

Rebuttal Testimony and Schedules

Amy Ashbacker

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter of the Application of  
ITC Midwest LLC for a Certificate of  
Need for the Minnesota-Iowa 345 kV  
Transmission Line Project in Jackson,  
Martin, and Faribault Counties

PUC Docket No. ET-6675/CN-12-1053  
OAH Docket No. 60-2500-30782

In the Matter of the Application of  
ITC Midwest for a Route Permit for  
the Minnesota-Iowa 345 kV  
Transmission Project and Associated  
Facilities in Jackson, Martin, and  
Faribault Counties

PUC Docket No. ET-6675/TL-12-1337  
OAH Docket No. 60-2500-30782

REBUTTAL TESTIMONY OF

AMY ASHBACKER

On Behalf of

ITC MIDWEST LLC

April 25, 2014

Exhibit \_\_\_\_\_

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1 I. INTRODUCTION

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**Q. PLEASE STATE YOUR NAME.**

A. My name is Amy Ashbacker.

**Q. DID YOU PROVIDE DIRECT TESTIMONY IN THIS DOCKET ON FEBRUARY 24, 2014?**

A. Yes. I provided direct testimony on behalf of ITC Midwest LLC ("ITC Midwest" or the "Company").

**Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY PROVIDED BY OTHER PARTIES TO THE CERTIFICATE OF NEED PROCEEDING AND THE DRAFT ENVIRONMENTAL IMPACT STATEMENT ("DRAFT EIS")?**

A. Yes. I have reviewed the direct testimony filed by other parties and the Draft EIS.

**Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

A. My rebuttal testimony responds to the direct testimony of Department of Commerce, Division of Energy Resources ("DOC-DER") witness Mark Johnson relating to the ITC Midwest's cost estimates for Minnesota - Iowa 345 kV Transmission Project ("Project") and his recommendation, joined by DOC-DER witness Dr. Steve Rakow, that a cost cap be imposed for the Project. In particular, I address several premises of this proposal by explaining (i) why it would not be practical or prudent for ITC Midwest to undertake comprehensive cost investigation before the Minnesota Public

1 Utilities Commission (“Commission”) determines need and route location;  
2 (ii) the reasons a +/- 30 percent range in our cost estimate is appropriate at  
3 this stage in the process; and (iii) ITC Midwest’s incentives to contain costs  
4 outside of the Certificate of Need proceeding. I also provide an update on  
5 the Winnebago Junction Substation real estate transfer and ITC Midwest’s  
6 acquisition efforts at the Lakefield Junction Substation.

7  
8 **Q. WHAT SCHEDULES ARE ATTACHED TO YOUR REBUTTAL TESTIMONY?**

9 A. Schedule 2: Customer Price Reports, Steel (April 14, 2014).

10 Schedule 3: ITC Midwest response to DOC-DER Information Request  
11 No. 31.

12  
13 **II. RESPONSE TO JOHNSON TESTIMONY**

14  
15 **Q. IN HIS DIRECT TESTIMONY, MR. JOHNSON PROPOSES A CAP ON PROJECT**  
16 **COSTS BASED ON SEVERAL CRITICISMS OF THE QUALITY OF ITC MIDWEST’S**  
17 **COST ESTIMATES. WHAT IS YOUR UNDERSTANDING OF THE SUBSTANCE OF**  
18 **HIS CRITICISMS?**

19 A. With respect to the Project costs, Mr. Johnson questions the reasonableness  
20 of ITC Midwest’s estimates for purposes of the Commission’s review of  
21 the proposed Project because ITC Midwest did not provide a firm cost  
22 calculation. As I understand his testimony, Mr. Johnson believes that the  
23 estimates should be more precise even though there are many Project  
24 components with respective costs that cannot be identified at this stage. In  
25 particular, Mr. Johnson questions ITC Midwest’s decision not to “do[] the

1 work necessary to create a cost estimate” that would allow for a tighter  
2 bandwidth of uncertainty than +/- 30 percent. (Johnson direct testimony,  
3 p. 16.) Mr. Johnson uses these stated concerns to propose a condition that  
4 would require ITC Midwest to justify any costs exceeding \$283 million, the  
5 high-end estimate for one possible route alternative and the Iowa  
6 segments, before recovering such costs under ITC Midwest’s Midcontinent  
7 Independent System Operator, Inc. (“MISO”) tariff. In addition, Mr.  
8 Johnson suggests that absent a cost cap, ITC Midwest has little incentive to  
9 ensure reasonable estimates and to contain costs on transmission project  
10 costs.

11  
12 **Q. DOES ITC MIDWEST SUPPORT MR. JOHNSON’S CONDITION?**

13 A. No. ITC Midwest opposes the cost cap condition. As ITC Midwest  
14 President Douglas Collins testifies in his rebuttal testimony, the Federal  
15 Energy Regulatory Commission (“FERC”) has exclusive jurisdiction over  
16 ITC Midwest rates because ITC Midwest is a transmission-only company  
17 providing service at the wholesale level. A cost cap would conflict with  
18 FERC’s jurisdiction and potentially prevent ITC Midwest from recovering  
19 costs actually and prudently incurred to construct the Project.

20  
21 **Q. DO YOU BELIEVE MR. JOHNSON’S CONCERNS ARE OTHERWISE JUSTIFIED?**

22 A. No. ITC Midwest included reasonable cost information in its Certificate of  
23 Need application as required by Minnesota Rules. ITC Midwest undertook  
24 the proper level of evaluation and investigation into potential costs to  
25 develop estimates appropriate for a proceeding in which need is still being

1 assessed and 27 potential route segment alternatives that can be combined  
2 in various configurations are being considered.<sup>1</sup> As previously stated, at  
3 this point in the process there are many variables in cost that can only be  
4 approximated until the Project is further developed and designed. ITC  
5 Midwest's approach to developing these estimates, including an  
6 uncertainty bandwidth of +/- 30 percent at this early stage of the Project, is  
7 consistent with ITC Midwest's practice and standard practice within the  
8 transmission construction industry. Finally, so long as the estimates for  
9 ITC Midwest's preferred option and any reasonable alternatives are  
10 prepared on the same basis, as they were here, the Commission can  
11 appropriately evaluate the relative costs of the alternatives.

12  
13 **Q. BEFORE GETTING INTO THE UNCERTAINTIES YOU IDENTIFIED, CAN YOU**  
14 **GENERALLY DESCRIBE HOW A TRANSMISSION LINE PROJECT TO BE LOCATED**  
15 **IN MINNESOTA IS DEVELOPED OVER TIME?**

16 **A.** There are many significant activities that must occur over the course of  
17 several years. At the Company level, a project is initiated when planning  
18 engineers identify a need for new facilities and determine the specific  
19 components of that project, *i.e.* lines, substations, and equipment. At this  
20 stage, general estimates of transmission line length are made based  
21 primarily on distances between substation connections.

22  

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<sup>1</sup> The following alternatives, as identified in the EIS Scoping Decision, are under consideration: Route A, Route B, J1-R, J2-R, JMA-W, JMA-E, MI-R FL-W, M2-R, M3-R, M4-R, M5-R, M6-R, M7-R, M8-R, M9-R, M10-R, M11-R, M12-R, M14-R, M15-R, F1-R, F3-R, PG-N, PG-S, I-90-A (with four Options) plus alignment alternatives, J1-A, J3-A, M16-A, M17-A, F2-A, F4-A.

1 At the application stage, where we are now in this proceeding, routes  
2 between the substations are developed based on routing criteria,  
3 Geographic Information System data, and on-the-ground investigations of  
4 visible conditions.

5  
6 Once regulatory approval is obtained for a route, then preliminary field  
7 work begins, including aerial surveys, soil borings, and the assessment of  
8 local site conditions. Design engineers can then develop the specifics of the  
9 project, including the type of structures at each location, structure  
10 locations, and foundations requirements. ITC Midwest also seeks all other  
11 State, Federal, and local permits needed for the Project at this stage. Real  
12 estate acquisition occurs in parallel with engineering. After design is  
13 complete for a specific segment, project management evaluates and  
14 schedules materials and crews and obtains contracts for the physical  
15 construction of the project.

16  
17 **Q. WHAT FACTORS DID ITC MIDWEST CONSIDER IN PREPARING THE COST**  
18 **ESTIMATES FOR THE PROJECT IN THE ROUTE PERMIT AND CERTIFICATE OF**  
19 **NEED APPLICATIONS?**

20 **A.** ITC Midwest's costs include the following components:

- 21 • Type of structure configuration based on route location;
- 22 • Number of typical tangent structures based on 800-foot-spans for  
23 345 kV and 345 kV/161 kV facilities and 600 feet for 161 kV  
24 associated facilities;

- 1 • Number of typical dead-ends for storm structures and for angles  
2 over 30 degrees based on route location;
- 3 • Number of foundations for each of the above structure types;
- 4 • Length of conductor based on route location and co-location  
5 opportunities with existing circuits;
- 6 • Number of insulators and other structure framing materials based  
7 on the number and type of structures;
- 8 • Length for one standard static wire and one static wire with fiber  
9 optics based on route location;
- 10 • Right-of-way acquisition based on length determined by route  
11 location;
- 12 • Vegetation clearing lump sum amount based on route location;
- 13 • Costs to retire existing lines based on route location and anticipated  
14 co-location with new structures; and
- 15 • Lump sum project costs for design and surveying; regulatory and  
16 legal; and environmental and cultural studies.

17

18 **Q. WHAT ARE TYPICALLY THE LARGEST COST DRIVERS FOR A TRANSMISSION**  
19 **LINE PROJECT?**

20 A. Typically, the most significant costs are materials and labor. For the  
21 Minnesota portion of the Project, materials and labor represent more than  
22 70 percent of the Project costs.

23



1 Q. WHY DID ITC MIDWEST CHOOSE NOT TO UNDERTAKE A MORE IN-DEPTH  
2 COST ASSESSMENT PROCESS TO DEVELOP A MORE REFINED COST ESTIMATE?

3 A. Until a route permit is issued, the final route is not known. Also, ITC  
4 Midwest has no right to enter property for surveying or soil boring activity  
5 unless voluntary access is granted by the property owner. It is impractical  
6 for ITC Midwest to obtain private property access rights while 27 route  
7 alternatives and various route segments are still under consideration.  
8 There are several other reasons why a more in-depth cost assessment  
9 would not be a prudent exercise for ITC Midwest to undertake on behalf of  
10 its customers. I will address two of them.

11  
12 First, there is a significant cost associated with developing engineering-  
13 level estimates that Mr. Johnson appears to call for in his testimony. For  
14 example, ITC Midwest could have undertaken an aerial survey of the  
15 entire study area and processed the data for Route A and Route B. This  
16 task would have (i) cost approximately \$3,000 per mile; (ii) delayed the  
17 filing for several months; and (iii) provided results for routes that may not  
18 be used if the Commission ultimately selects a different route. The number  
19 of potential routes has since increased through the scoping process.

20  
21 Second, there are a number of important cost factors that can vary  
22 significantly between the filing of a Certificate of Need application and  
23 construction of a project. Transmission lines are major infrastructure  
24 projects and it is not unusual for a project to take several years from a  
25 determination of need to construction activities. The primary inputs to our

1 estimates can vary greatly over time due to variability in pricing caused by  
2 demand and other economic conditions outside of our control. For  
3 example, MVP Project 3 was identified as a needed project by MISO in its  
4 Transmission Expansion Plan approved by the MISO Board of Directors in  
5 fall of 2011. The in-service date is 2017.

6  
7 **Q. WHAT ARE SOME OF THE COST FACTORS THAT CAN VARY BETWEEN**  
8 **DEVELOPMENT OF A CERTIFICATE OF NEED APPLICATION AND INITIAL**  
9 **CONSTRUCTION OF A PROJECT?**

10 **A.** There are many, including for example:

- 11 • **Material prices:** The price of material inputs can vary significantly at  
12 different points in time. For example, **Schedule 2** shows the price of  
13 steel varied 20 percent between April 2012 and April 2014, from  
14 \$28.59 to \$34.39 per hundredweight (CWT).
- 15 • **Land acquisition costs:** Land prices can vary greatly over time. For  
16 example, the per acre price for agricultural land in Faribault, Martin,  
17 and Jackson counties was \$3,117 in 2008 and \$7,849 in 2013. While  
18 land prices have generally been rising, they can also fall. The Buy-  
19 the-Farm statute, Minnesota Statutes Section 216E.12, subdivision 4,  
20 could also have a significant impact on the actual cost of the Project.  
21 This statute provides that certain landowners along the 345 kV line  
22 can opt to require ITC Midwest to acquire more land than the  
23 limited easement area. The number of landowners who will elect  
24 Buy-the-Farm will not be known until the route is finalized by the  
25 Commission and any potential condemnation petitions are filed.

- 1 • **Crop Prices:** The area has also seen variability of crop prices. In 2008  
2 the average prices were: corn \$4.78 and soybeans \$11.32. In 2013, the  
3 average prices were: corn \$6.15 and soybeans \$14.07. These crop  
4 prices can influence overall project costs because ITC Midwest pays  
5 landowners for crop damages caused during construction of the  
6 Project and for three years after construction.
- 7 • **Construction Labor and Equipment Costs:** These costs can vary  
8 depending on timing of construction and when ITC Midwest lets  
9 contracts. One factor that may influence the ultimate cost is the  
10 number of other transmission projects simultaneously under  
11 construction which would affect the availability of skilled workers  
12 available for this Project and the wages that must be paid to retain  
13 them.
- 14 • **Sequencing:** The route determination will also affect construction  
15 sequencing. Depending on the route, different existing transmission  
16 lines will have to be taken out of service and will limit construction  
17 windows differently. Weather can also affect construction schedules  
18 and costs.

19  
20 **Q. ARE THERE OTHER REASONS IT WOULD NOT BE PRUDENT FOR ITC MIDWEST**  
21 **TO DEVELOP DETAILED COST ESTIMATES BEFORE COMPLETING THE INITIAL**  
22 **PERMITTING STAGE?**

23 **A.** Yes. In addition to (i) the costs involved in undertaking detailed cost  
24 estimation before the Commission makes a finding of need and (ii)  
25 uncertainty regarding the future cost of a project planned many years in

1 advance, many cost factors are affected by the final line location and  
2 cannot be estimated with additional certainty until the Route Permit is  
3 issued. These include:

- 4 • Length;
- 5 • Structure types (double circuit, triple circuit, lake crossings);
- 6 • Number of angle structures;
- 7 • Terrain (spans, structure heights, and matting needed for  
8 construction);
- 9 • Soil conditions (foundations);
- 10 • Access constraints;
- 11 • Amount of right-of-way required;
- 12 • Amount of vegetation clearing required;
- 13 • Preliminary outage schedule and impacts, if following an existing  
14 transmission line; and
- 15 • Impacts of other utilities will play in the design and construction of  
16 the line, *i.e.*, the costs associated with undergrounding distribution  
17 lines or crossing of natural gas or oil pipelines.

18  
19 **Q. ARE THERE ANY SPECIFIC ROUTING UNCERTAINTIES FOR THIS PROJECT THAT**  
20 **COULD HAVE A SIGNIFICANT IMPACT ON THE TOTAL PROJECT COSTS?**

21 **A.** Yes. I note that the draft EIS includes route options for route alternatives  
22 I90-1 and I90-2 that would remove the existing 161 kV lines from Fox Lake,  
23 Lake Charlotte, and the area directly north of Fox Lake. This change would  
24 add approximately \$7.8 million in costs to the Project. This is just one

1 example of costs that are dependent on the outcome of the Route Permit  
2 proceeding.

3  
4 **Q. MR. JOHNSON INDICATES IN HIS TESTIMONY THAT ITC MIDWEST COULD**  
5 **HAVE PROVIDED BETTER ESTIMATES IF IT HAD CONDUCTED SOIL BORINGS,**  
6 **FOR EXAMPLE (JOHNSON DIRECT TESTIMONY, P. 16.). WHAT IS YOUR**  
7 **RESPONSE?**

8 A. Soil borings can provide a general indication of soil conditions. However,  
9 undertaking borings at the time ITC Midwest filed its Certificate of Need  
10 and Route Permit applications (“Applications”) would have been  
11 impractical and imprudent because the route has not been selected.  
12 Additionally, soil borings alone do not provide enough information for  
13 estimated foundation costs. Rock probes, at every structure location,  
14 should be performed to accurately estimate foundation costs anticipated  
15 for a project. Furthermore, land prices, labor, materials, etc. are still subject  
16 to potentially volatile variability in pricing that is difficult to estimate three  
17 to four years prior to construction.

18  
19 **Q. WHY WOULD CONDUCTING SOIL BORINGS HAVE BEEN IMPRACTICAL PRIOR**  
20 **TO FILING THE APPLICATIONS?**

21 A. It would be impractical because soil borings are typically completed once  
22 per mile along the proposed route, as well as at dead-end and angle  
23 locations. The proposed Project is approximately 72 miles long and the  
24 routing rules required ITC Midwest to propose at least two routes for the

1 Project. There are also associated 161 kV lines<sup>2</sup> that will be constructed  
2 with this Project. Importantly, ITC Midwest would have to seek and obtain  
3 permission from every private landowner to take soil borings. For the two  
4 routes and five connector segments in the Route Permit Application alone,  
5 the number of parcels exceeds 1,500.

6  
7 Moreover, under current Minnesota law, the routes in ITC Midwest's  
8 Route Permit Application were merely the starting point for the routing  
9 process. The EIS Scoping Decision subsequently identified 27 routes  
10 alternatives (totaling many possible route combinations) that are now  
11 being considered.

12  
13 Based on the post-permit schedule of work we have developed for the  
14 Project, I estimate that soil borings will cost between \$3,000-\$14,000 per  
15 mile, depending on such factors as ease of access, site conditions, and  
16 weather. It is typically possible to complete 1-3 borings (roughly 1-3 miles)  
17 per day depending on these same factors. As such, I estimate it will cost  
18 between \$216,000 and \$1.1 million to undertake soil borings for a single 72-  
19 mile route and develop the report. This process takes three months: a  
20 month to complete taking borings and another two months to analyze the  
21 data and develop the report.

22  

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<sup>2</sup> The associated facilities include rebuilding 161 kV lines and 69 kV lines to 161 kV standards.

1 Q. WHY WOULD CONDUCTING SOIL BORINGS NOT PROVIDE ENOUGH  
2 INFORMATION FOR ESTIMATING FOUNDATION COSTS?

3 A. In our experience, additional investigation is required after soil borings to  
4 fully assess the conditions at a specific structure location. For a recent  
5 project, we completed soil borings at one-mile increments. During  
6 construction, the crews encountered rock at specific pole locations which  
7 resulted in an 11 percent increase in labor costs and numerous foundation  
8 re-designs with associated costs. As a result of this experience, ITC  
9 Midwest's practice is to complete rock probes at every structure location,  
10 which again requires landowner permission. For these reasons, ITC  
11 Midwest has deferred detailed engineering work until the Route Permit  
12 has been issued and final pole locations can be identified.

13  
14 Q. WHY DO YOU BELIEVE THE LEVEL OF COST UNCERTAINTY INCLUDED IN ITC  
15 MIDWEST'S APPLICATION IS REASONABLE?

16 A. ITC Midwest stands by the response it provided to DOC-DER Information  
17 Request No. 31 attached to my testimony as **Schedule 3**. In particular:

18  
19 Specifically, ITC Midwest developed these estimates  
20 prior to completion of any soil borings to assess  
21 foundation requirements, detailed engineering design,  
22 or definition of access requirements; all factors that can  
23 cause significant variation in construction costs. The  
24 project cost is also subject to uncertainties in steel and  
25 other commodity prices, station equipment prices,

1 construction resource availability and scheduling  
2 coordination with other construction projects. The  
3 plus/minus 30 percent bandwidth was developed to  
4 reflect all of these uncertainties.

5  
6 **Q. MR. JOHNSON ALSO SUGGESTS ITC MIDWEST HAS LITTLE INCENTIVE TO**  
7 **CONTAIN PROJECT COSTS IF THE CERTIFICATE OF NEED DOES NOT CONTAIN**  
8 **A COST CAP (JOHNSON DIRECT TESTIMONY, P. 10). DO YOU AGREE?**

9 **A.** No. ITC Midwest has multiple incentives for developing reasonable cost  
10 estimates and for containing projects costs. Primarily, ITC Midwest is  
11 solely focused on transmission. Given that transmission is our singular  
12 business, it is in the best interest of our reputation and credibility to  
13 complete projects within the estimated budgets we develop. The  
14 importance of being “on budget” will become increasingly important in a  
15 FERC Order 1000 competitive environment.

16  
17 As a transmission-only utility, ITC Midwest is focused solely on activities  
18 to maintain and modernize the transmission grid and has a strong track  
19 record of effective investment in new transmission infrastructure, along  
20 with best-in-class preventative maintenance practices, to support  
21 improvements in operational performance and system reliability. FERC  
22 has recognized that the independent transmission company model  
23 promotes these goals, and has provided incentives to encourage use of the  
24 model.



1 **Q. DOES DR. RAKOW RAISE THE SAME CONCERNS?**

2 A. It appears so. While Dr. Rakow analyzes the estimates using the +/- 30  
3 percent range, he ultimately recommends that the Commission not  
4 approve the Project unless ITC Midwest agrees to Mr. Johnson's cost cap  
5 condition. He also notes that ITC Midwest's per mile cost is less than the  
6 per mile costs in MISO's Northern Area Study ("NAS") regional  
7 evaluation of production cost savings potential and reliability issues in  
8 MISO's northern footprint dated June 2013. p. 24. As I understand Dr.  
9 Rakow's argument, he believes there is a risk that actual Project costs will  
10 be greater than estimated because these MISO costs are higher.

11

12 **Q. HAVE YOU REVIEWED DR. RAKOW'S DIRECT TESTIMONY REGARDING ITC**  
13 **MIDWEST'S COST CALCULATIONS FOR THE PROJECT COMPARED TO GENERIC**  
14 **COST ESTIMATES FOR TRANSMISSION PROJECTS?**

15 A. Yes. Dr. Rakow makes several statements regarding the Project and  
16 generic cost estimates that stem from a MISO study on pages 23 through  
17 25 of this direct testimony.

18

19 **Q. DO YOU AGREE WITH DR. RAKOW'S USE OF THE MISO FIGURES FOR**  
20 **COMPARISON PURPOSES TO THE PROJECT?**

21 A. No. I don't agree with Dr. Rakow's use of the "generic indicative cost  
22 estimate" figures from MISO's NAS that he mentions on page 24 of his  
23 direct testimony.

24

1 **Q. WHY DO YOU DISAGREE?**

2 A. The cost estimates are not directly applicable here because they are general  
3 estimates, intended to be used as indicative estimates, subject to the  
4 specifics of any given project. Dr. Rakow takes figures out of Table 4-1 of  
5 the NAS (“Generic Indicative Transmission Line Costs”), which includes  
6 the following introductory paragraph that confirms the limitations of these  
7 estimates.

8

9 The costs in Table 4-1 are indicative in nature; actual  
10 costs associated with an individual project may  
11 significantly differ than those generically calculated  
12 because of factors including geography, right-of-way,  
13 environmental considerations, and project scope.  
14 Throughout this report generically calculated project  
15 costs are denoted with an asterisk (\*).

16

17 **Q. DO YOU AGREE WITH THE STATEMENT THAT YOU QUOTE FROM MISO’S**  
18 **NAS?**

19 A. Yes. The cost of a particular transmission project is heavily site dependent,  
20 and the eventual cost for this Project depends upon the route approved by  
21 the Commission. The NAS recognizes this site dependence by using more  
22 project specific cost estimates where available and qualifying the  
23 generically calculated project costs by using an asterisk, as stated in the  
24 quote from the NAS.

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**Q. DOES THE NAS CONTAIN SPECIFIC COST ESTIMATES FOR THE PROJECT?**

A. No.

**Q. DO YOU HAVE ANOTHER DISAGREEMENT WITH DR. RAKOW’S USE OF THE NAS?**

A. Yes. The cost estimates for the Project that Dr. Rakow repeats on page 23 of his direct testimony are stated in nominal dollars. So is the cost for MVP Project 3 that is stated on that same page. However, Dr. Rakow uses those nominal dollar values to calculate costs per mile that are compared with the above-mentioned generic indicative cost estimates from the NAS *adjusted upward to reflect 2017 dollars (i.e., adjusted from the NAS figures stated in 2012 dollars)*. On page 24 of his direct testimony, he explains that 2017 dollars were selected due to “an assumed in-service date of 2017.” But the higher cost figures that he reports by using the NAS figures are partly the result of comparing cost per mile based on 2017 dollars (the so-called “MISO cost per mile”) with Project costs stated in nominal dollars (or, a mix of 2014-2017 dollars).

**Q. WHAT DO YOU CONCLUDE FROM YOUR REVIEW OF THE COST COMPARISONS STATED ON PAGES 23-25 OF DR. RAKOW’S DIRECT TESTIMONY?**

A. I conclude that the comparisons will not assist the Commission in its evaluation of the Project. The best estimates for the cost for the Project are contained in the Applications and associated testimony submitted on



IV. CONCLUSION

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5

**Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**



**A. Yes it does.**

6107017

## Custom Price Reports

### Disclaimer: Important Please Read Carefully

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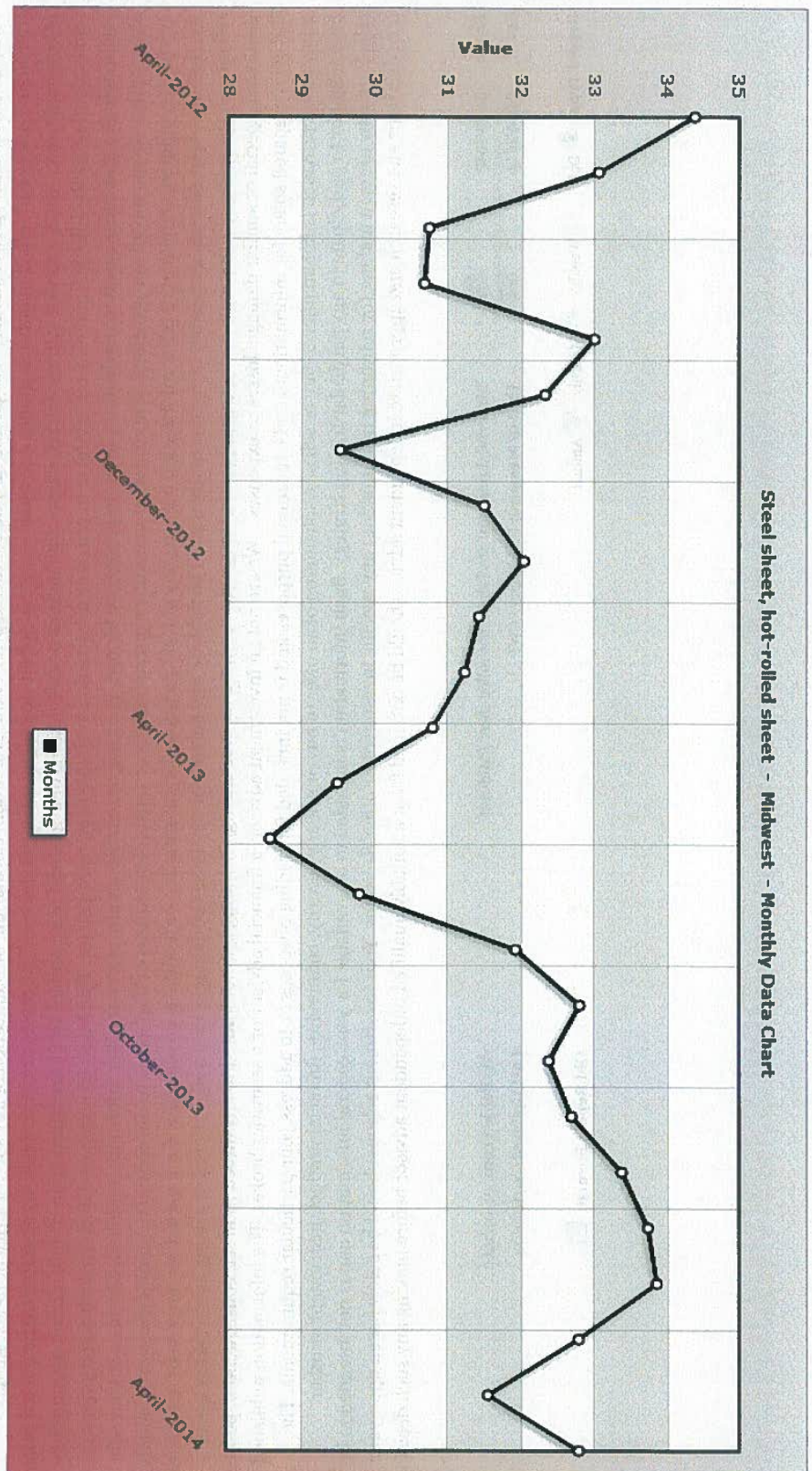
From: 04/03/2012  Material/Location: Steel sheet, hot-rolled sheet / Midwest Avai  
 To: 04/14/2014  Unit of Measure: US (dollar) / CWT Last  
 Report Type:  Daily  Weekly  Monthly  Annual Old

PERIOD	Monthly Average For (04/03/2012 - 04/14/2014)
April-2014	32.80
March-2014	31.56
February-2014	32.80
January-2014	33.87
December-2013	33.75
November-2013	33.39
October-2013	32.70
September-2013	32.39

August-2013	32.81
July-2013	31.93
June-2013	29.81
May-2013	28.59
April-2013	29.51
March-2013	30.81
February-2013	31.24
January-2013	31.43
December-2012	32.04
November-2012	31.50
October-2012	29.54
September-2012	32.33
August-2012	33.01
July-2012	30.69
June-2012	30.75
May-2012	33.07
April-2012	34.39

From	To	Unit	Price
08/01/2013	08/31/2013	32.81	32.81
07/01/2013	07/31/2013	31.93	31.93
06/01/2013	06/30/2013	29.81	29.81
05/01/2013	05/31/2013	28.59	28.59
04/01/2013	04/30/2013	29.51	29.51
03/01/2013	03/31/2013	30.81	30.81
02/01/2013	02/28/2013	31.24	31.24
01/01/2013	01/31/2013	31.43	31.43
12/01/2012	12/31/2012	32.04	32.04
11/01/2012	11/30/2012	31.50	31.50
10/01/2012	10/31/2012	29.54	29.54
09/01/2012	09/30/2012	32.33	32.33
08/01/2012	08/31/2012	33.01	33.01
07/01/2012	07/31/2012	30.69	30.69
06/01/2012	06/30/2012	30.75	30.75
05/01/2012	05/31/2012	33.07	33.07
04/01/2012	04/30/2012	34.39	34.39







## Custom Price Reports



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From:    
To:  Material/Location: Steel sheet, hot-rolled sheet / Midwest  
Unit of Measure: US (dollar) / CWT

Available From: 01/01/1960  
Last Updated: 04/10/2014

Report Type:  Daily  Weekly  Monthly  Annual

Old Report Format:

