

Exhibit No.:
Issue(s): MISO Participation
Witness: James R. Dauphinais
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Missouri Industrial Energy Consumers
Case No. EO-2011-0128
Date Testimony Prepared: September 14, 2011

Filed
February 28, 2012
Data Center
Missouri Public
Service Commission

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of)
Union Electric Company for)
Authority to Continue the Transfer)
of Functional Control of Its) Case No. EO-2011-0128
Transmission System to the)
Midwest Independent)
Transmission System Operator,)
Inc.)
_____)

Rebuttal Testimony and Schedule of

James R. Dauphinais

On behalf of

Missouri Industrial Energy Consumers

Project 9411
September 14, 2011

MIEC Exhibit No. 814
Date 2-9-12 Reporter JL
File No. EO-2011-0128



BRUBAKER & ASSOCIATES, INC.
CHESTERFIELD, MO 63017

1 **Q WHAT IS THE SUBJECT OF YOUR REBUTTAL TESTIMONY?**

2 A I address Ameren Missouri's amended application to the Commission to extend
3 Ameren Missouri's authority to continue the transfer of functional control of its electric
4 transmission system to the Midwest Independent Transmission System Operator, Inc.
5 ("MISO") beyond April 30, 2012.

6 **Q PLEASE BRIEFLY SUMMARIZE YOUR POSITION AND RECOMMENDATION?**

7 A On behalf of MIEC, I oppose two aspects of Ameren Missouri's amended application
8 in this proceeding as filed by Ameren Missouri. First, as filed, Ameren Missouri's
9 amended application does not provide any protection against Ameren Missouri
10 potentially performing an "end-run" around the Commission's jurisdiction over the
11 transmission cost component of Ameren Missouri's bundled retail rates by
12 constructing transmission facilities in its service territory through an affiliate. Second,
13 Ameren Missouri's amended application would: (i) shift the burden of demonstrating
14 the reasonableness of continued participation in MISO from Ameren Missouri to Staff,
15 OPC, MIEC and other parties, and (ii) demolish what I consider to be an industry
16 "best practice" model for rationally evaluating the benefit, if any, for ratepayers from
17 continued participation of their electric utility in an RTO.

18 I recommend that the Commission condition any approval of Ameren's
19 continued participation in MISO on Ameren Missouri complying with the following
20 provision:

21 Ameren Missouri shall construct and own any and all transmission
22 projects proposed for Ameren Missouri's certificated retail service
23 territory, unless Ameren Missouri requests and receives approval from
24 the Commission for an entity other than Ameren Missouri to pursue, in
25 part or in whole, construction and/or ownership of the proposed
26 project(s), which entity shall have a certificate of convenience and
27 necessity issued by the Missouri Public Service Commission for the
28 proposed project(s).

James R. Dauphinais
Page 2

1 In addition, I recommend that the Commission condition any approval of
2 Ameren's continued participation in MISO on terms and conditions substantially
3 similar to those found in Paragraph 16 of Ameren Missouri's original application in
4 this proceeding

5 **Q YOU HAVE INDICATED THAT AMEREN MISSOURI HAS FILED AN AMENDED**
6 **APPLICATION IN THIS PROCEEDING. CAN YOU PLEASE START BY GIVING A**
7 **SYNOPSIS OF AMEREN MISSOURI'S ORIGINAL APPLICATION IN THIS**
8 **PROCEEDING?**

9 **A**Yes. Ameren Missouri filed its original application in this proceeding on November 1,
10 2010. The original filing was made in a manner consistent with a
11 Commission-approved 2008 Stipulation and Agreement ("2008 Stipulation") between
12 Ameren Missouri, the Staff of the Commission ("Staff"), the Office of Public Counsel
13 ("OPC"), the MISO and MIEC. Specifically, pursuant to the 2008 Stipulation, Ameren
14 Missouri consulted with the aforementioned parties to the 2008 Stipulation regarding
15 the performance of a new cost-benefit analysis addressing Ameren Missouri's
16 participation in the MISO. Ameren Missouri presented to these parties what it termed
17 as a "Tentative Analysis" and followed-up that presentation with workpapers,
18 meetings and conference calls. Ameren Missouri's "Tentative Analysis" was included
19 in Ameren Missouri's original application as its "Actual Analysis."

20 The "Actual Analysis" filed by Ameren Missouri with its original application
21 does not completely rebuild and repeat the detailed cost benefit analysis modeling
22 that was performed by Charles River Associates ("CRA") in Case No. EO-2008-0134.
23 Instead, Ameren Missouri's "Actual Analysis," as detailed in the direct testimony of its
24 witness Ajay Arora, essentially updated the assumptions used in the previous CRA

James R. Dauphinais
Page 3

1 analysis (Arora Direct Testimony at 3 through 6). This "Actual Analysis" showed a net
2 present value benefit of approximately \$70 million for MISO participation versus the
3 next most cost effective alternative through December 31, 2013 (Original Application
4 at Attachment A). This compares to the net present value of approximately
5 \$17 million for such participation through April 30, 2012 that was shown in CRA's
6 original cost benefit analysis performed for Case No. EO-2008-0134.

7 Finally, Ameren Missouri's original application proposed extending Ameren
8 Missouri participation in MISO through December 31, 2013 under terms and
9 conditions very similar, but not necessarily identical, to those of the 2008 Stipulation
10 and the Commission-approved stipulation and agreement in Case No. EO-2004-0271
11 ("2004 Stipulation"). These terms and conditions provide a number of important
12 protections for Ameren Missouri's ratepayers, including, but not limited to:

- 13 • A requirement that Ameren Missouri by November 30, 2011, contact and consult
14 with stakeholders regarding what additional analysis Ameren Missouri intends to
15 conduct regarding the matter of Ameren Missouri's continued Regional
16 Transmission Organization ("RTO") participation beyond December 31, 2013;
- 17 • A requirement that Ameren Missouri work with Staff, OPC and MIEC and give
18 them substantive input regarding the development of the specific methodology,
19 inputs, outputs and other features to be included in the analysis;
- 20 • A requirement that Ameren Missouri provide, subject to any applicable privilege
21 recognized by law and the provision of the Commission's rule respecting
22 confidential information, Staff, OPC and MIEC meaningful and substantial access
23 to data necessary for, and used in, preparing the analysis, and will have access to
24 employees or consultants utilized by Ameren Missouri to perform the analysis,
25 and will be given meaningful input into the preparation of the analysis; and
- 26 • A number of provisions which in concert act to protect the Commission's
27 jurisdiction over the transmission cost component of Ameren Missouri's bundled
28 retail electric rates.

29 (Original Application at Paragraph 16)

1 Q WHAT, IF ANY, MAJOR ISSUES DID MIEC HAVE WITH AMEREN MISSOURI'S
2 ORIGINAL APPLICATION?

3 A MIEC had one major issue with Ameren Missouri's original application. This is a new
4 issue arising from a filing by Ameren Missouri's affiliate Ameren Services Company
5 ("Ameren Services") with the Federal Energy Regulatory Commission ("FERC")
6 during the summer of 2010 that could adversely impact this Commission's jurisdiction
7 over the transmission cost component of Ameren Missouri's bundled retail electric
8 rates. The parties did not envision this issue when they executed the 2004 and 2008
9 Stipulations regarding Ameren Missouri's participation in MISO.

10 Q PLEASE EXPLAIN THIS NEW ISSUE RELATED TO THE COMMISSION'S
11 JURISDICTION OVER THE TRANSMISSION COST COMPONENT OF AMEREN
12 MISSOURI'S BUNDLED RETAIL ELECTRIC RATES.

13 A On August 2, 2010, Ameren Services filed a petition with the FERC in Docket No.
14 EL10-80-000 for a declaratory order approving various transmission infrastructure
15 investment rate incentives for its affiliates, including Ameren Missouri, the Ameren
16 Illinois Utilities (Ameren CIPS, AmerenCILCO and AmerenIP) and a new affiliate
17 called Ameren Transmission Company ("ATX"). In the filing, Ameren Services
18 described ATX as a newly formed, wholly-owned subsidiary of Ameren Corporation
19 created to enhance Ameren Corporation's transmission business line's access to
20 credit and to provide business focus on transmission.

21 For certain specific regional transmission projects that would be primarily
22 located in the service territories of the Ameren Illinois Utilities, the FERC, in a May 10,
23 2011 order, granted Ameren Services' request for Ameren Services' FERC
24 transmission rates to include 100% of Construction Work in Progress ("CWIP") in rate

James R. Dauphinais
Page 5

1 base, abandoned plant recovery, a hypothetical capital structure, recovery of
2 pre-commercial operational expenses, and the ability to assign these incentives to
3 affiliates (*Ameren Services Company*, 135 FERC ¶ 61,142 (2011)).

4 The new issue introduced by this development is that, if an affiliate of Ameren
5 Missouri (such as ATX or its subsidiaries), rather than Ameren Missouri itself, builds
6 new transmission facilities in Ameren Missouri's service territory, to the extent the
7 associated transmission facility costs are allocated back to Ameren Missouri by MISO
8 through regional transmission cost allocation, those costs will be subject to FERC
9 ratemaking rather than ratemaking by this Commission. For example, if ATX made a
10 \$1 billion investment in new transmission facilities in Ameren Missouri's service
11 territory and MISO allocated 60% of the cost of that investment to Ameren Missouri,
12 recovery of that 60% of the cost through retail rates would be subject to the Return on
13 Equity ("ROE"), transmission rate incentive and other ratemaking policies of FERC,
14 not this Commission. On the other hand, if Ameren Missouri made the investment
15 itself, the 60% of the investment that Ameren Missouri would be responsible for would
16 be recovered through retail rates under the ROE and other ratemaking policies of this
17 Commission, not FERC. Thus, through the use of transmission affiliates, Ameren
18 Missouri's parent, Ameren Corporation, could potentially make an "end-run" around
19 the ratemaking authority of this Commission in order to receive more favorable cost
20 recovery under FERC transmission ratemaking authority.

James R. Dauphinais
Page 6

1 Q CAN YOU PROVIDE SOME ROUGH INDICATION OF THE MAGNITUDE OF THE
2 ADVERSE IMPACT ON AMEREN MISSOURI CUSTOMER OF SUCH AN
3 "END-RUN?"

4 A Yes. Even without transmission rate incentives approved by FERC, for every
5 \$1 billion of transmission investment Ameren makes in Missouri that is allocable to
6 Ameren Missouri's retail customers, recovery on FERC's current capital structure and
7 ROE for Ameren would increase Ameren Missouri's annual revenue requirement by
8 approximately \$25 million versus recovery under this Commission's current capital
9 structure and ROE for Ameren Missouri (Schedule JRD-1). Thus, this issue could
10 have a major impact on the retail rates of Ameren Missouri's customers.

11 Q WHAT DO YOU RECOMMEND THE COMMISSION DO IN ORDER TO ADDRESS
12 THIS ISSUE?

13 A I recommend that the Commission condition any approval of Ameren's continued
14 participation in MISO on Ameren Missouri's compliance with the following provision:

15 Ameren Missouri shall construct and own any and all transmission
16 projects proposed for Ameren Missouri's certificated retail service
17 territory, unless Ameren Missouri requests and receives approval from
18 the Commission for an entity other than Ameren Missouri to pursue, in
19 part or in whole, construction and/or ownership of the proposed
20 project(s), which entity shall have a certificate of convenience and
21 necessity issued by the Missouri Public Service Commission for the
22 proposed project(s).

23 This provision is not meant to prohibit Ameren Missouri from pursuing the
24 construction of transmission facilities in its service territory with one of its affiliates.
25 There may be instances when it is appropriate for Ameren Missouri to do so. For
26 example, if a very large transmission investment is required and MISO will be
27 allocating an overwhelming majority of its cost to MISO Market Participants other than
28 Ameren Missouri (and its retail customers), it may be appropriate for that transmission

James R. Dauphinais
Page 7

1 construction to be done by an affiliate of Ameren Missouri rather than Ameren
2 Missouri itself. However, this should be considered on a case-by-case basis as
3 detailed in my recommended provision.

4 **Q PLEASE EXPLAIN HOW AMEREN MISSOURI'S AMENDED APPLICATION IN**
5 **THIS PROCEEDING HAS CHANGED FROM AMEREN MISSOURI'S ORIGINAL**
6 **APPLICATION IN THIS PROCEEDING?**

7 A Ameren Missouri's Amended Application in this case has changed in several ways.
8 First, Ameren Missouri's Amended Application requests that the Commission extend
9 its participation in MISO until May 31, 2015 rather than December 31, 2013. Second,
10 and most troubling, beyond May 31, 2015, Ameren Missouri would automatically be
11 granted successive one-year extensions for continued participation in MISO unless
12 the Commission terminates such permission and authority. Such a termination could
13 only occur if a motion is made by any party to the current proceeding (or the by the
14 Commission on its own) at least two years prior to the end of any one-year
15 participation extension to open a case before the Commission regarding whether
16 Ameren Missouri's permission to participate in the MISO should extend beyond the
17 end of the one-year participation extension (Amended Application at page 8).
18 Notably, Ameren Missouri's Amended Application would eliminate all of the cost
19 benefit analysis provisions I discussed above.

20 **Q HOW DO YOU RESPOND TO AMEREN MISSOURI'S CHANGES IN ITS**
21 **AMENDED APPLICATION?**

22 A While I do not oppose Ameren Missouri's proposal to move the end of the
23 participation extension from December 31, 2013 to May 31, 2015, the remainder of

1 changes from the original application in Ameren Missouri's Amended Application are
2 unreasonable. Ameren Missouri's proposal would shift the burden of demonstrating
3 the reasonableness of continued participation in MISO from Ameren Missouri to Staff,
4 OPC, MIEC and other parties. Furthermore, it would demolish what I consider to be
5 an industry "best practice" model for rationally evaluating the benefit, if any, for
6 ratepayers from continued participation of their electric utility in an RTO.

7 Without extensive upfront discovery rights, the Commission, its Staff, OPC,
8 MIEC and other parties do not have the same level of access as Ameren Missouri to
9 the information necessary to reasonably determine whether it is reasonable for
10 Ameren Missouri to continue to participate in MISO, move to another RTO or operate
11 under an Independent Coordinator of Transmission ("ICT") arrangement.
12 Furthermore, it is cost prohibitive for Staff, OPC, MIEC or the other parties to
13 undertake a study like that performed by CRA for Ameren Missouri (in consultation
14 with Staff, OPC and MIEC) for Case No. No. EO-2008-0134. The provisions of the
15 2004 Stipulation and 2008 Stipulation, as well as those proposed by Ameren
16 Missouri's original application in this current proceeding, addressed this by requiring
17 Ameren Missouri to undertake an appropriate level of additional analysis and to
18 consult in a meaningful and substantive way with stakeholders including the Staff,
19 OPC and MIEC. To date, those provisions have worked well and have provided a
20 rational and reasonable way to determine the reasonableness of continued
21 participation in MISO in a manner that is far less complex and contentious than it
22 might otherwise be. Furthermore, much of the analytical approach that was
23 developed jointly by the parties and CRA for the study conducted for Case No.
24 EO-2008-0134 has been applied elsewhere, such as in the cost benefit studies

1 performed regarding Entergy's potential participation in either the MISO or Southwest
2 Power Pool ("SPP").

3 **Q IN HIS DIRECT TESTIMONY, MR. ARORA, INDICATES THAT AMEREN**
4 **BELIEVES SEVEN-PLUS YEARS OF PARTICIPATION IN MISO AND**
5 **EXPERIENCE GAINED WITH MISO'S MARKET HAVE PROVIDED SUFFICIENT**
6 **EVIDENCE TO PROVIDE THE COMMISSION, STAFF AND OTHER**
7 **STAKEHOLDERS WITH A LEVEL OF CONFIDENCE IN REGARD TO CONTINUED**
8 **BENEFITS FROM PARTICIPATION TO JUSTIFY A CHANGE IN HOW**
9 **CONTINUED PARTICIPATION IN MISO IS CONSIDERED BY THE COMMISSION.**
10 **HOW DO YOU RESPOND?**

11 **A** Even though it has been seven years since participation in MISO began, we are still
12 seeing new controversial proposals being made that can potentially have a significant
13 adverse impact on Ameren Missouri's ratepayers. Specific examples include the
14 MISO's MVP regional transmission cost allocation approach and MISO's recent
15 Resource Adequacy Requirement Enhancements filing. The former may cause
16 Ameren Missouri's ratepayers to incur costs in excess of the benefits received. The
17 latter, depending on how it is ultimately approved by FERC, could potentially
18 adversely affect Ameren Missouri's Integrated Resource Planning process to the
19 detriment of Ameren Missouri's ratepayers. We have not yet come to the point where
20 it can be assumed that participation in MISO, or any RTO, is more likely to provide a
21 net benefit than a net cost.

1 Q WHAT DO YOU RECOMMEND TO THE COMMISSION REGARDING THIS ISSUE?

2 A I recommend that the Commission condition any approval of Ameren's continued
3 participation in MISO on terms and conditions substantially similar to those found in
4 Paragraph 16 of Ameren Missouri's original application in this proceeding.

5 Q CAN YOU PLEASE PROVIDE US WITH A FINAL SUMMARY OF YOUR
6 TESTIMONY?

7 A Yes. The new concept of using affiliates to build transmission project requires new
8 terms and conditions to prevent Ameren Missouri from performing a potential
9 "end-run" around the Commission's jurisdiction over the transmission cost component
10 of bundled retail electric rates. In addition, Ameren Missouri's proposal in its
11 amended application unreasonably shifts the burden of demonstrating the
12 reasonableness of continued participation in MISO from Ameren Missouri to Staff,
13 OPC, MIEC, and other parties. It also dismantles a collaborative cost benefit analysis
14 approach that has worked very well in Missouri.

15 I recommend that the Commission condition any approval of Ameren's
16 continued participation in MISO on Ameren Missouri complying with the following
17 provision:

18 Ameren Missouri shall construct and own any and all transmission
19 projects proposed for Ameren Missouri's certificated retail service
20 territory, unless Ameren Missouri requests and receives approval from
21 the Commission for an entity other than Ameren Missouri to pursue, in
22 part or in whole, construction and/or ownership of the proposed
23 project(s), which entity shall have a certificate of convenience and
24 necessity issued by the Missouri Public Service Commission for the
25 proposed project(s).

26 In addition, I recommend that the Commission condition any approval of
27 Ameren's continued participation in MISO on terms and conditions substantially

1 similar to those found in Paragraph 16 of Ameren Missouri's original application in
2 this proceeding.

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

4 **A** Yes, it does.

Qualifications of James R. Dauphinais

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A James R. Dauphinais. My business address is 16690 Swingley Ridge Road,
3 Suite 140, Chesterfield, MO 63017.

4 **Q PLEASE STATE YOUR OCCUPATION.**

5 A I am a consultant in the field of public utility regulation and a principal with the firm of
6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
8 **EXPERIENCE.**

9 A I graduated from Hartford State Technical College in 1983 with an Associate's Degree
10 in Electrical Engineering Technology. Subsequent to graduation I was employed by
11 the Transmission Planning Department of the Northeast Utilities Service Company as
12 an Engineering Technician.

13 While employed as an Engineering Technician, I completed undergraduate
14 studies at the University of Hartford. I graduated in 1990 with a Bachelor's Degree in
15 Electrical Engineering. Subsequent to graduation, I was promoted to the position of
16 Associate Engineer. Between 1993 and 1994, I completed graduate level courses in
17 the study of power system transients and power system protection through the
18 Engineering Outreach Program of the University of Idaho. By 1996 I had been
19 promoted to the position of Senior Engineer.

20 In the employment of the Northeast Utilities Service Company, I was
21 responsible for conducting thermal, voltage and stability analyses of the Northeast
22 Utilities' transmission system to support planning and operating decisions. This

1 involved the use of load flow and power system stability computer simulations.
2 Among the most notable achievements I had in this area include the solution of a
3 transient stability problem near Millstone Nuclear Power Station, and the solution of a
4 small signal (or dynamic) stability problem near Seabrook Nuclear Power Station. In
5 1993 I was awarded the Chairman's Award, Northeast Utilities' highest employee
6 award, for my work involving stability analysis in the vicinity of Millstone Nuclear
7 Power Station.

8 From 1990 to 1997 I represented Northeast Utilities on the New England
9 Power Pool Stability Task Force. I also represented Northeast Utilities on several
10 other technical working groups within the New England Power Pool ("NEPOOL") and
11 the Northeast Power Coordinating Council ("NPCC"), including the 1992-1996 New
12 York-New England Transmission Working Group, the Southeastern
13 Massachusetts/Rhode Island Transmission Working Group, the NPCC CPSS-2
14 Working Group on Extreme Disturbances and the NPCC SS-38 Working Group on
15 Interarea Dynamic Analysis. This latter working group also included participation
16 from a number of ECAR, PJM and VACAR utilities.

17 In addition to my technical responsibilities, I was also responsible for oversight
18 of the day-to-day administration of Northeast Utilities' Open Access Transmission
19 Tariff. This included the creation of Northeast Utilities' pre-FERC Order No. 889
20 transmission electronic bulletin board and the coordination of Northeast Utilities'
21 transmission tariff filings prior to and after the issuance of Federal Energy Regulatory
22 Commission ("FERC" or "Commission") FERC Order No. 888. I was also responsible
23 for spearheading the implementation of Northeast Utilities' Open Access Same-Time
24 Information System and Northeast Utilities' Standard of Conduct under FERC Order
25 No. 889. During this time I represented Northeast Utilities on the Federal Energy

1 Regulatory Commission's "What" Working Group on Real-Time Information Networks.
2 Later I served as Vice Chairman of the NEPOOL OASIS Working Group and
3 Co-Chair of the Joint Transmission Services Information Network Functional Process
4 Committee. I also served for a brief time on the Electric Power Research Institute
5 facilitated "How" Working Group on OASIS and the North American Electric Reliability
6 Council facilitated Commercial Practices Working Group.

7 In 1997 I joined the firm of Brubaker & Associates, Inc. The firm includes
8 consultants with backgrounds in accounting, engineering, economics, mathematics,
9 computer science and business. Since my employment with the firm, I have filed or
10 presented testimony before the Federal Energy Regulatory Commission in
11 Consumers Energy Company, Docket No. OA96-77-000, Midwest Independent
12 Transmission System Operator, Inc., Docket No. ER98-1438-000, Montana Power
13 Company, Docket No. ER98-2382-000, Inquiry Concerning the Commission's Policy
14 on Independent System Operators, Docket No. PL98-5-003, SkyGen Energy LLC v.
15 Southern Company Services, Inc., Docket No. EL00-77-000, Alliance Companies, et
16 al., Docket No. EL02-65-000, et al., Entergy Services, Inc., Docket No.
17 ER01-2201-000, and Remedying Undue Discrimination through Open Access
18 Transmission Service and Standard Electricity Market Design, Docket No.
19 RM01-12-000. I have also filed or presented testimony before the Colorado Public
20 Utilities Commission, Connecticut Department of Public Utility Control, Illinois
21 Commerce Commission, the Indiana Utility Regulatory Commission, the Iowa Utilities
22 Board, the Kentucky Public Service Commission, the Louisiana Public Service
23 Commission, the Michigan Public Service Commission, the Missouri Public Service
24 Commission, the Montana Public Service Commission, the Public Utility Commission
25 of Texas, the Wisconsin Public Service Commission and various committees of the

Ameren Missouri

Case No. EO-2011-0128

Schedule JRD-1

Conservative Estimate of Additional Cost of Affiliate Construction of Transmission Lines

9/14/2011

= Input

Income Taxes

Federal Income Tax Rate [FIT]	35.00%
State Income Tax Rate [SIT]	1.50%
Percent of Federal Income Tax deductible for State Income Tax Purposes [p]	0.00%
$T = 1 - \{[(1-SIT)*(1-FIT)]/(1-SIT*FIT*p)\}$	35.98%
$CIT = [T/(1-T)]*[1-(WCLTD/R)]$	39.93%

Ameren Missouri Cost of Capital

	Weighting	Rate	Weighted Rate	Income Tax Adjusted Weighted Rate
Long-Term Debt	48%	4.50%	2.160%	2.160%
Common Stock	52%	10.20%	5.304%	8.829%
			7.464%	10.989%

Estimated Levelized Fixed Charge Rate under MPSC Jurisdictional Capital Structure and ROE

Book Life [BL]	40 years
Levelized Capital Recovery [LCR]	11.16%
Property Tax [PT]	0.00%
Levelized Property Tax [LPT] = PT/2 (Assumes property tax annually applied to remaining net book value)	0.00%
Levelized Fixed Charge Rate including Property Taxes [FCR] = LCR + LPT	11.16%

FERC Cost of Capital

	Weighting	Rate	Weighted Rate	Income Tax Adjusted Weighted Rate
Long-Term Debt	44%	4.50%	1.980%	1.980%
Common Stock	56%	12.38%	6.933%	11.541%
			8.913%	13.521%

Estimated Levelized Fixed Charge Rate under FERC Jurisdictional Capital Structure and ROE

Book Life [BL]	40 years
Levelized Capital Recovery [LCR]	13.61%
Property Tax [PT]	0.00%
Levelized Property Tax [LPT] = PT/2 (Assumes property tax annually applied to remaining net book value)	0.00%
Levelized Fixed Charge Rate including Property Taxes [FCR] = LCR + LPT	13.61%

FCR Difference 2.44%

Low End Estimate of the Additional Annual Cost per \$1 billion of Transmission Investment \$24,443,164