Minnesota Public Utilities Commission
Staff Briefing Papers

Meeting Date: May 3, 2012 ....**Agenda Item **#5**

Companies:	ITC Midwest LLC and Interstate Power & Light
Docket No.	ET-6675/CI-11-1178 In the Matter of ITC Midwest LLC Compliance with Commitments in Docket E001/PA-07-540 to Improve the Transmission System and Relieve Constraints Docket No. E-001/PA-07-540 In the Matter of the Joint Petition for Approval of Transfer of Transmission Assets of Interstate Power and Light Company to ITC Midwest LLC
Issue(s):	Whether ITC Midwest, LLC's failure to complete the Salem-Lore-Hazelton 345kV transmission line by December 31, 2011 is in violation of terms of the Commission's February 7, 2008 Order Approving Transfer of Transmission Assets subject to conditions of the Settlement Agreement in Docket No. E001-PA-07-540? Whether the Commission should invoke the discount and refund provisions of the Settlement Agreement? Whether the Commission should take any other actions to resolve any remaining system constraints in the IPL service territory as reported by MISO? Whether the Commission should take any other actions?
Staff:	Andrew Bahn .... 651-201-2249 Janet Gonzalez 651-201-2231

Relevant Documents

OAH Order, Findings & Recommendation, E001-/PA-07-540 .... November 16, 2007
Revised Offer of Settlement ("Settlement Agreement"), E001-/PA-07-540 .... December 12, 2007
Additional Stipulated Terms, E001-/PA-07-540 .... December 17, 2007
Order Approving Transfer of Transmission Assets, E001-/PA-07-540 .... February 7, 2008
Initial Filing by ITC Midwest, Status Report, ET6675/CI-11-1178 .... December 2, 2011
Department of Commerce (the "Department") Comments .... January 5, 2012
Interstate Power and Light Company ("IPL") .... January 5, 2012
ITC Midwest Reply Comments .... January 19, 2012
Interstate Power and Light Company Reply Comments .... January 19, 2012
Department of Commerce Response to Reply Comments .... February 9, 2012

The attached materials are workpapers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

Statement of the Issues

Whether ITC Midwest, LLC's ("ITC Midwest," "ITC" or "the Company") failure to complete the Salem-Lore-Hazelton 345kV transmission line by December 31, 2011 is in violation of terms of the Commission's February 7, 2008 Order Approving Transfer of Transmission Assets subject to conditions of the Settlement Agreement in Docket No. E001-PA-07-540?

Whether the Commission should invoke the discount and refund provisions of the Settlement Agreement?

Whether the Commission should take any action to resolve any remaining system constraints in the IPL service territory as reported by MISO?

Whether the Commission should take any other action?

I. BACKGROUND

A. Docket No. 07-540

On April 27, 2007, in Docket E001-/PA-07-540 ("07-540"),[1] Interstate Power and Light ("IPL") and ITC Midwest jointly filed for approval with the Minnesota Public Utilities Commission the transfer of transmission assets from IPL to ITC. IPL and ITC asked for expedited review by the Commission, preferably by November 15, 2007, in order to be able to close the transaction on or before December 31, 2007.

On June 19, 2007, the Commission issued its NOTICE AND ORDER FOR HEARING.

On October 24, 25, and 26, 2007, evidentiary hearings were held. Active parties in 07-540 were ITC Midwest, the Minnesota Department of Commerce ("Department"), The Office of Attorney General ("RUD-OAG"), the Municipal Coalition,[2] Energy Cents Coalition, and Dairyland Power Cooperative.

On November 16, 2007, Administrative Law Judge, Beverly Jones Heydinger, issued her Findings of Fact, Conclusions and Recommendations. The ALJ recommended the Commission disapprove the transaction.

On November 26, 2007, IPL/ITC Midwest, the Department, RUD-OAG, the Municipal Coalition and Dairyland filed exceptions to the ALJ Report. IPL/ITC recommended the Commission approve the transaction. The Department, RUD-OAG, the Municipal Coalition and Energy

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[1] E001/PA-07-540, In the Matter of the Joint Petition for Approval of Transfer of Transmission Assets of Interstate Power and Light Company and ITC Midwest, LLC, ("07-540"), *Initial Filing*, April 27, 2007.

[2] The Municipal Coalition included Midwest Municipal Transmission Group, Missouri River Energy Service, and Wisconsin Public Power, Inc.

Cents recommended the Commission disapprove the transaction. Dairyland recommended approval only with certain conditions.

On December 10, 2007, IPL and ITC Midwest filed a proposed Offer of Settlement in advance of a Commission hearing in 07-540. The December 10, 2007 Offer of Settlement was not signed by any party.

On December 11, 2007, Oral arguments before the Commission in 07-540 began.

On Dec 12, 2007, a revised Offer of Settlement ("Settlement Agreement") was filed between IPL and ITC Midwest and the Municipal Coalition, and joined in by the Department. The RUD-OAG did not sign the Settlement Agreement and continued to oppose it throughout the remainder of the proceeding.

The Settlement Agreement gave the Commission authority to:

> …determine whether the provisions of the Settlement Agreement have been met, and to enforce the provisions of this Settlement Agreement. To this end, ITC Midwest and IPL agree that in the event ITC Midwest fails to comply with an Order of the Minnesota Commission that is intended to enforce the provisions of this Settlement Agreement, specifically that are intended to resolve the system constraints in the IPL service territory as reported by MISO or to ensure that both the Arnold-Vinton-Dysart-Washburn 161 kV line and the Salem-Lore-Hazelton 345 kV line (described in Section 4.2 below of this document) are built, the Minnesota Commission may require IPL to build these transmission lines or other lines needed to resolve the system constraints in the IPL service territory as reported by MISO.[3]

In the Settlement Agreement, ITC Midwest agreed to:

- "resolve the system constraints in the IPL service territory as reported by MISO"[4]
- "comply with a directive from the Commission to invest in a project that the Commission has determined is necessary to ensure safe, adequate, efficient and reliable service."[5]
- commit to specific projects "intended to improve the reliability and efficiency of the transmission system, relieve transmission constraints, and lower the overall cost of delivered energy for end use consumers."[6]

One of the two projects identified in the Settlement Agreement ITC Midwest was required to complete was the construction of the Salem-Lore-Hazelton 345 kV line by December 31, 2011.[7]

[3] 07-540, Revised Offer of Settlement, December 12, 2007, Section 1, p. 2.
[4] Id., Section 4.2 (a), p. 10.
[5] Id., Section 4.2 (c), p. 11.
[6] Id., Section 4.2, p. 11.

In the effort to complete the Salem-Lore-Hazelton 345 kV line on time, ITC Midwest was required to take, at least, the following actions:

1. Initiate and pursue action to obtain MISO approval of the Project within 60 days of closing of the transaction;
2. Within 90 days following MISO approval of the Project Initiate, initiate and pursue action to seek any approval for franchise, permit, certificate, siting approval, exercise of eminent domain, and any other legal or regulatory approvals necessary to complete construction of the Salem-Lore Project.
3. Concurrent with seeking regulatory approvals in No. 2 above, initiate and continue to pursue actions to design and arrange for equipment procurement for the Project;
4. Concurrent with seeking regulatory approval in No. 2 above, initiate and pursue action to acquire property interests, easements and rights of way; and
5. Within 90 days of obtaining regulatory approvals, complete design and real property acquisition, initiate construction and thereafter continue to pursue actions to complete the project.[8]

To ensure ITC Midwest met its commitment to build the Salem-Lore-Hazelton 345 kV line by December 31, 2011, ITC Midwest agreed that if it failed to satisfy commitment above it would:

> . . . discount the ROE component of its formula rate to 10.39 percent, until such time as that commitment is satisfied; and …refund with interest to all ITC Midwest customers any amounts collected by ITC Midwest that exceed amounts that would have been collected if the 10.39 percent ROE had been used in ITC Midwest's formula rate since the close date of the Transaction.[9]

And, in the event of an ITC Midwest discount to its wholesale customers, IPL would be "obligated to refund to its electric retail customers any refunds received from ITC Midwest…"[10]

On December 13, 2007, Oral arguments in 07-540 continued before the Commission.

On December 17, 2007, IPL and ITC Midwest filed additional stipulated conditions to address issues discussed at the December 13, 2007 hearing.[11] Under the heading "Additional ITC Midwest Investment Commitment," ITC Midwest made further commitments to:

> . . .make at least $250 million in capital investments in transmission infrastructure in the IPL service territory during the five years following closing of the Transaction.[12]

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[7] Id., Section 4.2 (f), p. 12. The other project identified in the Settlement Agreement was the Arnold-Vinton-Dysart-Washburn 161 kV line ("Arnold-Vinton Rebuild") which ITC Midwest was required to rebuild/re-conductor within two years of closing of the Transaction.
[8] Id., Section 4.2 (f)(i-vi), p. 12 -13.
[9] Id., Section 4.2 (g), p. 13
[10] Id., Section 4.2 (h), p. 13.
[11] 07-540, Additional Stipulated Terms, December 17, 2007.
[12] Id., Section 3.

On December 18, 2007 the Commission voted to approve the transaction, subject to IPL and ITC Midwest abiding by all the terms and conditions of the December 12, 2007 Offer of Settlement; all the commitments made during the course of the proceedings before the Commission on December 11, 13 and 18; and other conditions. The Commission determined that the effective date of its future written Order would be December 18, 2007, to coincide with the date of its oral decision.

On December 20, 2007, IPL and ITC Midwest issued a press releases stating that the transaction for the sale for transmission assets had closed.

On February 7, 2008, the Commission issued its Order approving Transfer of Transmission Assets, with Conditions ("Order Approving Transfer") in 07-540. The conditions included the requirements that:

> IPL and ITC shall abide by all the commitments and other terms and conditions set out in the Settlement Agreement filed on December 12, 2007 including the terms and conditions of the Alternative Transaction Adjustment.
>
> IPL and ITC shall abide by the commitments they made during the proceedings before the Commission on December 11, 13, and 18, 2007: see Section VI, pages 22-34 of this Order.[13]

B. Docket No. 11-1178

On August 11, 2011, ITC Midwest contacted PUC staff and asked how ITC should inform the Commission about the status of the Salem-Lore-Hazelton 345 KV project and that the line would likely not be in service by December 31, 2011. Staff advised ITC Midwest that the burden of proof was on ITC to affirmatively show that the failure to meet the deadline was beyond ITC's control and/or to convince the Commission that it would not be in the public interest to impose penalties. Staff understood as a result of that conversation that ITC Midwest agreed it would make a filing by the end of September, 2011.

On November 10, 2011, staff contacted ITC Midwest to inquire about the filing and the status of the project. ITC Midwest was informed that PUC staff was prepared to bring the issue to the Commission in the form of a recommendation for a show cause order as to why the penalty provisions of the Settlement agreement should not be invoked if ITC Midwest failed to meet the December 31, 2011 deadline for completing the Salem-Lore-Hazelton project.

On November 16, 2011, ITC Midwest responded to PUC staff by stating it was preparing a filing that it expected to submit to the Commission by the end of the month.

[13] 07-540, Order Approving Transfer of Transmission Assets, Ordering Paragraph 1 (a-b), p. 36.

On December 2, 2011, ITC Midwest filed a status report with the Commission in 07-540 that stated "the projected in-service date for the Salem-Hazleton Project to move out beyond the timeline contained in the original commitment."[14]

On December 2, 2011, in Docket No. ET6675/CI-11-1178 ("11-1178"),[15] the Commission issued a Notice Seeking Comments on ITC's compliance with commitments in 07-540.

On January 5, 2012, The Department filed Comments that recommended ITC Midwest "explain in reply comments what impact, if any, the Company's decision to by-pass the Lore Substation had on the purpose of the project" and provide "the basis for ITC Midwest's assumption that it could 'acquire 100% voluntary easements, such that a hearing could be avoided and the project construction timeline met.'"

On January 5, 2012, IPL filed Comments that stated it had "…been actively monitoring the status of ITC-Midwest's compliance with its commitments made in the December 12, 2007, *Offer of Settlement,* regarding the Salem-Hazelton Project."

On January 19, 2012, IPL filed Reply Comments addressing the Department's concern for the by-pass of the Lore substation.

On January 19, 2012, ITC Midwest filed Reply Comments that stated that (1) bypassing the Lore substation did not impact the purpose of the Salem-Hazelton Project, (2) delays in the Proceeding before the IUB were not attributable to ITC Midwest, and (3) ITC Midwest's assumptions regarding its ability to acquire voluntary easements were reasonable.

On February 9, 2012, The Department filed its Response to Reply Comments and concluded that the Commission need not invoke the discount and refund provisions of the December 12, 2007 Settlement Agreement and recommended the Commission require ITC Midwest:

1. Notify the Commission in the future about any changes to the project that are conveyed to MISO or IUB, including such things as siting or line path changes, and

2. To clearly and fully identify the assumptions (not just goals) the Company is making when committing to project completion dates in the future.

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[14] 07-540, ITC Midwest's Status Report, December 1, 2011, p. 2-3. ITC Midwest also noted in its status report that the Arnold-Vinton Rebuild had been completed and the line energized in December 2009, consistent with the schedule provided for in the Settlement Agreement., p. 2.

[15] ET6675/CI-11-1178 ("11-1178"), *In the Matter of ITC Midwest LLC Compliance with Commitments in Docket E001/PA-07-540*.

II. PARTIES' COMMENTS

A. ITC Midwest's Comments

1. ITC Midwest's December 1, 2011 Timeline

In its December 1, 2011 Status Report, ITC Midwest informed the Commission that although it acted diligently, using commercially reasonable best efforts, to move forward in a timely manner with Salem-Lore-Hazleton Project, it experienced a number of unanticipated delays resulting from circumstances beyond its control, that were related to delays in receiving required regulatory approvals from the Iowa Utilities Board ("IUB").[16] ITC Midwest assured the Commission in its filing that Construction on the Project commenced in October 2011 and, barring further delays, ITC Midwest expects that the Project will be completed during the first half of 2013.

In its Status Report, ITC Midwest provided the dates of specific events as evidence that ITC Midwest had taken required actions toward completion of the Salem-Lore-Hazelton Project**.** Some important dates included in ITC Midwest's Timeline of Events are listed below:

On December 4, 2008, the MISO Board of Directors approved the Project.

On February 9 and 10, 2009, public informational meetings were held in Buchanan, Delaware, Dubuque and Jackson Counties.

Objections to the Project were filed with the IUB on February 3, 6, 9, 11 20; March 2, 6, 13, and 16; April 9; October 2 and 29, 2009; and February 8, 2010. All objections were filed in Dubuque County.

On February 11, 2009, ITC Midwest began its easement acquisition efforts in Buchanan and Delaware Counties.

On September 4, 2009, ITC Midwest began its easement acquisition efforts in Dubuque and Jackson Counties.

On February 26, 2010, ITC Midwest filed an amended franchise petition with the IUB requesting eminent domain over 27 parcels in Dubuque County.

On June 1, 2011, the IUB issued its Order granting the petitions for electric franchise in Buchanan, Delaware, Jackson and Dubuque Counties.

[16] State of Iowa Department of Commerce Utilities Board, Dockets No. E-21948, E-21949, E-21950, and E-21951. Petitions for Franchises to Erect, Maintain and Operate an Electric Transmission Line in Dubuque, Delaware, Jackson, and Buchanan Counties, Iowa.

In September 2011, ITC Midwest awarded the construction contract to M. J. Electric and began receiving material.

On October 5, 2011, construction activities began on the Project.

2. ITC Midwest's Primary Reasons for the Delay

According to ITC Midwest, the primary cause of the delays in getting regulatory approval of the project from the IUB were: (a) the company's strategy to focus easement acquisition in only two of the four counties (Delaware and Buchanan Counties), leaving actions to pursue and seek approval for easement acquisitions in the other two counties until after construction began, and (b) the Company's strategy to acquire 100% of the easements voluntarily to avoid requesting the right of eminent domain in Iowa, which would require a hearing.

a. ITC Midwest's Strategy to only seek regulatory approval in Buchanan and Delaware Counties within 90 days following MISO's approval of the Salem-Hazelton Project and delay seeking regulatory approval in Jackson and Dubuque Counties until after the IUB approved franchises in Buchanan and Delaware Counties and construction had begun.

In its initial Status Report, ITC Midwest stated it believed that, because no objections had been filed in Buchanan and Delaware Counties and eminent domain proceedings would not be needed in these counties, the IUB would issue the franchises and ITC Midwest would be able to commence construction in these counties while continuing to pursue necessary easements in the remaining counties.

ITC Midwest stated it based its belief on ITC Midwest's prior experience with the IUB's franchise processes in which the IUB consistently authorized franchises. ITC Midwest's belief proved incorrect when the IUB deferred consideration of franchise petitions in Buchanan and Delaware Counties until after all objections were resolved for the entire route, which included the objections filed in Dubuque County.

ITC Midwest claimed that the IUB's decision to defer consideration of any franchise petition resulted from the fact that objections had been filed in Dubuque County for this multi-county project soon after the public information meetings were held in February 2009, resulting in the need for the IUB to hold a hearing on the Project. ITC claimed this prevented ITC Midwest from commencing construction in Buchanan and Delaware Counties, which caused the Project to be behind schedule.

In its January 19, 2012 Reply Comments, ITC reiterated this explanation and stated "ITC Midwest planned to commence construction in Buchanan, Delaware and Jackson Counties when the franchises were issued in these counties while pursuing the parallel regulatory path in order to obtain the franchise for Dubuque County. The IUB, however, declined to issue franchises in any of the counties until proceedings relating to the Dubuque County franchise were concluded, which resulted in a delay in the commencement of construction in Buchanan, Delaware, and Jackson Counties."[17]

b. ITC Midwest's strategy to acquire 100% of the easements voluntarily to avoid requesting the right of eminent domain in Iowa, which requires a hearing.

In its December 1, 2011 Status Report, ITC Midwest stated the Company's strategy was to acquire 100% of the easements voluntarily to avoid requesting the right of eminent domain in Iowa, and claimed "objections filed by a landowner group in Delaware County required ITC Midwest to file an amended franchise petition with the IUB requesting the exercise of eminent domain."[18]

Moreover, ITC Midwest claimed "its goal at the beginning of this project was to acquire 100% voluntary easements, such that a hearing could be avoided and the project construction timeline met," and that "unanticipated need to pursue eminent domain proceedings resulted in additional delay."[19]

Explaining further, ITC Midwest stated that "[d]espite considerable efforts made by ITC Midwest and its contracted land agents, it was not possible to voluntarily acquire approximately 4% of the easements due to numerous and varied concerns by select landowners."[20]

3. ITC's January 19, 2012 Reply Comments

In its Reply Comments, ITC Midwest addressed issues raised by the Department:

- The decision to bypass the Lore Substation in connection with construction of the Salem Hazleton Project did not impact the purpose of the Project, i.e., to improve reliability and efficiency of the transmission system, relieve constraints, and lower overall costs.

- ITC Midwest's behavior did not contribute in any way to delay in the proceedings before the IUB. Precisely to the contrary, ITC Midwest acted reasonably to attempt to expedite those proceedings.

- The acquisition of all required easements on a voluntary basis was ITC Midwest's goal, not its assumption. In fact, ITC Midwest came very close to realizing its goal, acquiring over 96% of the necessary easements voluntarily.

- To the extent other parties have commented, those comments support ITC Midwest.

[17] 11-1178, ITC Midwest's Reply Comments, p. 5.
[18] 07-540, ITC Midwest's Status Report and 11-1178, Initial Filing, p. 12. Staff believes ITC Midwest meant to refer to objections filed by a landowner group in Dubuque County.
[19] Id.
[20] Id.

B. IPL's Comments

1. IPL's January 5, 2012 Comments

IPL stated it had been actively monitoring the status of ITC-Midwest's compliance with its commitments made in the December 12, 2007 Settlement Agreement regarding the Salem-Hazelton Project and had reviewed ITC Midwest's Status Report. IPL stated it believed the activities outlined in the report were consistent with IPL's knowledge of the challenges experienced by ITC Midwest.

2. IPL's January 19, 2012 Reply Comments

In response to issues raised by the Department, IPL stated that the purpose of the Salem-Hazelton Project was to reduce regional congestion and provide reliability and it does not believe that the project, as modified by ITC Midwest, would result in any degradation of the benefits that were originally envisioned by the Salem-Lore-Hazleton Project.

IPL described the benefit of a routing the line through the Lore Substation is an "additional local step-down from 345 kV to 161 kV," but said the "same benefits can be accomplished either at the existing Salem Substation or via a new 345 kV to 161 kV tap at another, and even perhaps, more optimal location (new substation) in the future."[21]

C. The Department's Comments

1. The Department's January 5, 2009 Comments.

The Department noted that the name of the project has changed due to ITC Midwest's decision to reroute the project around the Lore Substation.[22] The Department concluded that, on a technical level, ITC Midwest appeared not to have complied with the Settlement Agreement since it decided to by-pass the Lore Substation for reasons that do not appear to fall under the category of "circumstances beyond ITC Midwest's control."[23]

The Department recommended that ITC Midwest address the issue of rerouting the Salem-Hazelton line around the Lore Substation in its reply comments.

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[21] Id. IPL Reply Comments, January 19, 2012, p. 3-4.
[22] In the Settlement Agreement the project was commonly referred to as the "Salem-Lore-Hazelton Project." ITC Midwest's Status Report referred to the project as the "Salem-Hazelton Project." On page 2, footnote 2 of the Status Report, the Company stated that: "Throughout the [Iowa Utilities Board] IUB proceedings, the Salem- Lore-Hazleton line is referred to as the Salem-Hazlelton line, which is a proposed 345 kV Electric transmission line, approximately 80.19 miles in length, which will ultimately connect ITC Midwest's Hazleton Transmission Substation in Buchanan County, Iowa, to ITC's Salem Transmission Substation located in the Dubuque County. The Salem-Lore-Hazleton line was changed to just the Salem-Hazleton line based upon the fact that it was impractical and likely impossible to route the line through the City of Dubuque to the Lore Substation."
[23] 07-540, Revised Offer of Settlement, December 12, 2007, p. 11, fn 22.

In regard to whether the failure to complete the Salem-Hazelton project by December 31, 2011 was due to unanticipated delays beyond its control, the Department stated it was not known whether ITC Midwest could have prevented the IUB from needing to make such decisions. In addition, the department stated that ITC Midwest's assumption that it could "acquire 100% voluntary easements, such that a hearing could be avoided and the project construction timeline met" does not appear to be a reasonable assumption regarding such a large transmission line. The Department requested that ITC Midwest provide in its reply comments the basis for that assumption.

2. The Department's February 9th Response to ITC Midwest's Reply Comments

Based on the ITC Midwest's Reply Comments, the Department agreed that ITC Midwest's decision to by-pass the Lore Substation did not have a significant impact on the project and that ITC Midwest's behavior did not contribute to the delay in the project's proceedings before the IUB. In addition, the Department appreciated ITC Midwest's clarification regarding its goals and assumptions and agreed that ITC Midwest's failure to complete the Salem-Hazelton Project by December 31, 2011 was due to factors beyond the Company's control.

The Department made the following recommendations:

a) The Commission need not invoke the discount and refund provisions of the December 12, 2007 Offer of Settlement at this time;

b) The Commission require ITC Midwest to notify the Commission in the future about any changes to the project that are conveyed to MISO or IUB, including such things as siting or line path changes; and

c) The Commission require ITC Midwest in the future to clearly and fully identify the assumptions (not just goals) the Company is making when committing to project completion dates.

III. IN THE MATTER OF THE JOINT PETITION FOR APPROVAL OF THE TRANSFER OF TRANSMISSION ASSETS OF INTERSTATE POWER AND LIGHT COMPANY AND ITC MIDWEST LLC

A. ITC Midwest's Commitments in 07-540

By its February 7, 2008 Order Approving Transfer, in 07-540, the Commission approved ITC Midwest's acquisition of transmission assets owned by IPL, subject to commitments included in the Settlement Agreement, as well as additional commitments made during the course of the Commission's hearings in 07-540. To address transmission issues and binding constraints, ITC Midwest made the following commitments to the Commission in the Settlement Agreements in 07-540:

- Re-conductor/rebuild the Arnold-Vinton by December 31, 2009,[24]
- Construct the Salem-Lore-Hazelton 345 kV line by December 31, 2011 and take, at least, specific actions outlined in the Settlement Agreement which were necessary to complete the project,[25]
- Resolve the system constraints in the IPL service territory as reported by MISO,[26]
- Comply with a directive from the Commission to invest in any project the Commission has determined is necessary to ensure safe, adequate, efficient and reliable service,[27] and
- Make at least $250 million in capital investments in transmission infrastructure in the IPL service territory during the five years following closing of the Transaction.[28]

B. *Binding Constraints and Narrowly Constrained Areas*

ITC Midwest informed the Commission, during the 07-540 proceeding, that a NCA is an area in which MISO believes that, due to transmission constraints, wholesale power markets are not competitive, putting customers at risk of market manipulation.[29] A transmission constraint limits the flow of power across the associated transmission facility. A constraint binds whenever power flow across the associated transmission facility is at its maximum. When this occurs, more costly generators that would not run in the absence of the constraint must be dispatched to avoid overloading the transmission facility. Binding constraints, therefore, affect the economic dispatch of the system and the cost of meeting the demand for electricity.[30]

The Salem-Lore-Hazelton Project was identified by ITC Midwest as a project that would provide congestion relief in one of three NCAs in the Midwest ISO, an area that includes portions of northern Iowa, southwestern Wisconsin, and southeast Minnesota ("MN NCA").[31] ITC Midwest informed the Commission that in the MN NCA, for large durations of time throughout the year, transmission lines coming from the south into Minnesota cannot carry an adequate flow to give Minnesota customers access to the competitive wholesale market; and, as a result, generation has to be dispatched north of those constraints from higher power generating facilities, to keep power flowing to Minnesota customers.[32] ITC Midwest stated that mitigating the transmission constraint in the MN NCA would make the market more competitive and protect against the exercise of market power by generation owners in constrained areas.[33]

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[24] 07-540, Revised Offer of Settlement, December 12, 2007, Section 4.2 (d), p. 11. ITC Midwest noted in its status report that the Arnold-Vinton Rebuild had been completed and the line energized in December 2009, consistent with the schedule provided for in the Settlement Agreement. See fn 14 above.
[25] Id., Section 4.2 (f)(i-vi), p. 12-13.
[26] Id., Section 4.2 (a), p. 10.
[27] Id., Section 4.2 (c), p. 11.
[28] 07-540, Additional Stipulated Terms, December 17, 2007, Section 3.
[29] 07-540, Direct Testimony of ITC Midwest Representative Richard A. Schultz, p. 20, lines 11-13.
[30] Id., p. 13, lines 6-12.
[31] 07-540, Direct Testimony of ITC Midwest Representative Richard A. Schultz, p. 20, lines 18-19.
[32] Id., Transcript, December 11, 2007 at page 34, lines 8-18.
[33] Id., Direct Testimony of ITC Midwest Representative Richard A. Schultz, p. 20, lines 18-19.p. 20, lines 1-7.

More specifically, the MN NCA impacts Minnesota rate payers through increased fuel costs. During the oral hearing in 07-540, the Salem-Lore-Hazelton Project was identified as having a region wide effect alleviating the effect on binding constraints in the MN NCA and that "every month that this is not fixed, ratepayers in Minnesota, not just IPL's, but other ratepayers are paying higher costs in the fuel clause adjustment, which is an automatic rate change."[34]

ITC Midwest informed the Commission that, based on 2006 actual data in Minnesota available from MISO, the amount of the cost differential for energy flow into Minnesota was approximately $436 million annually. Of that amount, ITC Midwest's completion of the two projects it committed to in the Settlement Agreement would save Minnesota approximately $43 million annually. [35]

The inclusion of ITC Midwest's commitments to eliminate the transmission constraints in IPL service territory in the Settlement Agreement in 07-540 was essential to address the impact these constraints have on Minnesota rate payers who, the Commission was informed, are paying higher energy costs through their fuel clause adjustment as long as the constraint exists.[36] In the Order Approving Transfer, the Commission highlighted the importance of the fuel cost savings in reaching its decision to approve the transaction and quoted ITC Midwest's description of the $43 million annual benefits to Minnesota ratepayers as a *promise*.

> At the December 11, 2007 hearing, ITC represented to the Commission that the fuel savings resulting from building the two lines identified in the Settlement Agreement (the Arnold-Vinton Rebuild and the Salem-Lore Project) would be about $43 million. ITC's CEO Welch stated:
>
>> In summation, if you're going to write any numbers down or take any note, have this one: Of the $97 million total revenue that ITC Midwest will get, 7 million of it comes from Minnesota. Forget all of the other numbers, all of the other rhetoric. It's $7 million approximately for Minnesota. The savings of the projects that we have committed under severe penalty to build for you [the Arnold-Vinton Rebuild and the Salem-Lore Project] bring you the benefits of about $43 million in fuel savings. We have committed to that.
>
> Over the course of succeeding hearings, ITC did not modify or qualify that representation regarding the fuel savings benefits of the Settlement Agreement nor did any proponent of the Settlement Agreement dispute that figure. ITC's quantification of fuel savings was among the factors relied upon by the Commission in evaluating whether to approve the Transaction as consistent with the public interest.

[34] Id., Transcript, December 13, 2007 at page 56, lines 20-23.
[35] Id., Transcript, December 11, 2007 at page 36, lines 15-18.
[36] Id., Transcript, December 13, 2007 at page 56-57.

> CHAIR KOPPENDRAYER: ... if this deal falls through and IPL has no obligation to build and the ratepayers continue to pay higher rates because of a lack of investment, then who loses? The ratepayer loses. The ratepayers, according to the numbers thrown around this morning, are losing $48 million. Here the ratepayers invest 7 million and have a $43 million return. That's a risk benefit analysis that we also have to take when we look at whether or not we're going to approve the deal. That's an absolute; you have to build this line, absolute. Okay. They don't go through with the deal. The ratepayers have just lost $43 million. Or, no, they've lost $36 million - because they could have spent 7 and gained a benefit of 43.

ITC's own view of the status of its representations regarding the benefits of the Transaction (including Mr. Welch's above-cited statement regarding the fuel savings) are that they are commitments that ITC will "stand up for," as the following statement by ITC's counsel indicates:

> Mr. Merz: What have we heard today about what's at stake? There are **benefits** that this transaction ***promises*** for Minnesota. They are concrete **benefits**. They are specific. They are **commitments** that ITC has said they will stand up for. (Emphasis added).[37]

(Emphasis Added)

In addition to committing to the completion of the two specific projects, (including the Salem-Lore-Hazelton Project), ITC Midwest committed in the Settlement Agreement to resolve all other system constraints in the IPL Service territory as reported by MISO, and to comply with any directive from the Commission to invest in a project the Commission determines is necessary to ensure safe, adequate, efficient and reliable service. When asked during the hearings for how ITC Midwest intends to comply with this directive, ITC Midwest Representative and CEO Joseph Welch stated it would build or take whatever steps necessary to resolve constraints in IPL service territory as reported by MISO. The following exchanges from the OAH hearing are cited in the Settlement agreement and included in footnote 29 of the Order Approving Transfer:

> Page 139
> MS. ANDERSON: As a current CEO of ITC Midwest, would ITC Midwest agree to abide by the Minnesota Commission - Public Utilities Commission directive to in fact invest under the Minnesota Statutes with respect to building, constructing, etcetera, transmission?
> MR. WELCH: Absolutely.

[37] Id., Order Approving Transfer, p. 24-25.

> MS. ANDERSON: So that Minnesota Public Utilities Commission, under your statement, you will abide by an order of the Minnesota Public Utilities Commission to invest -
> MR. WELCH: In order to build something? Absolutely. I'll take that.
> MS. ANDERSON: Even if it is not a project for which Minnesota -ITC Midwest has identified, studied, etcetera?
> MR. WELCH: I'll take that. I'll do that.
> JUDGE HEYDINGER: You'll take that?
> MR. WELCH: Yeah, I'll do that. My company will do that. We'll absolutely submit to that.
> MS. ANDERSON: Well, that's terrific. So that the - to be clear then, the Minnesota - so if the Minnesota Public Utilities Commission under Minnesota law directs ITC Midwest, following the completion of the proposed transaction in front of this Commission, to invest in transmission facilities in the State of Minnesota as directed by the Commission, that ITC Midwest will do so and will do so in a reasonably prompt manner?
> MR. WELCH: Yes.
> …..
> Page 142
> MS. ANDERSON: So is your statement today that ITC Midwest will guarantee this Minnesota Public Utilities Commission that it will build or take whatever steps necessary, promptly, to resolve the constraints in the IPL territory as reported by MISO?
> MR. WELCH: Yes.
> MS. ANDERSON: To alleviate these constrained areas?
> MR. WELCH: Yes. [38]

C. *ITC Midwest's Required Actions to Initiate and Pursue Legal or Regulatory Approval of the Salem-Lore-Hazelton Project.*

As a first step toward resolving these constraints ITC Midwest committed to the completion of construction of an 81 mile 345 kV line in southeastern Iowa running from the substation at Salem, through Lore to Hazelton. According to the Settlement Agreement, the Salem-Lore-Hazleton Project was one of two projects identified as specific commitments ITC Midwest made to address the reliability and efficiency of the transmission system, relieve transmission constraints, and lower the overall cost of delivered energy. In the Offer for Settlement, ITC committed to complete construction of the Salem-Lore-Hazleton Project by December 31, 2011. As part of its commitment, ITC was required to take actions "which are necessary to complete the project…"[39] In this effort, ITC was required to use its commercially reasonable best efforts to satisfy ***at least*** the following actions toward completion of the Project:

[38] Id., Order Approving Transfer, p. 15 and Settlement Agreement, Section 4.2 at page 10 and 11. The Settlement Agreement provides Footnote 20 to this commitment. Footnote 20 cites Testimony of J. Welch, Hearing Tr. Vol. 2 at 138-146. See also Order Approving Transfer, footnote 29.
[39] Id., Section 4.2 (f), p. 12.

- Within 90 days following MISO approval of the Project, initiate and pursue action to seek any approval for franchise, permit, certificate, siting approval, exercise of eminent domain, and any other legal or regulatory approvals necessary to complete construction of the Salem-Lore Project;

- Concurrent with seeking regulatory approvals above, initiate and continue to pursue actions to design and arrange for equipment procurement for the Project; and

- Concurrent with seeking regulatory approval in No. 2 above, initiate and pursue action to acquire property interests, easements and rights of way. [40]

The MISO Board of Directors approved the project on December 4, 2008. The following table lists ITC Midwest's required actions for seeking regulatory approval, date the action was initiated, and the number of actual days following MISO approval of the Project on December 4, 2008.

ITC Midwest Required Actions	**Date Initiated**	**Number of days following December 4, 2008**
Filed petitions for franchises in Buchanan and Delaware Counties.	September 3, 2009	273 days
Began easement acquisition efforts in Dubuque and Jackson Counties.	September 4, 2009	274 days
Filed petitions for franchises in Dubuque and Jackson Counties	November 22, 2009	353 days
Requested eminent domain in Dubuque County.	February 26, 2010	449 days

The IUB issued its Order granting the petitions for electric franchise in Buchanan, Delaware, Jackson and Dubuque Counties on June 1, 2011.[41] Within 90 days of obtaining regulatory approvals, ITC Midwest was required to complete design and real property acquisition, initiate construction and thereafter continue to pursue actions to complete the project. In September, 2011, at least 91 days after obtaining regulatory approval from the IUB and nearly 3 years after

[40] Id., Section 4.2 (f)(i-vi), p. 12 -13.

[41] Dockets No. E-21948, E-21949, E-21950, and E-21951, ORDER DENYING PETITION FOR LIMITED INTERVENTION AND GRANTING PETITIONS FOR ELECTRIC FRANCHISES, State of Iowa Department of Commerce Utilities Board, June 1, 2011. See 11-1178, ITC Midwest's Status Report, Initial Filing, Attachment B, December 1, 2011.

MISO approved the project, ITC Midwest awarded the construction contract to M. J. Electric and began receiving equipment and material. On October 5, 2011, 126 days after obtaining regulatory approval from the IUB, the construction activities started at the Liberty substation near New Vienna, Iowa. ITC Midwest estimated the Salem-Hazelton Project will be completed during the first half of 2013 nearly two years after the IUB granted regulatory approval of the project and over four years after MISO approved the project.

D. The Alleviation of Binding Constraint in the MN Narrowly Constrained Area and the LORE Substation.

In response to a request by the Department, ITC Midwest explained that the Company's decision to by-pass the Lore Substation did not impact the purpose of the Project. ITC Midwest stated that "interconnecting the Lore Substation does not represent a substantial change in the Project, nor does it affect the need for the Project."[42]

As evidence in support of ITC Midwest's position it attached a letter dated August 17, 2009 (Attachment A), in which "ITC Midwest advised the Midwest Independent Transmission System Operator ("MISO") that the line routing study process for the Project had determined that interconnecting the Lore Substation was impractical and, as a result, ITC Midwest was modifying the Project such that it would not be routed through the Lore Substation."[43]

ITC Midwest stated in its Reply Comments that MISO agreed with ITC Midwest in regard to the Salem-Hazelton Project.

IV. STAFF COMMENT

A. Whether ITC Midwest's Failure to Complete the Salem-Lore-Hazelton 345kV Transmission Line by December 31, 2011 is in Violation of Terms of the Commission's February 7, 2008 Order Approving Transfer of Transmission Assets Subject to Conditions of the Settlement Agreement in Docket No. E001-PA-07-540?

Although certain regulatory events may have been outside the Company's control, staff believes there were many events, decisions, and actions taken by ITC Midwest that were completely within its control which have contributed to the delay in the completion of the Salem-Lore-Hazelton Project.

The Settlement Agreement defines, "any action, order, or injunction of any federal, state, local or other governmental or regulatory authority, or court, rendering the project illegal or otherwise prohibiting, preventing, or inhibiting the timely completion of the project or a commitment stated

[42] 11-1178, ITC Midwest's Reply Comments, p. 2.
[43] Id., p. 2-3.

herein related to pursuing completion of the project," as "Circumstances beyond ITC Midwest's control."[44]

Staff can appreciate that the length of the hearing before IUB was difficult to determine and, outside of a request to expedite, is largely beyond ITC Midwest's control. Staff also agrees that the regulatory events in Iowa may have led to a delay in the completion of the Salem-Lore-Hazelton Project on schedule. In addition, Staff appreciates ITC Midwest's efforts in expediting the Franchise Proceeding before the IUB and believes that these efforts may have helped to resolve the hearing more quickly.

Despite the regulatory events that may have been outside ITC Midwest's control, staff believes the Company's strategy to delay initiating actions in Dubuque County, based on its beliefs and assumptions of IUB actions, was not prudent or necessary at the time, given the terms and requirements in the Settlement Agreement. ITC Midwest's strategy to only seek regulatory approval in Buchanan and Delaware Counties within 90 days following MISO's approval of the Salem-Lore-Hazelton Project and delay seeking regulatory approval in Jackson and Dubuque Counties until after the IUB approved franchises in Buchanan and Delaware Counties appears to have exacerbated any delay caused by the franchise hearings before the IUB. ITC Midwest's strategy to delay seeking easements and regulatory approval from the IUB in Jackson and Dubuque County resulted in, at least, an additional 6 months of delay in the completion of the Salem-Lore-Hazelton Project.

ITC Midwest's belief that the IUB would grant franchises in Delaware and Buchanan Counties, before resolving all objections in Dubuque County may have been a reasonable belief and assumption. However, staff is not convinced that ITC Midwest's strategy to delay seeking regulatory approval in Dubuque County was prudent or necessary given the terms of the Settlement Agreement. Regardless of whether ITC Midwest's strategy was based on a reasonable belief of IUB's actions, ITC Midwest's strategy appears to have violated the terms of the Settlement Agreement that required the Company to "initiate and continue to pursue actions to seek approvals for ***any*** franchise, permit, certificate, siting approval, exercise of eminent domain, or other legal or regulatory approval necessary to complete construction of the Salem-Lore Project,"[45] within 90 days of MISO's approval and concurrent to these actions "continue to pursue actions to design and arrange for equipment procurement" and "to acquire real property interests, ***easements***, and rights of way to enable it to complete the Salem-Lore Project."[46]

Objections to the Salem-Lore-Hazelton Project in Dubuque County were filed with the IUB as early as February 3, 2009 and throughout February, March and April 2009. Despite knowing of these objections, ITC Midwest did not pursue or initiate any actions to seek regulatory and legal approval in Dubuque County (or, Jackson County) until after it had learned from IUB General Counsel that the IUB would not issue franchises in these counties. Furthermore, ITC Midwest waited until August 23, 2009 to consult with IUB staff in regard to ITC's chosen strategy of

[44] 07-540, Settlement Agreement, fn 22, p. 11.
[45] 07-540, Settlement Agreement, 4(f)(ii), p. 12. (emphasis added)
[46] Id., 4(f)(iii), p. 12. (emphasis added)

building in Buchanan and Delaware Counties before resolving the objections in Dubuque County.

In answer to a request by the Department for ITC Midwest to provide the basis for its assumption that it could "acquire 100% voluntary easements, such that a hearing could be avoided and the project construction timeline met," ITC Midwest replied, "[t]o be clear, ITC Midwest assumed that it would be able to acquire all of the easements it needed voluntarily in ***three*** of the four counties where the Project would be located— Buchanan, Delaware, and Jackson Counties, "[47] but that it would be difficult to achieve 100% voluntary easement in Dubuque County because it was not possible "to double circuit the 161 kV line through a portion of Dubuque County, which meant that ITC Midwest had to acquire new easements over new right-of-way."[48]

ITC Midwest's January 19 response to the Department's inquiry is at odds with ITC Midwest's status report, which described the need to pursue eminent domain in Dubuque County as "unanticipated."[49] ITC Midwest knew that it would be difficult to acquire 100% voluntary easement's in Dubuque County very early in the planning process. Furthermore, ITC Midwest knew it would likely have to fully litigate the Dubuque County franchise and seek the right of eminent domain. Despite knowing the difficulty of achieving 100% voluntary easements in Dubuque County and the likelihood of seeking the right of eminent domain (and, in addition, receiving objections from Dubuque County as early as February 3, 2009) ITC Midwest did not begin to initiate and pursue actions to seek approvals for franchise, permit, certificate, siting approval, exercise of eminent domain, or other legal or regulatory approval or to acquire real property interests, easements, and rights of way in Dubuque County until September 4, 2009.

According to the Settlement Agreement, ITC Midwest committed to complete the project by December 31, 2011. In its effort to complete the project, ITC Midwest made commitments to take "at least" the specific actions listed above, which include actions to seek approvals for ***any*** franchise and to acquire easements in Dubuque and Jackson County. [50] If ITC Midwest believed it was necessary or prudent to do otherwise, it could have notified the Commission and sought an amendment to the Settlement Agreement allowing it to delay seeking franchises, easements, real property interests and rights of way in Dubuque and Jackson Counties.[51] In addition, ITC Midwest committed to "use its commercially reasonable best efforts" to satisfy these specific commitments in the Settlement Agreement.[52] Choosing a strategy that would delay taking the necessary actions to seek regulatory approval in a county that raised objections, not only appears to violate the Settlement Agreement, but also does not appear to be using ITC Midwest "commercially reasonable best efforts," which is another violation of the Settlement Agreement.

[47] Id., p. 5. (Emphasis added).
[48] Id.
[49] 07-540, ITC Midwest's Status Report and 11-1178, Initial Filing, p. 12.
[50] 07-540, Settlement Agreement, 4(f)(iv), p. 12.
[51] Id., 4(f), p. 12.
[52] Id., 4(f)(vi), p.13.

B. Whether the Commission Should Invoke the Discount and Refund Provisions of the Settlement Agreement

The Settlement agreement states that if ITC Midwest fails to meet any of its commitments relating to either the Arnold-Vinton Rebuild or the Salem-Lore-Hazleton Project, and such failure is not due to circumstances beyond ITC Midwest's control, ITC Midwest must discount the Return on Equity ("ROE") component of its formula rate to 10.39% from the date of closing until such time as the commitment has been satisfied and refund any amounts in excess of what would have been collected if a 10.39% ROE had been used since closing of the transaction. As a remedy for ITC Midwest failure to initiate easements acquisitions and to seek regulatory approval from the IUB in Jackson and Dubuque County within 90 days of MISO approval of the project, the Commission may invoke the discount and refund provisions of the Settlement Agreement for at least the length of time attributed to the delay caused by ITC Midwest decision to pursue a strategy to delay seeking easement acquisitions and regulatory approval from the IUB in Dubuque and Jackson Counties.

C. Whether the Commission Should Take Other Actions to Resolve Any Remaining System Constraints in the IPL Service Territory as Reported by MISO?

In the Settlement Agreement, ITC Midwest committed to resolve all the system constraints in the IPL service territory as reported by MISO and to comply with any directive from the Commission to invest in a project that the Commission had determined to be necessary to ensure safe, adequate, efficient and reliable service.[53]

According to the Settlement Agreement, the purpose of the Salem-Lore-Hazelton project was to improve the reliability and efficiency of the transmission system, relieve transmission constraints, and lower the overall cost of delivered energy for end use consumers.[54] It does not appear that, upon completion, the Project will resolve the remaining constraints in IPL’s service territory. Furthermore, it is not clear that the Project will relieve transmission constraints and lower the overall cost of delivered energy for end use consumers in Minnesota as was promised the Commission during the 07-540 proceeding.

The correspondence between ITC Midwest and MISO, attached to ITC Midwest’s January 19, 2011 Reply Comments,[55] was in regard to a primary request from ITC Midwest for MISO to reevaluate the cost sharing eligibility of the Salem-Hazelton Project. It is clearly apparent from MISO’s response that it was addressing ITC Midwest’s request to reevaluate the project for cost-sharing eligibility and not whether rerouting the Project around the Lore Substation impacted the purpose of the project. In its response, MISO stated it cannot grant ITC Midwest’s request.

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[53] 07-540, Revised Offer of Settlement, December 12, 2007, Section 4.2 (a)(c), p. 10-11. See also fn. 30 above.
[54] 07-540, Settlement Agreement, Section 4.2, p. 11.
[55] 11-1178, ITC Midwest Reply Comments, Attachments A and B. January, 19, 2012. The attachments were provided to support ITC Midwest’s response to the Department that rerouting the project around the Lore Sustation did not impact the purpose of the Project. Staff notes that the letter from ITC Midwest to MISO (Attachment A) included a “secondary notification” which clarified that the Salem-Hazelton Project would not be routed through the Lore Substation.

MISO's response does not appear to address ITC Midwest's secondary notification for the rerouting around the Lore Substation. Staff has no opinion on whether or not the removal of the Lore Substation impacted the purpose of the project as defined in the Settlement Agreement.[56]

Of greater concern to the staff is the classification by MISO of the Salem-Lore-Hazelton Project as an "other" project and ITC Midwest's failed request for MISO to reevaluate its classification of the project. According to MISO, "other" projects are "Transmission Owner local criteria driven projects which are not eligible for cost sharing."[57] A project classified as "Other" is one MISO has determined the economic impact does not meet MISO regional expansion criteria and benefits standards to qualify as a Regionally Beneficial Project ("RBP"), and therefore is not eligible for cost sharing, and the reliability impacts are not enough to qualify as a Baseline Reliability Project ("BRP").[58]

In the 2008 Midwest ISO Transmission Plan ("MTEP08"), MISO concluded The Salem-Lore-Hazleton Project was an "other" project. The MTEP08 states that all projects in Appendix A have a MISO documented need and the Salem-Lore-Hazleton 345 kV transmission line is listed as a new project in Appendix A in MTEP08 and classified as "Other."[59] Despite concluding the Salam-Lore-Hazelton Project has positive economic and reliability impacts, MTEP08 states that the economic impacts do not meet RECB II standards and the reliability impacts were not enough to qualify as a BRP. The IUB stated in its order that:

> Appendix D-1 West of the MTEP08 (Exhibit 105) states that the project is being built primarily for economic purposes, but some reliability benefits also result from the project. The appendix then goes through the Regional Economic Cost Benefit (RECB II) analysis and states the project is not eligible for regional cost sharing, based upon the RECB II criteria. The appendix states that the project shows some reliability improvements but cannot be recommended as a BRP due to the cost of the project relative to reliability upgrades already planned in the area to address those reliability issues.[60]

Appendix D-1 of the MTEP determines the RECB II benefit-cost ratio for the Salem-Lore-Hazelton Project to be 1.23 which is less than the 1.6 threshold value to make the project eligible for cost sharing. The benefit-cost ratios in sensitivity cases are 1.31, 0.68, and 1.58 respectively in Environmental Future, Fuel Future, and Renewable Future.[61] Considering a primary justification for the commitment to build the Salem-Lore-Hazelton line was a decrease in fuel

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[56] The Settlement Agreement defines the purpose of the project in Section 4.2 on page 11 is to "improve the reliability and efficiency of the transmission system, relieve transmission constraints, and lower the overall cost of delivered energy for end use consumers."
[57] See Attachment A to this filing, MTEP08 Appendix D1 West, p. 1.
[58] 11-1178, Initial Filing, Attachment B, Order Denying Petition for Limited Intervention and Granting Petition for Electric Franchise, June 1, 2011, p. 11-12.
[59] Id., p. 14.
[60] Id., p. 14-15.
[61] See Attachment A to this filing, MTEP08 Appendix D1 West, p. 11.

costs for Minnesota customers, a benefit-cost ratio of 0.68 for Fuel Future is particularly concerning in regard to the impact of the project on Minnesota customers.

The MTEP08 also concluded the Salem-Lore-Hazelton Project offers some reliability improvements projects, however it cannot be recommended as a BRP due to the cost of the project relative to reliability upgrades already planned in the area to address those reliability issues. Most of the system reliability issues identified in the analysis have other existing projects to mitigate them at a lower cost.[62]

The Salem-Lore-Hazelton Project was also classified as an "other" project in the 2009 Midwest ISO Transmission Plan ("MTEP09"). MTEP09 described the congestion the project is attempting to address in the MN Narrowly Constrained Area ("MN NCA") as diminishing. In its Order the IUB stated:

> The MTEP09 report updates the analyses performed in MTEP08… The Arnold-Hazleton 345 kV flowgate was not one of the seven flowgates with increasing congestion over the four-year period. The charts relating to these electric transmission lines show that congestion has diminished since 2007 for both the Arnold-Hazleton 345 kV line and the Arnold-Vinton 161 kV line. Appendix A of MTEP09 shows that the Salem-Hazleton line is still classified as "Other," costs are not shared, and the total estimated cost is now $119,010,000.[63]

The MTEP reports include analysis of Narrow Constrained Areas ("NCA") as determined by the Independent Market Monitor (IMM). The Eastern Iowa area of congestion identified in the MTEP reports was identified as occurring on the 345 kV line from Arnold to Hazleton and on the Arnold-Vinton 161 kV line. The congestion problems in these two areas are listed as two of the 45 post-market flowgates that, on the average, were congested more than 1 percent of the time. Although, the Salem-Lore-Hazleton Project was listed as one of the projects in the MTEP reports that could mitigate the number of constrained hours in the future, the IUB describes the MTEP08 as stating that the re-run model with the Salem-Lore-Hazelton 345 kV line "…is still binding for more than 500 hours in 2008 and 2011. *The model shows that the NCA will go below 500 binding hours only after the installation of the Lakefield-Fox Lake-Rutland-Winnebago-Hayward-Adams 161 kV line in 2015*."[64]

The MTEP08 and MTEP09 appear to indicate that the benefits to Minnesota customers from the construction of the Salem-Hazelton Project may not be as great as was presented during the 07-540 proceeding. It is not clear that Minnesota customers will realize annual benefits of $43 million in fuel cost savings that was promised by ITC Midwest during the 07-540 proceeding from the construction of the two projects.

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[62] Id.

[63] 11-1178, Initial Filing, Attachment B, Order Denying Petition for Limited Intervention and Granting Petition for Electric Franchise, June 1, 2011, p. 15.

[64] Id., p. 14 (Emphasis Added).

To determine which binding constraints still exist in the MN NCA and what projects are needed to resolve these constraints, the following information needs to be reported to the Commission:

1) The current state of ITC Midwest's transmission system in IPL's service territory, including all binding constraints and the current impact of constraints on Minnesota in terms of: (a) the annual cost differential for energy flow into Minnesota (estimated to be approximately $436 million annually based on 2006 data), and (b) the duration of the constraint if no longer 500 hours or no longer fully mitigated as well as the magnitude of that constraint in MWs that are not getting to MN;

2) All current MISO projects that address constraints in the MN NCA and ITC Midwest's plans to implement such projects, including its plans for the Lakefield-Fox Lake-Rutland-Winnebago-Hayward-Adams 161 kV line. Information provided to the Commission should include proposed timelines for each project with the incremental steps taken toward the completion of the project, e.g. public notices, public hearings, easement acquisitions, requests for eminent domain, franchise approvals, materials and equipment procurement, construction, etc.; and

3) A reconciliation of ITC Midwest's assessment of the project costs & benefits during the 07-540 proceeding[65] and why its assessment differed from MISO's 2008 assessment of the Salem-Lore-Hazelton project that had only a 1.23 B/C ratio.[66]

To determine the effectiveness of the two projects in reducing fuel costs for Minnesota rate payers, the Commission would need ITC Midwest to provide, based on the most current data, the estimated projected savings in Minnesota, as well as increased transfer capability from the completions of (a) the Salem-Hazelton Project and (b) the Arnold-Vinton Rebuild (together it was estimated the two projects would save Minnesota approximately $43 million annually based on 2006 data).

4. Whether the Commission Should Take any Other Actions?

As part of the Settlement Agreement, in addition to the two specific projects, ITC committed an additional $250 million toward infrastructure work to improve the grid in the IPL service territory, some of which would be dedicated to constraint relief and some to reliability projects. ITC Midwest was required to make these capital investments in transmission infrastructure during the five years following closing of the Transaction. Staff believes ITC Midwest should report to the Commission on its status toward fulfilling this infrastructure commitment.

The Settlement Agreement defines the purpose of the two required projects is to "improve the reliability and efficiency of the transmission system, relieve transmission constraints, and **lower**

[65] The combined B/C ratio of the two projects discussed was $43M/$7M = 6.14. See 07-540 Order Approving Transfer, p. 24-25. See also Chair Koppendrayer's quote above.
[66] See Attachment A to this filing, MTEP08 Appendix D1 West, p. 11.

the overall cost of delivered energy for end use consumers."[67] ITC Midwest has not provided enough information for the Commission to determine whether rerouting the Salem-Lore-Hazelton Project around the Lore substation impacted the purpose of the project. Staff believes ITC Midwest should provide this information to the Commission.

ITC Midwest assured the Commission in its Status Report that Construction on the Project commenced in October, 2011 and, barring further delays, it expected that the Project will be completed during the first half of 2013. To ensure that the Project is completed without further delay, staff believes the Commission should require ITC Midwest to file additional Status Reports on the progress of the construction of the Salem-Hazelton Project on June 30, 2012, December 31, 2012, every six months thereafter, and upon the completion of the project.

In addition, the Department recommended the Commission order ITC Midwest to notify the Commission in the future about any changes to the project that are conveyed to MISO or IUB, including such things as siting or line path changes; and to clearly and fully identify the assumptions (not just goals) the Company is making when committing to project completion dates.

V. COMMISSION ALTERNATIVES

A. Whether ITC Midwest's failure to complete the Salem-Lore-Hazelton 345kV transmission line by December 31, 2011 is in violation of terms of the Commission's February 7, 2008 Order Approving Transfer of Transmission Assets subject to conditions of the Settlement Agreement in Docket No. E001-PA-07-540?

1) Find that ITC Midwest's failure to complete the Salem-Lore-Hazelton 345 kV Transmission line by December 13, 2011 is in violation of terms of the Commission's February 7, 2008 Order Approving Transfer of Assets.

2) Find that ITC's Failure to complete the Salem-Lore-Hazelton 345 kV Transmission line by December 13, 2011 was caused by circumstances beyond ITC Midwest's control.

B. Whether the Commission should invoke the discount and refund provisions of the Settlement Agreement?

1) Invoke the discount and refund provisions of the December 12, 2007 Settlement Agreement and order ITC Midwest to discount the ROE component of its formula rate to 10.39 percent; and refund with interest to all ITC Midwest's customers any amounts collected by ITC Midwest that exceed amounts that would have been collected if the 10.39 percent ROE had been used in ITC Midwest's formula rate since the closing date of the Transaction until the Salem-Hazelton Project is

[67] 07-540, Settlement Agreement, Section 4.2, p. 11 (Emphasis added).

completed. Order IPL to refund to its electric retail customers all refunds received from ITC Midwest. Require ITC Midwest to file a compliance filing on within 45 days of the Commission's detailing its plans and calculations for the implementation of the discount and refund provisions. Require IPL to file a compliance filing within 60 days of the Commission's Order detailing its plans for distributing the refunds received from ITC Midwest to its electric retail customers.

2) Invoke the discount and refund provisions of the December 12, 2007 Settlement Agreement and order ITC Midwest to discount the ROE component of its formula rate to 10.39 percent; and refund with interest to all ITC Midwest's customers any amounts collected by ITC Midwest that exceed amounts that would have been collected if the 10.39 percent ROE had been used in ITC Midwest's formula rate for a time period equal to the delay caused by the strategy to delay seeking easements for Dubuque County from March 4, 2009 and September 4, 2009 (184 days). Order IPL to refund to its electric retail customers all refunds received from ITC Midwest. Require ITC Midwest to file a compliance filing on within 45 days of the Commission's detailing its plans and calculations for the implementation of the discount and refund provisions. Require IPL to file a compliance filing within 60 days of the Commission's Order detailing its plans for distributing the refunds received from ITC Midwest to its electric retail customers.

3) Invoke the discount and refund provisions of the December 12, 2007 Settlement Agreement and order ITC Midwest to discount the ROE component of its formula rate to 10.39 percent; and refund with interest to all ITC Midwest's customers any amounts collected by ITC Midwest that exceed amounts that would have been collected if the 10.39 percent ROE had been used in ITC Midwest's formula rate for a time period determined by the Commission. Order IPL to refund to its electric retail customers all refunds received from ITC Midwest. Require ITC Midwest to file a compliance filing on within 45 days of the Commission's detailing its plans and calculations for the implementation of the discount and refund provisions. Require IPL to file a compliance filing within 60 days of the Commission's Order detailing its plans for distributing the refunds received from ITC Midwest to its electric retail customers.

4) Do not invoke the discount and refund provisions of the December 12, 2007 Settlement Agreement at this time. Put ITC Midwest on notice that the Commission may invoke the discount and refund provisions in the future if further delay occurs.

C. Whether the Commission should take any action to resolve any remaining system constraints in the IPL service territory as reported by MISO?

1) To determine which binding constraints still exist in the MN NCA and what projects are still needed to resolve these constraints, require ITC Midwest to file the following reports by June 30, 2012:

   a) A report on the current state of the transmission system in IPL service territory, including all binding constraints and the current impact of these constraints on Minnesota in terms of annual cost differential for energy flow into Minnesota;

   b) A report on MISO projects that address constraints in the MN NCA and ITC Midwest's plans to implement such projects, including its plans for the Lakefield-Fox Lake-Rutland-Winnebago-Hayward-Adams 161 kV line. This report should include proposed timelines for each project with the incremental steps already taken and to be taken toward the completion of the project, such as filings for state and local permits, public notices, public hearings, easement acquisitions, petitions for franchise approvals, requests for eminent domain, construction, and other relevant actions;

   c) A reconciliation of ITC Midwest's assessment of the project costs & benefits during the 07-540 proceeding and why its assessment differed from MISO's 2008 assessment of the Salem-Lore-Hazelton project that had only a 1.23 B/C ratio; and

   d) Based on current data, provide an estimated projected savings over the next 15 years in Minnesota from the completions of (i) the Salem-Hazelton Project and (ii) the Arnold-Vinton Rebuild; and additionally, assess the extent to which constraints in the area are mitigated by these projects, and if not fully, by how many of the 500 hours annually will this area see constraints with & without the projects.

2) Take no action

D. Whether the Commission should take any other action?

1) Require ITC Midwest to file a report by June 30, 2012 on the impact of rerouting the Salem-Lore-Hazelton project around the Lore substation and provide the Commission with evidence that the rerouting of the project did not impact the purpose of the project as defined by the Settlement Agreement.

2) Require ITC Midwest to file a report on June 30, 2012 and December 31, 2012 on the investment projects ITC Midwest has completed as part of its requirement to make $250 million in capital investments in transmission infrastructure in the IPL service territory during the five years following closing of the Transaction.

3) Require ITC Midwest to file a Status Report on the progress of the construction of the Salem-Hazelton Project on June 30, 2012, December 31, 2012, every six months thereafter, and upon the completion of the project.

4) Require ITC Midwest to notify the Commission in the future about any changes to the Salem-Hazelton Project that are conveyed to MISO or IUB, including such things as siting or line path changes.

5) Require ITC Midwest in the future to clearly and fully identify the assumptions (not just goals) the Company is making when committing to project completion dates.

6) Take no other actions

ATTACHMENT A

New Other Projects

Other projects are typically reliability projects which serve sub-transmission which is not included in Bulk Electric System definition, therefore, Other projects are often Transmission Owner local criteria driven projects which are not eligible for cost sharing. A radial 115 kV line built to provide support to a 69 kV load area is an example of an Other type project.

Project 1340: Hazleton – Lore – Salem 345 kV project

Transmission Owner: ITC Midwest

Project Description:

The Salem – Lore – Hazleton 345 kV project is comprised of the following facilities:

1. New 16 mile 345 kV line from Salem to Lore
2. Lore 345/161 kV 335 MVA transformer
3. New 58 mile 345 kV line from Lore to Hazleton

It has an expected in service date of December 31, 2011 and an estimated cost of $140,362,500

Project Justification:

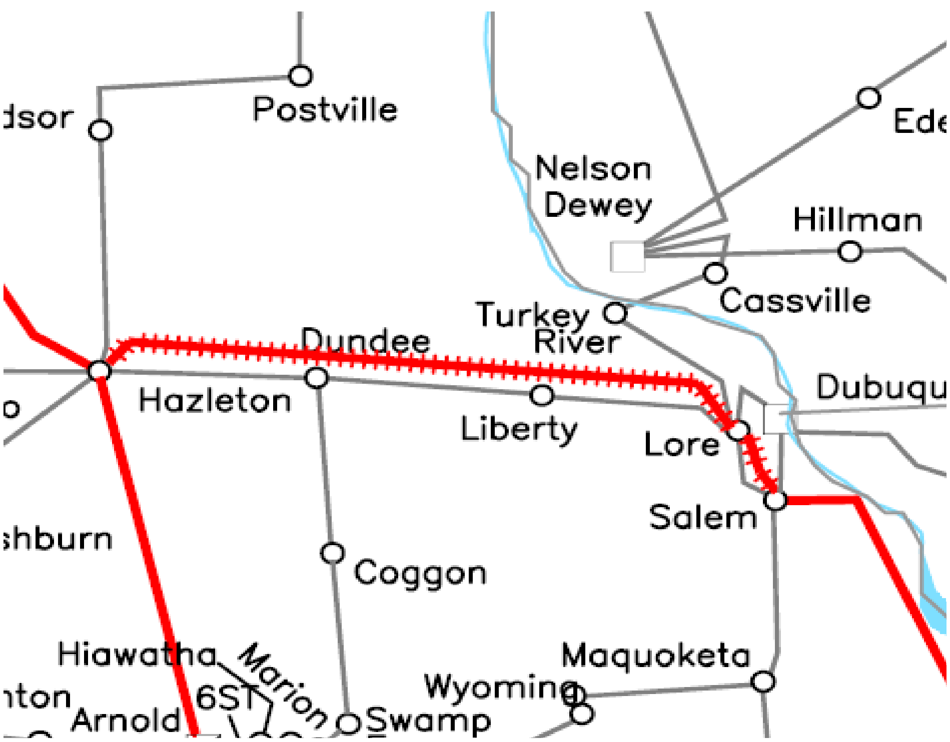

Figure 5.1-37: Figure of Hazleton – Lore – Salem 345 kV line

Economic Benefits

This project is being built primarily for economic purposes, but also some reliability benefits result from this project. The RECB II analysis shows that the B/C ratio in base case (the

Reference Future case) is 1.23. And the B/C ratios in sensitivity cases are 1.31, 0.68, and 1.58 respectively in Environmental Future, Fuel Future, and Renewable Future.

The project does show the economic benefits (load cost savings, adjusted production cost savings, and net generation revenue increases) in Iowa companies. The following table shows economic benefits in 2011, 2016 and 2021.

Table 5.1-42: Economic Benefit of the Project in Year 2011, 2016 and 2021 (Reference Future)

	2011			2016			2021		
	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)
ALWST	-803	489	1,934	23,569	-14,026	9,304	48,488	-6,387	35,378
MIDAM	-1,899	-138	1,929	8,057	4,657	5,977	23,424	4,878	-1,291
MPW	48	38	-161	2,769	-17	-4,652	4,694	-951	-7,389
NSP	-6,212	-1,076	8,194	-64,909	-2,592	56,069	-39,736	-391	41,019
IOWA	-2,655	388	3,701	34,395	-9,386	10,629	76,605	-2,460	26,698
MISOEAST	5,618	450	-6,733	52,031	-3,215	-64,902	58,563	-6,818	-103,543
MISOCENT	1,515	-155	-3,814	86,617	-3,293	-102,788	111,658	-23,484	-124,339
MISOWEST	-5,824	1,643	9,747	-14,158	-7,660	11,486	124,646	9,133	-47,419

*Net Generation Revenue Increase should also be in (k$)

In Summary the economic benefit from this for ITC Midwest would be $1,620,000 in 2011, $18,847,000 in 2016 and $77,479,000 in 2021. MEC benefits would be $18,691,000 in 2016 and $27,011,000 in 2021. Iowa companies would benefit $1,434,000 in 2011, $35,638,000 in 2016 and $100,843,000 in 2021. The benefits for the West planning region of the Midwest ISO are $5,566,000 in 2011 and $86,360,000 in 2021.

RECB II B/C Ratio

The following table shows how the RECB II B/C Ratio is calculated based on the FERC approved tariff. The RECB II B/C Ratio for this project is 1.23 which is less than the 1.6 threshold value.

Table 5.1-43: RECB II B/C Ratio Calculation (Reference Future)

Current Year:	2008				
Project Cost:	140,362,500	**In Service Year:**	2011		
Annual RR:	14%	**Discount Rate:**	10%	**Inflation Rate**	3%
B/C Ration Threshold:	1.6				

	Cost		**Original Benefit (Positive is Saving)**								
				West			**Center**			**East**	
	Annual Cost		**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
2011	$21,472,905	Simulated Value	1,642,572	(5,823,853)	(597,356)	(154,506)	1,514,811	346,289	450,020	5,617,764	2,000,343
2012	$21,472,905		(218,018)	(7,490,704)	(2,399,824)	(782,201)	18,535,330	5,013,058	(282,985)	14,900,499	4,272,060
2013	$21,472,905	Interpolated Values	(2,078,608)	(9,157,555)	(4,202,292)	(1,409,897)	35,555,849	9,679,827	(1,015,990)	24,183,234	6,543,777
2014	$21,472,905		(3,939,198)	(10,824,407)	(6,004,761)	(2,037,593)	52,576,368	14,346,596	(1,748,995)	33,465,969	8,815,494
2015	$21,472,905		(5,799,788)	(12,491,258)	(7,807,229)	(2,665,288)	69,596,887	19,013,364	(2,482,001)	42,748,704	11,087,211
2016	$21,472,905	Simulated Value	(7,660,378)	(14,158,109)	(9,609,697)	(3,292,984)	86,617,407	23,680,133	(3,215,006)	52,031,439	13,358,927
2017	$21,472,905		(4,301,687)	13,602,661	1,069,618	(7,331,148)	91,625,565	22,355,866	(3,935,553)	53,337,710	13,246,426
2018	$21,472,905	Interpolated Values	(942,996)	41,363,431	11,748,932	(11,369,312)	96,633,724	21,031,599	(4,656,101)	54,643,980	13,133,924
2019	$21,472,905		2,415,695	69,124,201	22,428,247	(15,407,476)	101,641,882	19,707,331	(5,376,648)	55,950,251	13,021,422
2020	$21,472,905		5,774,386	96,884,972	33,107,562	(19,445,641)	106,650,041	18,383,064	(6,097,195)	57,256,522	12,908,920
2021	$21,472,905	Simulated Value	9,133,077	124,645,742	43,786,877	(23,483,805)	111,658,199	17,058,796	(6,817,742)	58,562,793	12,796,418

		NPV Cost	**NPV Benefit (Postive is Saving)**								
				West			**Center**			**East**	
NPV Discount Rate		**Annual Cost**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
1	2011	$21,472,905	1,642,572	(5,823,853)	(597,356)	(154,506)	1,514,811	346,289	450,020	5,617,764	2,000,343
0.909090909	2012	$19,520,823	(198,198)	(6,809,731)	(2,181,658)	(711,092)	16,850,300	4,557,325	(257,259)	13,545,908	3,883,691
0.826446281	2013	$17,746,203	(1,717,858)	(7,568,227)	(3,472,969)	(1,165,204)	29,384,999	7,999,857	(839,661)	19,986,144	5,408,080
0.751314801	2014	$16,132,911	(2,959,578)	(8,132,537)	(4,511,466)	(1,530,874)	39,501,404	10,778,810	(1,314,046)	25,143,478	6,623,211
0.683013455	2015	$14,666,283	(3,961,333)	(8,531,697)	(5,332,442)	(1,820,428)	47,535,611	12,986,384	(1,695,240)	29,197,940	7,572,714
0.620921323	2016	$13,332,985	(4,756,492)	(8,791,072)	(5,966,866)	(2,044,684)	53,782,595	14,703,500	(1,996,266)	32,307,430	8,294,843
0.56447393	2017	$12,120,895	(2,428,190)	7,678,348	603,771	(4,138,242)	51,720,243	12,619,304	(2,221,517)	30,107,747	7,477,262
0.513158118	2018	$11,018,996	(483,906)	21,225,980	6,029,060	(5,834,255)	49,588,380	10,792,536	(2,389,316)	28,041,002	6,739,780
0.46650738	2019	$10,017,269	1,126,940	32,246,950	10,462,943	(7,187,701)	47,416,688	9,193,615	(2,508,246)	26,101,205	6,074,589
0.424097618	2020	$9,106,608	2,448,903	41,088,686	14,040,838	(8,246,850)	45,230,028	7,796,214	(2,585,806)	24,282,355	5,474,642
0.385543289	2021	$8,278,734	3,521,197	48,056,329	16,881,736	(9,054,023)	43,049,069	6,576,905	(2,628,535)	22,578,492	4,933,573
Total NPV		$153,414,611	(7,765,944)	104,639,176	25,955,592	(41,887,859)	425,574,128	98,350,737	(17,985,872)	256,909,462	64,482,728

NPV of aggregated APC: (67,639,675)

NPV of aggregated LMP: 787,122,766

NPV of aggregated WGNL: 188,789,058

188,789,058 FERC WANTS ELIGIBILITY BASED ON 70/30 WEIGHTED BENEFIT - WHICH IS THE SAME AS THE TOTAL WGNL BENEFIT IF THE WGNL IS NOT SET TO ZERO ANNUALLY, BUT ALWAYS SET TO THE WEIGHTED VALUE, WHICH THEY ALSO WANT

		B/C Threshold	
B/C Ratio	1.23	1.6	**Smaller than Threshold, Do not Do The Project**

Cost Sharing

Region	**NPV of WGNL**	**Allocation Share**
West	$ 25,955,592	14%
Central	$ 98,350,737	52%
East	$ 64,482,728	34%

*(NPV of aggregated APC * 0.7) + (NPV of aggregated LMP * 0.3) = NPV of aggregated WGNL

B/C Ratio = NPV of aggregated WGNL/Total NPV cost of project

The following tables show the changes in the binding constraints.

Table 5.1-44: Binding Constraints Change in 2011

Constraints Partially Relieved		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
ADAMS_N5 34570 ALWST ROCHSTR5 69547 DPC	BYRON 5 -BYRON 3 1:	600	62.16	594	57.99816	6	4.16184
SAUKVL5 39482 WEP PLSNT VL 39415 WEP	BARTON -CEDRSK 3 1:	1374	271.46118	1353	268.61109	21	2.85009
PR ISLD3 60105 NSP REDROCK3 60236 NSP	PR ISLD3 -REDROCK3 1: PR ISLD3 -RGS-GRE3 1:	4079	175.43779	4065	173.3316	14	2.10619
HAZLTON3 34018 ALWST HAZLTON5 34019 ALWST	HAZL S 5 -HAZLTON3 2:	106	7.75814	94	6.07146	12	1.68668
Constraints Worsened		**Base Case**		**Project Case**		**Decrease (Base - Project)**	
FG Name	**Contingency**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**
RUTLAND5 61932 ALWST WINBAGO5 34009 ALWST	WILMART3 -FIELD_S3 1:	263	34.31098	275	36.72625	-12	-2.41527
Constraints Totally Relieved		**Base Case**		**Project Case**		**Decrease (Base - Project)**	
FG Name	**Contingency**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HAZLTON3 -ARNOLD 3 1:	91	5.59137	N/A	N/A	91	5.59137
HILLS 3 64350 MIDAM HILLSIE5 34110 ALWST	BEV345T -TIFFIN 3 1:	27	3.47625	N/A	N/A	27	3.47625
DUNDEE 5 34135 ALWST DUNDEE 7 34133 ALWST	HAZLTON3 -ARNOLD 3 1:	23	2.07805	N/A	N/A	23	2.07805
DYSART 5 34087 ALWST WASHBRN5 64269 MIDAM	HAZLTON3 -ARNOLD 3 1: COGGON 7 -SWMPFXN 1:	50	1.599	N/A	N/A	50	1.599
VINTON 5 34089 ALWST ARNOLD 5 34091 ALWST	HAZLTON3 -ARNOLD 3 1: COGGON 7 -SWMPFXN 1:	9	0.2997	N/A	N/A	9	0.2997
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HILLS 3 -SUB 92 3 1: SUB 92 3 -WALCOTT3 1: LOUISA 3 -SUB 92 3 1:	5	0.18525	N/A	N/A	5	0.18525
ALMA___5 69543 DPC WABACO 5 69549 DPC	PR ISLD3 -BYRON 3 1:	5	0.07705	N/A	N/A	5	0.07705
QUAD ; 36382 COED SUB 91 3 64405 MIDAM	MECCORD3 -E MOLIN3 1: E MOLIN3 -OAKGROV3 1:	2	0.0501	N/A	N/A	2	0.0501
COFFEEN 30395 CIPS PANA 31445 CIPS	NEOGA -HOLLAND 1:	1	0.0022	N/A	N/A	1	0.0022
Newly Appeared Constraints		**Base Case**		**Project Case**		**Decrease (Base - Project)**	
FG Name	**Contingency**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**	**Total Bindinging Hour**	**Total Shadow Price (k$/MWH)**
SALEM 3 34029 ALWST ROCK CK3 34036 ALWST	No Outage	N/A	N/A	1	0.0076	-1	-0.0076
TRK RIV5 34033 ALWST CASVILL5 69503 DPC	WEMPL; R -PAD 345 1: MIN 69 -CRAWHALL 1:	N/A	N/A	2	0.007	-2	-0.007
FORBES 2 60101 NSP CHIS-N 2 60198 NSP	No Outage	N/A	N/A	1	0.00033	-1	-0.00033
BEDFO; B 36520 COED CLEAR;BT 36616 COED	GOODI;4B -LOCKP; B 1:	N/A	N/A	1	0.00033	-1	-0.00033

Table 5.1-45: Binding Constraints Change in 2016

Constraints Partially Relieved		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
DUNDEE 5 34135 ALWST DUNDEE 7 34133 ALWST	HAZLTON3 -ARNOLD 3 1:	116	66.88212	59	11.60943	57	55.27269
SAUKVL5 39482 WEP PLSNT VL 39415 WEP	BARTON -CEDRSK 3 1:	2275	933.27325	2129	881.49116	146	51.78209
COGGON 7 34131 ALWST DUNDEE 7 34133 ALWST	ARNOLD 3 -ARNOLD 5 1:	647	164.6615	632	135.79784	15	28.86366
E CALMS5 34122 ALWST E CAL T5 34909 ALWST	ROCK CK3 -QUAD ; 1:	96	25.08768	47	9.78164	49	15.30604
ADAMS_N5 34570 ALWST ROCHSTR5 69547 DPC	BYRON 3 -PL VLLY3 1:	4067	7434.92337	3948	7422.0426	119	12.88077

Constraints Worsened		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
ADAMS 3 60102 NSP ADAMS 5 34014 ALWST	HAZLTON3 -ADAMS 3 1:	3674	8223.25702	3646	8566.20408	28	-342.94706
NELSO; R 37039 COED NELSO;RT 37037 COED	DIXON;7B -NELSO; B 1:	371	228.42841	622	357.91746	-251	-129.48905
ADAMS_N5 34570 ALWST ROCHSTR5 69547 DPC	BYRON 5 -BYRON 3 1:	2065	814.3947	2155	888.4203	-90	-74.0256

Constraints Totally Relieved		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HAZLTON3 -ARNOLD 3 1:	1631	284.22292	N/A	N/A	1631	284.22292
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	ARNOLD 3 -TIFFIN 3 1:	203	22.22241	N/A	N/A	203	22.22241
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HLT 69 -MAUSTON 1: WIEN -STRATFRD 1: LUBLIN -LAKEHEAD 1: AS KING3 -EAU CL 3 1: ARP 345 -EAU CL 3 1: EAU CL 3 -EAU CLA5 9: EAU CL 3 -EAU CLA5 1: COC 69 -COC DPC 1:	30	4.3887	N/A	N/A	30	4.3887
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HILLS 3 -SUB 92 3 1: SUB 92 3 -WALCOTT3 1: LOUISA 3 -SUB 92 3 1:	23	2.80048	N/A	N/A	23	2.80048
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	QUAD ; -SUB 91 3 1:	8	1.89968	N/A	N/A	8	1.89968
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	ARNOLD 3 -TIFFIN 3 1:	21	1.87698	N/A	N/A	21	1.87698
DAVNPRT5 64425 ALWST E CAL T5 34909 MIDAM	ROCK CK3 -QUAD ; 1:	5	1.1266	N/A	N/A	5	1.1266
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	ARNOLD 3 -TIFFIN 3 1: SALEM N5 -SALEM S5 1:	3	0.37989	N/A	N/A	3	0.37989
MACOMB W 30990 AUEP IPAVA 30789 AUEP	BRLGTN 5 -BURLIN1G 1:	1	0.0264	N/A	N/A	1	0.0264
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	QUAD ; -SUB 91 3 1: SB 91 5 -SUB 91 3 1:	1	0.01383	N/A	N/A	1	0.01383

Newly Appeared Constraints		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
BONDRNT5 64067 ALWST HUXLEYT5 34529 MIDAM	WEBSTER3 -LEHIGH 3 1:	N/A	N/A	4	2.90892	-4	-2.90892
NELSO; R 37039 COED R FAL; R 37171 COED	ELECT; B -NELSO; B 1:	N/A	N/A	4	0.18128	-4	-0.18128
PAD 138 39059 WPL NWT 138 38057 WPL	PAD 138 -TOWNLINE 1:	N/A	N/A	1	0.18042	-1	-0.18042
CASVILL5 69503 WPL NED 161 39010 DPC	WEMPL; B -ROE 345 1:	N/A	N/A	2	0.07562	-2	-0.07562
MNTZUMA3 64095 MIDAM BONDRNT3 64064 MIDAM	No Outage	N/A	N/A	2	0.01916	-2	-0.01916

Table 5.1-46: Binding Constraints Change in 2021

Constraints Partially Relieved		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HAZLTON3 -ARNOLD 3 1:	1542	263.78994	2	0.14594	1540	263.644
COGGON 7 34131 ALWST DUNDEE 7 34133 ALWST	ARNOLD 3 -ARNOLD 5 1:	1266	320.70312	988	168.83932	278	151.8638
SAUKVL5 39482 WEP PLSNT VL 39415 WEP	BARTON -CEDRSK 3 1:	2911	1413.46516	2768	1347.51776	143	65.9474
FOX LK 5 34008 ALWST RUTLAND5 61932 ALWST	WILMART3 -FIELD_S3 1:	1337	658.11151	1306	604.9392	31	53.17231
HAZLTON3 34018 ALWST HAZLTON5 34019 ALWST	HAZL S 5 -HAZLTON3 2:	310	69.6446	114	23.18646	196	46.45814

Constraints Worsened		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
ADAMS 3 60102 NSP ADAMS 5 34014 ALWST	HAZLTON3 -ADAMS 3 1:	3959	9214.92881	3924	9877.33584	35	-662.40703
ADAMS_N5 34570 ALWST ROCHSTR5 69547 DPC	BYRON 3 -PL VLLY3 1:	4689	8558.55036	4524	8872.96644	165	-314.41608
NELSO; R 37039 COED NELSO;RT 37037 COED	DIXON;7B -NELSO; B 1:	461	356.42676	811	572.94717	-350	-216.52041
ADAMS_N5 34570 ALWST ROCHSTR5 69547 DPC	BYRON 5 -BYRON 3 1:	2841	1724.25972	2939	1835.9933	-98	-111.73358

Constraints Totally Relieved		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	ARNOLD 3 -TIFFIN 3 1:	80	10.056	N/A	N/A	80	10.056
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HILLS 3 -SUB 92 3 1: SUB 92 3 -WALCOTT3 1: LOUISA 3 -SUB 92 3 1:	24	6.1284	N/A	N/A	24	6.1284
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	HLT 69 -MAUSTON 1: WIEN -STRATFRD 1: LUBLIN -LAKEHEAD 1: AS KING3 -EAU CL 3 1: ARP 345 -EAU CL 3 1: EAU CL 3 -EAU CLA5 9: EAU CL 3 - EAU CLA5 1: COC 69 -COC DPC 1:	10	3.7827	N/A	N/A	10	3.7827
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	QUAD ; -SUB 91 3 1:	9	3.77487	N/A	N/A	9	3.77487
HAZL S 5 34020 ALWST DUNDEE 5 34135 ALWST	ARNOLD 3 -TIFFIN 3 1: SALEM N5 -SALEM S5 1:	9	1.41237	N/A	N/A	9	1.41237
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	ARNOLD 3 -TIFFIN 3 1:	3	0.22281	N/A	N/A	3	0.22281
OTTUMWA5 34189 ALWST BRDGPRT5 34190 ALWST	EIC 5 -OTTUMWA5 1:	2	0.20316	N/A	N/A	2	0.20316
CAMPBELL 30266 AUEP MALINE 31007 AUEP	CAMPBELL -MALINE 2:	3	0.14142	N/A	N/A	3	0.14142
NED 161 39010 WPL NLD 2 39021 WPL	WEMPL; B -PAD 345 1:	5	0.12845	N/A	N/A	5	0.12845
70&BLUFY 65764 LES 70&BLUF7 65769 LES	S3454 3 -WAGENER3 1:	1	0.1201	N/A	N/A	1	0.1201
TRK RIV5 34033 ALWST CASVILL5 69503 DPC	WEMPL; B -ROE 345 1:	2	0.07416	N/A	N/A	2	0.07416
SALEM 3 34029 ALWST SALEM N5 34030 ALWST	QUAD ; -SUB 91 3 1: SB 91 5 -SUB 91 3 1:	1	0.05113	N/A	N/A	1	0.05113
VINTON 5 34089 ALWST ARNOLD 5 34091 ALWST	HAZLTON3 -ARNOLD 3 1: COGGON 7 -SWAMPFX7 1:	1	0.04376	N/A	N/A	1	0.04376
MISS T 1 31212 CIPS ROXFORD 31652 CIPS	MISS T 3 -ROXFORD 1:	1	0.01682	N/A	N/A	1	0.01682
MNTZUMA3 64095 MIDAM BONDRNT3 64064 MIDAM	No Outage	1	0.00687	N/A	N/A	1	0.00687
ELLENDL4 67326 MDU WISHEK 4 67394 MDU	No Outage	1	0.00427	N/A	N/A	1	0.00427
LELANDO4 67106 WABNI LOGAN 4 67108 WABNI	No Outage	1	0.00195	N/A	N/A	1	0.00195

Newly Appeared Constraints		Base Case		Project Case		Decrease (Base - Project)	
FG Name	Contingency	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)	Total Bindinging Hour	Total Shadow Price (k$/MWH)
HAZLTON5 34019 ALWST BLKHAWK5 64250 MIDAM	DYSART 5 -WASHBRN5 1:	N/A	N/A	110	3.069	-110	-3.069
SALEM 3 34029 ALWST ROCK CK3 34036 ALWST	No Outage	N/A	N/A	5	0.5287	-5	-0.5287
JOPPA TS 30825 AUEP JOPPA TS 33394 EEI	8SHAWNEE -7SHAWNEE 1:	N/A	N/A	3	0.23046	-3	-0.23046
NELSO; R 37039 COED R FAL; R 37171 COED	ELECT; B -NELSO; B 1:	N/A	N/A	3	0.11355	-3	-0.11355
TEKAMAH5 64987 MIDAM RAUN 5 63876 OPPD	RAUN 3 -S3451 3 1:	N/A	N/A	5	0.09335	-5	-0.09335
ST FRANC 31773 AUEP LUTESVIL 30974 AUEP	No Outage	N/A	N/A	1	0.00975	-1	-0.00975

Sensitivity Runs

Table 5.1-47: Economic Benefit of the Project in Environmental Future

	2011			2016			2021		
	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)
ALWST	388	605	633	32,049	-13,062	23,029	29,632	61,325	204,366
MIDAM	-878	-318	504	7,813	10,411	35,988	-41,728	18,084	64,879
MPW	74	57	-487	2,385	-469	-6,040	3,278	-1,202	-9,438
NSP	-9,093	-1,832	11,955	-38,536	11,208	36,985	11,047	15,056	39,581
IOWA	-416	344	649	42,247	-3,120	52,977	-8,818	78,207	259,808
MISOEAST	1,731	196	-1,337	16,693	2,156	-46,765	-48,734	8,468	-6,228
MISOCENT	382	433	-824	12,617	-3,641	-47,555	-44,084	-10,099	-14,800
MISOWEST	-14,449	-966	17,561	10,647	20,222	24,720	150,652	119,654	173,696

Table 5.1-48: Economic Benefit of the Project in Fuel Future

	2011			2016			2021		
	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)
ALWST	1,284	1,084	1,150	20,958	-9,331	36,097	72,517	-8,676	43,750
MIDAM	-141	107	-926	-13,857	14,480	31,941	-14,562	4,888	30,433
MPW	145	5	-205	3,729	-1,153	-6,114	3,959	-951	-6,208
NSP	-12,358	-2,853	10,699	-103,609	-2,652	67,881	-34,220	4,946	24,945
IOWA	1,287	1,196	18	10,829	3,997	61,924	61,914	-4,739	67,975
MISOEAST	14,565	977	-12,977	28,637	-414	-51,094	80,741	-7,150	-123,697
MISOCENT	11,576	22	-10,087	55,813	-15,475	-84,671	115,409	-9,475	-131,070
MISOWEST	-15,239	-895	14,322	-84,327	10,706	75,156	92,282	8,016	-23,662

Table 5.1-49: Economic Benefit of the Project in Renewable Future

	2011			2016			2021		
	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)	Load Cost Saving (k$)	Adjusted Production Cost Saving (k$)	Net Generation Revenue Increase ($)
ALWST	-619	101	2,093	38,341	-9,819	20,739	67,077	13,406	21,905
MIDAM	-928	-392	457	-5,703	14,504	10,974	5,741	33,907	25,118
MPW	38	-10	-119	3,790	524	-5,041	2,839	-895	-4,931
NSP	-5,049	-1,008	6,713	-22,386	2,148	25,977	-93,528	9,238	46,561
IOWA	-1,509	-301	2,432	36,429	5,210	26,672	75,658	46,418	42,093
MISOEAST	1,002	156	-1,608	77,477	2,181	-76,837	18,703	17,124	-23,167
MISOCENT	-752	1,601	1,499	83,663	-25,580	-129,259	49,255	-25,951	-112,153
MISOWEST	-4,085	1,037	8,117	119,733	14,948	-57,023	-13,561	-21,810	-707

RECB II B/C Calculation in Sensitivity Cases

Table 5.1-50: RECB II B/C Ratio Calculation in Environmental Future

Current Year:	2008				
Project Cost:	**140,362,500**	**In Service Year:**	**2011**		
Annual RR:	**14%**	**Discount Rate:**	**10%**	**Inflation Rate**	**3%**
B/C Ration Threshold:	**1.6**				

	Cost		**Original Benefit (Positive is Saving)**								
			West			**Center**			**East**		
	Annual Cost		**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
2011	$21,472,905	Simulated Value	(965,532)	(14,449,057)	(5,010,589)	433,406	382,424	418,111	196,314	1,731,228	656,789
2012	$21,472,905		3,272,070	(9,429,755)	(538,478)	(381,454)	2,829,411	581,805	588,240	4,723,582	1,828,842
2013	$21,472,905	Interpolated Values	7,509,671	(4,410,453)	3,933,634	(1,196,314)	5,276,398	745,499	980,165	7,715,936	3,000,896
2014	$21,472,905		11,747,272	608,849	8,405,745	(2,011,174)	7,723,385	909,193	1,372,090	10,708,290	4,172,950
2015	$21,472,905		15,984,873	5,628,151	12,877,857	(2,826,035)	10,170,371	1,072,887	1,764,016	13,700,645	5,345,004
2016	$21,472,905	Simulated Value	20,222,475	10,647,453	17,349,968	(3,640,895)	12,617,358	1,236,581	2,155,941	16,692,999	6,517,058
2017	$21,472,905		40,108,852	38,648,446	39,670,731	(4,932,477)	1,277,042	(3,069,621)	3,418,411	3,607,566	3,475,158
2018	$21,472,905	Interpolated Values	59,995,230	66,649,440	61,991,493	(6,224,059)	(10,063,273)	(7,375,823)	4,680,882	(9,477,867)	433,257
2019	$21,472,905		79,881,608	94,650,433	84,312,256	(7,515,642)	(21,403,589)	(11,682,026)	5,943,352	(22,563,299)	(2,608,643)
2020	$21,472,905		99,767,986	122,651,427	106,633,018	(8,807,224)	(32,743,905)	(15,988,228)	7,205,823	(35,648,732)	(5,650,544)
2021	$21,472,905	Simulated Value	119,654,364	150,652,421	128,953,781	(10,098,806)	(44,084,221)	(20,294,431)	8,468,293	(48,734,165)	(8,692,444)

		NPV Cost	**NPV Benefit (Postive is Saving)**								
			West			**Center**			**East**		
NPV Discount Rate		**Annual Cost**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
1	2011	$21,472,905	(965,532)	(14,449,057)	(5,010,589)	433,406	382,424	418,111	196,314	1,731,228	656,789
0.909090909	2012	$19,520,823	2,974,609	(8,572,504)	(489,525)	(346,777)	2,572,192	528,914	534,763	4,294,166	1,662,584
0.826446281	2013	$17,746,203	6,206,340	(3,645,003)	3,250,937	(988,690)	4,360,659	616,115	810,054	6,376,807	2,480,080
0.751314801	2014	$16,132,911	8,825,899	457,437	6,315,361	(1,511,025)	5,802,693	683,090	1,030,872	8,045,297	3,135,199
0.683013455	2015	$14,666,283	10,917,884	3,844,103	8,795,749	(1,930,220)	6,946,501	732,796	1,204,846	9,357,725	3,650,710
0.620921323	2016	$13,332,985	12,556,566	6,611,230	10,772,965	(2,260,709)	7,834,387	767,820	1,338,670	10,365,039	4,046,580
0.56447393	2017	$12,120,895	22,640,402	21,816,040	22,393,093	(2,784,255)	720,857	(1,732,721)	1,929,604	2,036,377	1,961,636
0.513158118	2018	$11,018,996	30,787,039	34,201,701	31,811,438	(3,193,927)	(5,164,050)	(3,784,964)	2,402,033	(4,863,644)	222,330
0.46650738	2019	$10,017,269	37,265,360	44,155,126	39,332,290	(3,506,102)	(9,984,932)	(5,449,751)	2,772,618	(10,525,946)	(1,216,951)
0.424097618	2020	$9,106,608	42,311,365	52,016,178	45,222,809	(3,735,123)	(13,886,612)	(6,780,570)	3,055,972	(15,118,542)	(2,396,382)
0.385543289	2021	$8,278,734	46,131,937	58,083,030	49,717,265	(3,893,527)	(16,996,376)	(7,824,382)	3,264,894	(18,789,130)	(3,351,313)
Total NPV		$153,414,611	219,651,868	194,518,281	212,111,792	(23,716,947)	(17,412,258)	(21,825,540)	18,540,640	(7,090,624)	10,851,260

NPV of aggregated APC: 214,475,561

NPV of aggregated LMP: 170,015,399

NPV of aggregated WGNL: 201,137,512

201,137,512 FERC WANTS ELIGIBILITY BASED ON 70/30 WEIGHTED BENEFIT - WHICH IS THE SAME AS THE TOTAL WGNL BENEFIT IF THE WGNL IS NOT SET TO ZERO ANNUALLY, BUT ALWAYS SET TO THE WEIGHTED VALUE, WHICH THEY ALSO WANT

		B/C Threshold	
B/C Ratio	1.31	1.6	**Smaller than Threshold, Do not Do The Project**

Cost Sharing

Region	**NPV of WGNL**	**Allocation Share**
West	$ 212,111,792	95%
Central	$ (21,825,540)	0%
East	$ 10,851,260	5%
Total NPV	$222,963,053	

Table 5.1-51: RECB II B/C Ratio Calculation in Fuel Future

Current Year:	2008				
Project Cost:	**140,362,500**	**In Service Year:**	**2011**		
Annual RR:	**14%**	**Discount Rate:**	**10%**	**Inflation Rate**	**3%**
B/C Ration Threshold:	**1.6**				

	Cost		**Original Benefit (Positive is Saving)**								
				West			**Center**			**East**	
	Annual Cost		**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
2011	$21,472,905	Simulated Value	(894,513)	(15,238,508)	(5,197,712)	22,460	11,575,789	3,488,459	977,426	14,564,800	5,053,638
2012	$21,472,905		1,425,667	(29,056,236)	(7,718,904)	(3,077,065)	20,423,241	3,973,026	699,101	17,379,298	5,703,160
2013	$21,472,905	Interpolated Values	3,745,848	(42,873,965)	(10,240,096)	(6,176,591)	29,270,693	4,457,594	420,776	20,193,796	6,352,682
2014	$21,472,905		6,066,028	(56,691,693)	(12,761,288)	(9,276,117)	38,118,145	4,942,161	142,451	23,008,295	7,002,204
2015	$21,472,905		8,386,209	(70,509,421)	(15,282,480)	(12,375,643)	46,965,597	5,426,729	(135,874)	25,822,793	7,651,726
2016	$21,472,905	Simulated Value	10,706,390	(84,327,149)	(17,803,672)	(15,475,169)	55,813,049	5,911,296	(414,199)	28,637,291	8,301,248
2017	$21,472,905		10,168,384	(49,005,416)	(7,583,756)	(14,275,200)	67,732,314	10,327,054	(1,761,337)	39,058,006	10,484,466
2018	$21,472,905	Interpolated Values	9,630,379	(13,683,684)	2,636,160	(13,075,232)	79,651,579	14,742,812	(3,108,476)	49,478,722	12,667,684
2019	$21,472,905		9,092,373	21,638,049	12,856,076	(11,875,263)	91,570,844	19,158,569	(4,455,614)	59,899,437	14,850,901
2020	$21,472,905		8,554,368	56,959,782	23,075,992	(10,675,294)	103,490,109	23,574,327	(5,802,753)	70,320,153	17,034,119
2021	$21,472,905	Simulated Value	8,016,363	92,281,515	33,295,908	(9,475,325)	115,409,374	27,990,085	(7,149,891)	80,740,868	19,217,337

		NPV Cost	**NPV Benefit (Postive is Saving)**								
				West			**Center**			**East**	
NPV Discount Rate		**Annual Cost**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
1	2011	$21,472,905	(894,513)	(15,238,508)	(5,197,712)	22,460	11,575,789	3,488,459	977,426	14,564,800	5,053,638
0.909090909	2012	$19,520,823	1,296,061	(26,414,760)	(7,017,185)	(2,797,332)	18,566,582	3,611,842	635,546	15,799,362	5,184,691
0.826446281	2013	$17,746,203	3,095,742	(35,433,029)	(8,462,889)	(5,104,621)	24,190,655	3,683,962	347,749	16,689,088	5,250,150
0.751314801	2014	$16,132,911	4,557,497	(42,593,308)	(9,587,744)	(6,969,284)	28,638,726	3,713,119	107,025	17,286,472	5,260,860
0.683013455	2015	$14,666,283	5,727,894	(48,158,883)	(10,438,139)	(8,452,731)	32,078,135	3,706,529	(92,804)	17,637,315	5,226,232
0.620921323	2016	$13,332,985	6,647,826	(52,360,525)	(11,054,680)	(9,608,862)	34,655,512	3,670,450	(257,185)	17,781,505	5,154,422
0.56447393	2017	$12,120,895	5,739,788	(27,662,280)	(4,280,833)	(8,057,978)	38,233,126	5,829,353	(994,229)	22,047,226	5,918,208
0.513158118	2018	$11,018,996	4,941,907	(7,021,893)	1,352,767	(6,709,661)	40,873,855	7,565,393	(1,595,140)	25,390,408	6,500,525
0.46650738	2019	$10,017,269	4,241,659	10,094,310	5,997,454	(5,539,898)	42,718,475	8,937,614	(2,078,577)	27,943,530	6,928,055
0.424097618	2020	$9,106,608	3,627,887	24,156,508	9,786,473	(4,527,367)	43,889,909	9,997,816	(2,460,934)	29,822,609	7,224,129
0.385543289	2021	$8,278,734	3,090,655	35,578,519	12,837,014	(3,653,148)	44,495,310	10,791,389	(2,756,592)	31,129,100	7,409,115
Total NPV		$153,414,611	42,072,402	(185,053,850)	(26,065,474)	(61,398,422)	359,916,073	64,995,926	(8,167,714)	236,091,414	65,110,024

NPV of aggregated APC: (27,493,734)

NPV of aggregated LMP: 410,953,637

NPV of aggregated WGNL: 104,040,477

104,040,477 FERC WANTS ELIGIBILITY BASED ON 70/30 WEIGHTED BENEFIT - WHICH IS THE SAME AS THE TOTAL WGNL BENEFIT IF THE WGNL IS NOT SET TO ZERO ANNUALLY, BUT ALWAYS SET TO THE WEIGHTED VALUE, WHICH THEY ALSO WANT

		B/C Threshold	
B/C Ratio	0.68	1.6	**Smaller than Threshold, Do not Do The Project**

Cost Sharing

Region	**NPV of WGNL**	**Allocation Share**
West	$ (26,065,474)	0%
Central	$ 64,995,926	50%
East	$ 65,110,024	50%
Total NPV	$130,105,951	

Table 5.1-52: RECB II B/C Ratio Calculation in Renewable Future

Current Year:	2008				
Project Cost:	**140,362,500**	**In Service Year:**	**2011**		
Annual RR:	**14%**	**Discount Rate:**	**10%**	**Inflation Rate**	**3%**
B/C Ration Threshold:	**1.6**				

	Cost		**Original Benefit (Positive is Saving)**								
				West			**Center**			**East**	
	Annual Cost		**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
2011	$21,472,905	Simulated Value	1,037,117	(4,085,047)	(499,532)	1,600,842	(751,618)	895,104	155,648	1,001,836	409,505
2012	$21,472,905		3,819,237	20,678,525	8,877,023	(3,835,400)	16,131,277	2,154,603	560,750	16,296,864	5,281,584
2013	$21,472,905	Interpolated Values	6,601,357	45,442,097	18,253,579	(9,271,642)	33,014,172	3,414,103	965,851	31,591,892	10,153,663
2014	$21,472,905		9,383,476	70,205,669	27,630,134	(14,707,884)	49,897,067	4,673,602	1,370,952	46,886,919	15,025,742
2015	$21,472,905		12,165,596	94,969,241	37,006,690	(20,144,126)	66,779,962	5,933,101	1,776,054	62,181,947	19,897,822
2016	$21,472,905	Simulated Value	14,947,716	119,732,813	46,383,245	(25,580,368)	83,662,857	7,192,600	2,181,155	77,476,975	24,769,901
2017	$21,472,905		7,596,077	93,073,992	33,239,452	(25,654,394)	76,781,210	5,076,287	5,169,810	65,722,226	23,335,534
2018	$21,472,905	Interpolated Values	244,439	66,415,171	20,095,658	(25,728,421)	69,899,562	2,959,974	8,158,464	53,967,477	21,901,168
2019	$21,472,905		(7,107,200)	39,756,351	6,951,865	(25,802,448)	63,017,914	843,661	11,147,118	42,212,728	20,466,801
2020	$21,472,905		(14,458,839)	13,097,530	(6,191,928)	(25,876,474)	56,136,266	(1,272,652)	14,135,773	30,457,978	19,032,435
2021	$21,472,905	Simulated Value	(21,810,477)	(13,561,291)	(19,335,721)	(25,950,501)	49,254,618	(3,388,965)	17,124,427	18,703,229	17,598,068

		NPV Cost	**NPV Benefit (Postive is Saving)**								
				West			**Center**			**East**	
NPV Discount Rate		**Annual Cost**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**	**APC**	**LMP**	**WGNL**
1	2011	$21,472,905	1,037,117	(4,085,047)	(499,532)	1,600,842	(751,618)	895,104	155,648	1,001,836	409,505
0.909090909	2012	$19,520,823	3,472,033	18,798,659	8,070,021	(3,486,727)	14,664,798	1,958,730	509,772	14,815,331	4,801,440
0.826446281	2013	$17,746,203	5,455,667	37,555,452	15,085,602	(7,662,514)	27,284,440	2,821,572	798,224	26,109,001	8,391,457
0.751314801	2014	$16,132,911	7,049,945	52,746,558	20,758,929	(11,050,251)	37,488,405	3,511,346	1,030,017	35,226,837	11,289,063
0.683013455	2015	$14,666,283	8,309,266	64,865,269	25,276,067	(13,758,709)	45,611,613	4,052,388	1,213,069	42,471,107	13,590,480
0.620921323	2016	$13,332,985	9,281,356	74,344,657	28,800,346	(15,883,396)	51,948,052	4,466,039	1,354,326	48,107,106	15,380,160
0.56447393	2017	$12,120,895	4,287,788	52,537,842	18,762,804	(14,481,237)	43,340,991	2,865,432	2,918,223	37,098,483	13,172,301
0.513158118	2018	$11,018,996	125,436	34,081,484	10,312,250	(13,202,748)	35,869,528	1,518,935	4,186,582	27,693,849	11,238,762
0.46650738	2019	$10,017,269	(3,315,561)	18,546,631	3,243,096	(12,037,032)	29,398,322	393,574	5,200,213	19,692,549	9,547,914
0.424097618	2020	$9,106,608	(6,131,959)	5,554,631	(2,625,982)	(10,974,151)	23,807,257	(539,729)	5,994,948	12,917,156	8,071,610
0.385543289	2021	$8,278,734	(8,408,883)	(5,228,465)	(7,454,758)	(10,005,042)	18,989,788	(1,306,593)	6,602,208	7,210,905	6,784,817
Total NPV		$153,414,611	21,162,203	349,717,673	119,728,844	(110,940,964)	327,651,576	20,636,798	29,963,229	272,344,159	102,677,508

NPV of aggregated APC:	(59,815,532)
NPV of aggregated LMP:	949,713,408
NPV of aggregated WGNL:	243,043,150

243,043,150 FERC WANTS ELIGIBILITY BASED ON 70/30 WEIGHTED BENEFIT - WHICH IS THE SAME AS THE TOTAL WGNL BENEFIT IF THE WGNL IS NOT SET TO ZERO ANNUALLY, BUT ALWAYS SET TO THE WEIGHTED VALUE, WHICH THEY ALSO WANT

		B/C Threshold	
B/C Ratio	1.58	1.6	**Smaller than Threshold, Do not Do The Project**

Cost Sharing

Region	**NPV of WGNL**	**Allocation Share**
West	$ 119,728,844	49%
Central	$ 20,636,798	8%
East	$ 102,677,508	42%
Total NPV	$243,043,150	

From the results above you can see that the environmental future had a B/C ratio of 1.31, the fuel future had a B/C ratio of 0.68 and the renewable future had a B/C ratio of 1.58. Therefore, even though the renewable future was very close, none of these met the RECB II threshold of 1.6.

In conclusion, project 1340 is not eligible for regional cost sharing based on RECB II criteria.

Reliability Benefits

This project offers some reliability improvements by deferring or mitigation reliability projects, however, it cannot be recommended as a Baseline Reliability Project due to the cost of the project relative to reliability upgrades already planned in the area to address those reliability issues. Most of the system reliability issues identified in the analysis have existing Appendix A projects to mitigate them at a lower cost.

Thermal:
Below are the thermal issues identified in the area. Most of the issues have a planned project to mitigate them. Almost all of the thermal problems in the area are for category C issues. The exception is the Hazleton 345/161 transformer which doesn't overload under a B event, but approaches overload levels and the Lore – Gardland 69 kV line which overloads for the loss of a generator.

1. Hazleton 345/161 transformer #1

Project 1340 slightly offloads the transformer. In the 2013 case the transformer is loaded to 94.2% without the project and to 91.6% with the project when the second Hazleton 345/161 kV transformer is outaged. Under the C3 contingency of the second Hazelton transformer + Salem – Rock Creek 345kV the loading reduces from 103% to 95% with the project. The solution to this problem is project 1288 which is to replace the Hazleton 345/161 kV transformer #1 with a 335 MVA unit (present rating is 224).

2. Hazleton 161/69 kV transformer

The project offloads the 161/69 kV transformers at Hazleton for the outage of Hazleton – Arnold 345 + Hazleton – Adams 345 outage about 5%. The solution to this problem is Project 1341 which is to replace both Hazleton 161/69 kV transformers from 30 MVA units to 74.7 MVA units. Under the Hazleton – Arnold + Hazleton – Adams 345 kV C3 contingency the critical load is 631.8 MW (2025 with 1.8% load growth rate) with Project 1340 and 557.2 MW (2018) without.

3. Salem 345/161 kV transformer

The project offloads the Salem 345/161 kV transformer which overloads for the loss of Quad Cities – MEC Sub 91 345kV line and MEC Meccord – MEC East Moline 345 kV line. In the 2013 Summer Peak Case the transformer loads to 106.5% without the project. With the project the transformer loads to 50% in that case. Project 1287 is to replace the transformer with a 448 MVA unit, it is currently a 336 MVA unit. It has an estimated cost of $5,000,000 and an expected in service date of June 1, 2009. The transformer is a constrained element in both the WUMS NCA and SE_MN/N_IA/SW_WI NCA. Project 1287 should not be built if P1340 is built. The critical load for the study area under the C3 contingency is 385.4 MW without the project.

4. Hills 345/161 kV transformer

The project offloads the Hills 345/161 kV transformer which overloads for the loss of Duane Arnold generation unit + Arnold – Tiffin 345 kV line. In the 2013 Summer Peak Case the transformer overloads to 104.4% (rated at 252 MVA). With project 1340 the transformer loading decreases to 88.4% in the 2013 Summer Peak Case. There is an operating guide to deal with this problem. A brief summary from the operating guide: "If the Duane Arnold unit or Tiffin-Arnold 345 kV line trips, MISO West RC will use TLR as necessary to reduce flow on the ITCMW Hills 345/161 kV Transformer to below 252 MVA within 60 minutes. Prairie Creek-Stoney Point 115kV has a 6% LODF and can be removed from service post-contingent to provide relief on the transformer. The MISO West Reliability Coordinator may be contacted for redispatch options."

5. 8th Street (Dubuque) 161/69 kV transformers

The project helps reduce the loading on the 74.7 MVA transformer. The transformer doesn't overload until the area load is slightly increased in the 2013 case. It overloads under the 8th Street – Galena + Savannah – York 161 kV outage. In the 10% load increase the loading on the transformer is reduced from 103% to 97% with the project and 111% to 103% in the 20% increased load case. It seems that a transformer upgrade could be looked at and also possibly a couple of the 69 kV lines in the Dubuque area could be upgraded as well such as the Dubuque – Pioneer line which approaches overload levels. The critical load in the area under contingency is 543.4 MW (2017 with 1.8% load growth rate) without the project and 592.6 MW (2022) with the project. Project 1340 defers the need for a system upgrade about five years.

6. Rock Creek 345/161 kV transformer

The Rock Creek 345/161 kV transformer overloads for the loss of Quad Cities – MEC Sub 91 345kV line + MEC Meccord – MEC East Moline 345 kV line. In the 2013 case the transformer (416 MVA) overloads to 116% without the project and 98% with the project. Project 1346 upgrades the conductor inside the substation so the ratings of Rock Creek 345/161 kV transformer is 448 MVA limited by transformer. This project is only estimated to cost $100,000 and expected to go in service June 1, 2008. Project 1340 and 1346 both reduce loading on the transformer, so when combined they help reduce loading more. Project 1346 is a very cheap minimal fix for the problem, but longer term solutions should be looked at.