawlowski of Ottertail Power, dated October 2,
21 2006 submitted in Commission Docket No. CN-05-619, *et al.*, attached as Exhibit ...
22 (SDS-11). In this testimony, the current cost estimate for the generator outlet facilities is
23 \$109.8 MM for the preferred alternative. Importantly, this estimate is only what is

1 required for ERIS and does not include the cost of network upgrades associated with
2 power delivery to the project partners (either via NRIS or NITS).

3 **Q Based upon your review and explanations, can any valid comparisons be made?**

4 A Yes, the Big Stone II cost estimate of \$109.8 MM is comparable to the \$70 MM
5 and \$73 MM for the Mesaba West Range and East Range sites, respectively. Since
6 Mr. Gonzalez provides no breakdown of his Sherco 4 estimate between generator outlet
7 facilities and network upgrades, no valid comparison can be made to these Mesaba Unit
8 One cost estimates.

9 **Q In light of the discussion above, which cost estimates should be utilized for**
10 **estimating the likely cost of transmission associated with the Mesaba Unit One in**
11 **this Proceeding?**

12 A Until MISO has completed its evaluation of the NRIS and NITS requests, I
13 believe that the cost estimates provided by Excelsior provide the most reasonable and
14 reliable costs estimates, with one possible exception. If the Commission decides to take a
15 conservative approach to evaluating the network upgrades associated with the West
16 Range site by assuming that a new 345kV path will be necessary to ensure the firm
17 delivery of energy to Xcel, then using the \$180 MM cost estimate prepared by
18 Mr. Gonzalez combined with the \$53 MM cost of the network upgrades (new Boswell-
19 Riverton 230kV line) identified by MISO to resolve local injection issues may be
20 appropriate.

21 While I do not agree with Mr. Gonzalez's study results that require the 345kV
22 development, based upon my understanding of regional transmission needs, his proposed

1 network upgrades and cost estimate associated with a 345kV path represent a reasonable
2 estimate.

3 **Q Please restate the cost estimates that you believe the Commission should use in the**
4 **Proceeding.**

5 A The Mesaba Unit One cost estimates for generator outlet facilities are \$17 MM
6 and \$73 MM for the West Range and East Range sites, respectively. For the West Range
7 site, the minimum cost of network upgrades for power delivery is \$53 MM, while a
8 conservative estimate would be \$233 MM (\$53MM plus \$180MM (*i.e.*, Mr. onzalez's
9 345kV path estimate). The cost estimate for network upgrade the East Range site is \$255
10 MM, which I feel is a conservative figure, since it included some costs (\$8-10MM) for
11 network upgrades to solve anticipated local injection issues, while none were identified in
12 the MISO studies.

13 **Q In your judgment, would it be reasonable for the cost estimates you provide to be**
14 **relied on by the Commission in this Proceeding?**

15 A Absolutely. Significant engineering design work has already been done on the
16 generator outlet facilities for both sites to support the routing application for these
17 facilities. The unit costs estimates developed for these facilities were utilized in
18 preparation and updating of the network upgrade (NU) cost estimates. Using the
19 conservative approach outlined above, the NU cost estimates represent development of a
20 new 345 kV path from the MP Control Area to the Xcel Control Area for delivery of the
21 full output of Mesaba Unit One into the Twin Cities.

1 If the conservative network upgrade cost estimates of \$233 MM and \$255 MM for the
2 West Range and East Range are substituted into Dr. Amit's calculation of transmission
3 costs utilized to develop Table 22 in his rebuttal testimony, the Transmission Cost per
4 MWh would be \$2.27 for West Range and \$2.56 for East Range. See Rebuttal Testimony
5 of Eilon Amit, at 7. Based upon his calculation of the Excelsior PPA costs in Table 3 of
6 this same testimony, these represent about 2% of this figure. *Id.* at 8. To further put this
7 into perspective, if the network upgrades ultimately determined by MISO cost either
8 \$100 MM more or less than these NU estimates, the PPA cost would change less than 1%
9 based upon Dr. Amit's calculation methodology. As Dr. Amit had pointed out earlier in
10 his Direct Testimony at page 32, "the overall cost of the project may not be significantly
11 impacted by the inclusion or exclusion of transmission costs." I agree with this
12 assessment.

13 **Q. Does this conclude your testimony?**

14 **A.** Yes.

Exhibit ____ (SDS-10)

- Non Public Document – Contains Trade Secret Data
 Public Document – Trade Secret Data Excised
 Public Document

Xcel Energy

Docket No : E6472/M-05-1993

Response To: Excelsior Energy Information Request No 43

Date Received: September 13, 2006

Question:

Is Xcel Energy in any way involved in the development (*e.g.*, jointly owned unit) of a baseload generation project (greater than 20MW) that is currently pending in the Midwest Independent Transmission System Operator, Inc.'s Generator Interconnection Queue?

If so, please provide the following information: the nature of Xcel Energy's involvement and a detailed description of the project at issue, including expected commercial operation date, proposed point of interconnection, identification of project partners, size of the facility in MW, fuel type, status of the interconnection request, and plans for the proposed facility's use of the capacity and energy.

Response:

Objection, relevance, scope, overbroad and vague. Subject to these objections, Xcel Energy states:

Xcel Energy is involved as a potential partner in projects identified on the MISO Generation Queue as 38742-01 and 38742-02. At this point, Xcel Energy's involvement is exploratory with Minnesota Power and Great River Energy. Two separate interconnection requests were submitted to MISO. One request is for an interconnection near the Minntac substation and the other near the Hibbtac substation. Both interconnection requests are for 800 MW generating stations with identified in-service dates of 2012. The interconnection requests are for Network Resource Interconnection Service (NRIS) and are currently in the MISO study process. The transmission requests are exploratory in nature and no determination of fuel or facility type or plans for use of capacity and energy have been finalized.

Response By: Karen Hyde

Title: Managing Director

Department: Resource Planning and Acquisition

Date: September 27, 2006

Exhibit ____ (SDS-11)

OAH No. 12-2500-17037-2, MPUC Dkt No. CN-05-619
and OAH No. 12-2500-17038-2, MPUC Dkt No. TR-05-1275

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION BY OTTER TAIL POWER COMPANY

AND OTHERS

FOR CERTIFICATION OF TRANSMISSION FACILITIES IN WESTERN MINNESOTA

AND

IN THE MATTER OF THE APPLICATION TO THE MINNESOTA PUBLIC UTILITIES COMMISSION

FOR A ROUTE PERMIT FOR THE BIG STONE TRANSMISSION PROJECT

IN WESTERN MINNESOTA

PREFILED SUPPLEMENTAL DIRECT TESTIMONY

OF

DEAN PAWLOWSKI

PROJECT MANAGER, BIG STONE TRANSMISSION PROJECT

OTTER TAIL POWER COMPANY

OCTOBER 2, 2006



PREFILED SUPPLEMENTAL DIRECT TESTIMONY OF DEAN PAWLOWSKI

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1 **BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

2 **PREFILED SUPPLEMENTAL DIRECT TESTIMONY OF DEAN PAWLOWSKI**

3 **I. INTRODUCTION**

4 **Q: Please state your name and business address.**

5 A: My name is Dean Pawlowski. My business address is 215 S. Cascade Street, Fergus
6 Falls, MN 56537

7 **Q: Did you provide prefiled direct testimony in this matter?**

8 A: Yes, I did. My prefiled direct testimony is marked as Applicants' Exhibit 27.

9 **II. PURPOSE AND SUMMARY OF TESTIMONY**

10 **Q: What is the purpose of your testimony?**

11 A: The purpose of my testimony is to describe the arrangements the Applicants have made
12 to respond to possible cost increases in the transmission interconnection facilities proposed in
13 this proceeding (the "Big Stone Transmission Project," or "Project"), and to provide the latest
14 information on the projected costs of the Project. It is not my purpose to address cost increases
15 with respect to the Big Stone Unit II power plant; those matters are addressed in the
16 supplemental direct testimony of Mark Rolfes and others.

17 **Q: Please summarize your supplemental testimony.**

18 A: The Applicants anticipate that the costs of the Big Stone Transmission Project will
19 increase over current estimates due to inflationary pressures, causing an increase in material and
20 labor costs, or to unanticipated changes in the Project itself. In order to be prepared for possible
21 price increases in the future, the Applicants have decided to create a Reserve Fund in an amount
22 equal to 20% of the currently estimated costs for the transmission facilities for which a
23 Certificate of Need is sought. Presently, the estimated costs are within the range estimated at the

!

1 time the Application was filed. To the extent that costs increase, they should increase for all of
 2 the transmission alternatives under consideration. As a result, the Applicants' preferred
 3 alternative – the Granite Falls Line and the Morris Line - remain the lowest cost alternative.

4 **III. RESERVE FUND**

5 **Q: How have the Applicants prepared to address the possibility that the cost of the**
 6 **Transmission Project may increase?**

7 A: The Applicants have decided to create a Reserve Fund that will provide a source of
 8 money to accommodate any price increases that may occur with the passage of time and to pay
 9 for minor scope changes in the Project, such as a deviation from the preferred route or additional
 10 mitigation requirements imposed by state or federal agencies.

11 **Q: How large is the Reserve Fund?**

12 A: The Applicants have determined to create a Reserve Fund equal to 20% of the estimated
 13 cost for the transmission facilities under consideration in this proceeding. The 20% figure was
 14 chosen to allow for reasonable, anticipated minor price increases or Project scope changes that
 15 typically occur in a project of this nature, such as price increases above inflation, changes in
 16 route, and additional mitigation measures. The Applicants did not attempt to account for major
 17 unforeseeable events that could drastically change the cost of the project, such as using more
 18 expensive structure designs, price changes due to shortages, or discovering a significant cultural
 19 find along the route. The 20% figure means that the Reserve Fund will have over \$20 million
 20 available for future cost increases.

21 **Q: How do the Applicants intend to maintain the Reserve Fund?**

1 A: The Reserve Fund will be funded through the acquisition of loans or lines of credit that
 2 the Applicants can draw upon should additional funds be required to pay cost increases in the
 3 Project.

4 **IV. ESTIMATED COSTS**

5 **Q: Have the Applicants estimated the cost of the Transmission Project?**

6 A: Yes. The Applicants have made and presented several estimates of the projected costs of
 7 the Project. The Applicants provided costs estimates in the Application, in the Route Permit
 8 Application, in responses to Information Requests, and Myron Rader presented cost estimates in
 9 his prefiled direct testimony (Applicants' Exhibit 30-A). The Applicants continue to evaluate the
 10 anticipated costs of the Project. However, as of this date, no detailed engineering has been
 11 completed and no firm quotes for material or construction labor have been sought, so the costs
 12 are estimated.

13 **Q: What is the present estimate for the cost of your preferred alternative for the**
 14 **Transmission Project?**

15 A: The present estimate is that the preferred alternative – a 230 kV line to Morris and a 345
 16 kV line operated initially at 230 kV to Granite Falls – will cost approximately \$110 million
 17 dollars in 2006 dollars. The cost estimate for the preferred alternative and for the Willmar
 18 alternative are shown in the table below.

19

1

	Morris/Granite Falls Alternative (Preferred Alternative)	Willmar/Granite Falls Alternative
	Big Stone to Granite Falls Built 345, Operate 230	Big Stone to Granite Falls Built 345, Operate 230
	Big Stone to Morris 230	Big Stone to Willmar 230
Interconnection Facilities		
BSP – Johnson Junction 230 kV	\$15,300,000	
Convert Johnson Jct – Morris to 230 kV	\$8,200,000	
New BSP - Canby	\$25,200,000	\$25,200,000
Conver Canby – Granite Falls	\$24,300,000	\$24,300,000
Johnson Jct 230/115 kV Substation	\$6,600,000	
Canby Substation	\$8,000,000	\$8,000,000
Morris 230 kV substation Alterations	\$6,000,000	
Granite Falls Substation	\$2,000,000	\$2,000,000
Willmar 230/115/69 kV Sub Alterations		\$6,300,000
Big Stone 230 kV Substation Additions	\$4,200,000	\$4,200,000
Big Stone 345 kV Substation	\$9,500,000	\$9,500,000
BSP – Willmar 230 kV		\$35,800,000
Total	\$109,300,000	\$115,300,000
Interconnection Facility Upgrades		
BSP – Browns Valley 230 Line Re- Route	\$500,000	\$500,000
Ortonville – Johnson Jct 115 kV		\$5,750,000
Johnson Jct – Morris 115 kV		\$7,125,000
Capacitor Bank Willmar		\$980,000
Total		
TOTAL INTERCONNECTION COST	\$109,800,000	\$129,655,000

2

3 **Q: How do the present cost estimates compare with the earlier estimates?**

4 **A:** The present estimates are not significantly higher than what was presented earlier. The
 5 estimates are within the range of costs provided in the Application. For quick reference, I have

1 provided a summary of the various cost estimates for the preferred alternative along with the
 2 addition of the 20% reserve contingency in the table below:

	CON Application – Sept. 2005 ¹	Exhibit 30-A ² June 2005	Present Estimate ² October 2006
Costs of Preferred Alternative (Millions of Dollars)	\$93 - \$135	\$102.5	\$109.8
Costs with 20% Contingency (Millions of Dollars)	\$112 - \$158	\$123	\$132

3

4 I have not calculated the costs for the other alternatives but I would expect them to be
 5 proportionally the same.

6 **Q: Is the Applicants' preferred alternative still the least expensive of the alternatives**
 7 **under consideration?**

8 A: Yes. Because a line to Willmar is approximately 30 miles longer than the line to Morris,
 9 including a large amount of entirely new right-of-way, the Willmar alternative is undoubtedly
 10 more expensive than the shorter Morris alternative. In addition, the Willmar alternative requires
 11 a reconductoring of the Morris line. In sum, the Willmar alternative is approximately \$20
 12 million more expensive than the Morris alternative.

13 **Q: Does this conclude your testimony?**

14 A: Yes.

¹ 2010 Dollars.

² 2006 Dollars