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July 24, 2013

VIA FEDERAL EXPRESS

Jeff Derouen
Kentucky Public Service Commission
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*Re: Joint Application of Kenergy Corp.)
and Big Rivers Electric Corporation)
for Approval of Contract and for a) Case No. 2013-00221
Declaratory Order)*

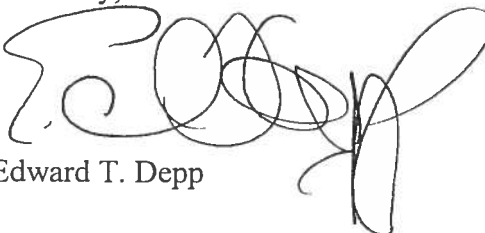
Dear Mr. Derouen:

Enclosed is one (1) original and ten (10) copies each of Kenergy Corp. and Big Rivers Electric Corporation's Rebuttal Testimony of Gregory J. Starheim and Rebuttal Testimony of Robert W. Berry in the above-referenced matter.

Thank you and please return a file stamped copy in the enclosed, postage paid envelope.

I certify that on this date a copy of these documents has been served on all persons on the attached service list by Federal Express.

Sincerely,



Edward T. Depp

ETD/lb
Enclosures

cc: James M. Miller, Esq. (w/enclosures)
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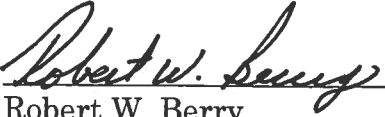
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BIG RIVERS ELECTRIC CORPORATION
JOINT APPLICATION OF KENERGY CORP.
AND BIG RIVERS ELECTRIC CORPORATION
FOR APPROVAL OF CONTRACTS AND
FOR A DECLARATORY ORDER
CASE NO. 2013-00221

VERIFICATION

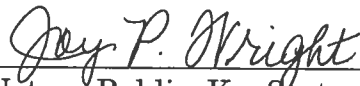
I, Robert W. Berry, verify, state, and affirm that I prepared or supervised the preparation of the Rebuttal Testimony filed with this Verification, and that this Rebuttal Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.



Robert W. Berry

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Robert W. Berry on this
the 23 day of July, 2013.



Notary Public, Ky. State at Large
My Commission Expires_____

Notary Public, Kentucky State-At-Large
My Commission Expires: July 3, 2014
ID 421951

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

Joint Application of Kenergy Corp.)
and Big Rivers Electric Corporation)
for Approval of Contracts and for) Case No. 2013-00221
A Declaratory Order)

REBUTTAL TESTIMONY

OF

ROBERT W. BERRY
CHIEF OPERATING OFFICER

ON BEHALF OF

BIG RIVERS ELECTRIC CORPORATION

FILED: July 25, 2013

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REBUTTAL TESTIMONY
OF
ROBERT W. BERRY

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1 REBUTTAL TESTIMONY
2 OF
3 ROBERT W. BERRY
4

5 I. INTRODUCTION

6
7 Q. Please state your name.

8 A. My name is Robert W. Berry. I am employed by Big Rivers Electric
9 Corporation ("Big Rivers"), 201 Third Street, Henderson, Kentucky
10 42420, as its Chief Operating Officer.

11 Q. Are you the same Robert W. Berry that has filed direct testimony
12 before the Kentucky Public Service Commission (the "Commission") in
13 this proceeding?

14 A. Yes.
15

16 II. OVERVIEW OF TESTIMONY
17

18 Q. What is the purpose of your testimony?

19 A. The purpose of my rebuttal testimony is to respond to the direct
20 testimony filed by witnesses for Kentucky Industrial Utility
21 Customers, Inc. ("KIUC") and Century Aluminum of Kentucky General
22 Partnership ("Century"), and to the comments in lieu of testimony filed
23 by the Attorney General.

24 Q. Will you please summarize Big Rivers' position in this case?

1 A. Yes. Big Rivers has agreed to participate in the proposed transaction
2 among Century, Kenergy Corp. (“Kenergy”) and Big Rivers (the
3 “Century Transaction”) in the role and on the terms contained in the
4 documents submitted for approval in this case. It has submitted those
5 documents to the Commission and to its lender, the United States
6 Department of Agriculture Rural Utilities Service (“RUS”), to obtain
7 the approvals required before the Century retail agreement terminates
8 at the end of the day on August 19, 2013. I believe the Century
9 Transaction is prudent, and the documents submitted to the
10 Commission for approval are fair, just and reasonable and should be
11 approved, along with the alternate service arrangements and the
12 declaratory order requested.

13
14 III. THE BIG RIVERS RATE CASES ARE NOT DEPENDENT UPON
15 APPROVAL OF THE CENTURY TRANSACTION DOCUMENTS

16
17 Q. The Attorney General contends on page 11 of his comments, and in
18 other places in his comments, that Big Rivers bases its entire analysis
19 of benefits of the Century Transaction “upon and inextricably linked to
20 the Commission’s acceptance of Big Rivers filed position in Case Nos.
21 2012-00535 [the “Century Rate Case”] and 2013-00199 [the “Alcan

1 Rate Case”],” which we will refer to collectively as the “Rate Cases.”

2 Do you agree?

3 A. No. First, I am not sure I follow the Attorney General’s argument. In
4 any event, a principal benefit of approving the Century Transaction is
5 Century not ceasing smelting operations, and in turn, that the
6 negative employment and other economic impacts that would occur if
7 Century did so, will certainly be avoided for the time being. That
8 benefit is not dependent upon the outcome of the rate cases. The same
9 is true of the Attorney General’s argument about the fixed costs of the
10 Coleman Station being designated by Midcontinent Independent
11 System Operator Inc. (“MISO”) as a must-run unit under a System
12 Support Resource (“SSR”) Agreement. Without the Direct Agreement
13 proposed as part of the Century Transaction, Big Rivers would be
14 responsible for a significant share of the SSR Agreement costs that
15 would not be reimbursed by Century. And whether or not the Attorney
16 General believes Coleman Station is used and useful after August 20,
17 2013, if MISO designates the units at Coleman Station as SSR,
18 Coleman Station will be required to operate. None of this is dependent
19 upon the outcomes of the Rate Cases.

20 Q. The Attorney General further states on page 9 of his comments that
21 the Century Transaction “agreements presume that, in order to make
22 Big Rivers and Kenergy whole, this Commission will approve \$115.4

1 million in new revenues to be paid in the form of rate increases by Big
2 Rivers remaining, captive ratepayers. This direct and significant
3 impact on ratepayers cannot be ignored.” Is this accurate?

4 A. No. This statement is inaccurate. There is no presumption or
5 assumption in the agreements, the application or the testimony of Big
6 Rivers or Kenergy about any outcome of the Rate Cases. For example,
7 there are conditions to closing of the Century Transaction, but
8 satisfactory resolution of the Century Rate Case is not one of them.
9 This was purposeful on the part of Big Rivers, Kenergy and Century.
10 No one desired for the approval of the proposed agreements to be
11 dependent on resolution of the rate cases.

12 The Attorney General either misunderstands or misrepresents
13 the impact on the ratepayers of the Century Transaction occurring or
14 not occurring. As I stated on page 45 of my direct testimony in this
15 case:

16 The Century Transaction is not anticipated to have an
17 adverse impact on Big Rivers’ rates beyond what would have
18 been experienced if Century had ceased smelting operations.
19 Assuming that the Century Transaction closes, and Century
20 continues smelting operations, Big Rivers has a reasonable level
21 of confidence that Big Rivers and its members will benefit to
22 some degree from receipt of transmission revenues from Century
23 if there is no SSR Agreement, or elimination of severance costs if
24 there is a SSR Agreement.
25

1 Q. On page 10 of his comments the Attorney General asserts that
2 “Century will pay no actual transmission costs until capacitor
3 upgrades are complete.” Is this statement correct?

4 A. No. Century will always pay for transmission just as any other
5 transmission customer that is not a retail member served under a
6 bundled rate, and Big Rivers will always collect transmission revenues
7 through Kenergy. The SSR costs charged to Big Rivers for which
8 Century is responsible will be reduced by an amount equal to the
9 transmission revenues collected by Big Rivers for transmission service
10 to Century. If transmission costs go up, the transmission charge to
11 Kenergy that is then charged to Century will also go up. This is one of
12 the distinct differences between the Century Transaction and the very
13 complicated, multi-party arrangement that the Commission objected to
14 in the July 14, 1998 order in Case No. 98-267.¹

15 Q. Is the Attorney General correct when he states on page 10 of his
16 comments that Century will not be paying for any of the MATS project
17 additions to Coleman Station?

18 A. No. There seems to be confusion on this issue, both here and in the
19 Century Rate Case. It is not clear to me from reviewing some of the
20 exchanges in the hearing that everyone understood the time frames in

¹ *In the Matter of: The Application of Big Rivers Electric Corporation for Approval of the 1998 Amendments to Station Two Contracts Between Big Rivers Electric Corporation and the City of Henderson, Kentucky and the Utility Commission of the city of Henderson, Case No. 98-267.*

1 which aspects of this subject were being discussed. So to clarify, Big
2 Rivers intends not to complete installation of the MATS equipment at
3 Coleman Station unless the SSR status of Coleman Station extends
4 beyond the initial SSR Agreement term, which will end May 30, 2014,
5 long enough that the MATS equipment will be needed for Big Rivers to
6 satisfy its extended obligations resulting from the continuing SSR
7 designation. If the MATS equipment is installed after the end of the
8 initial SSR Agreement term, then the capital and operating costs of the
9 MATS equipment will be included in and recovered through any SSR
10 Agreement that is then in effect, and Century's responsibility for those
11 costs will be as stated in the Century Transaction documents. If no
12 SSR Agreement is in place, then Big Rivers intends to idle the facility
13 and postpone incurrence of those capital costs until such time there is
14 a reliability issue or an economic benefit to restarting the plant.

15 Q. Will the termination of the existing Century agreements result in any
16 stranded costs?

17 A. The Attorney General and KIUC discussion of stranded costs is simply
18 an attempt to argue that Coleman Station will not be used and useful
19 following termination of Century's existing retail electric service
20 agreement. That discussion is not necessary or appropriate for this
21 case; it is an issue already raised by those parties in Case No. 2012-
22 00535. Even so, their premise is wrong.

1 Big Rivers and Kenergy are both regulated by the Commission,
2 and Kenergy will remain Century's retail electric service provider
3 under the Century Transaction even after Century's retail electric
4 service agreement terminates on August 20, 2013. Similarly, Big
5 Rivers' electric facilities (including Coleman Station) will remain used
6 and useful to Big Rivers' members after Century's retail electric
7 service agreement terminates. As explained in detail in Case No.
8 2012-00535, those facilities are important to transmission system
9 reliability, and they are important to Big Rivers' mitigation plan.
10

11 IV. THE COMMISSION SHOULD REJECT THE KIUC CONDITIONAL
12 APPROVAL PROPOSAL
13

14 Q. KIUC witness Mr. Kollen proposes that the Commission issue only
15 conditional approval of the Century Transaction documents subject to
16 three conditions. Does Big Rivers view this approach as appropriate?

17 A. No. Big Rivers seeks approval of the Century Transaction documents
18 as it proposed, with Kenergy, in the application. Mr. Kollen's two
19 audit and reporting requirements accomplish nothing except to impose
20 additional burdens and uncertainties on Big Rivers. As the
21 Commission correctly noted on page 7 of its July 19, 2013 order
22 denying intervention by Sierra Club in this proceeding: "To the extent

1 that Movants desire to address the impacts of the Century Kentucky
2 contract on the rates of all other ratepayers and on generating
3 resources, the proper venue for those issues is Big Rivers pending rate
4 case where those issues were raised.” We agree with the
5 Commission’s conclusion as to the proper case for addressing these
6 concerns.

7 Q. Mr. Kollen justifies his request for only conditional approval of the
8 Century Transaction documents on what he characterizes as several
9 “uncertainties” that could impact the Commission’s decision. Are these
10 purported “uncertainties,” listed beginning on page 15 of Mr. Kollen’s
11 testimony, valid reasons for postponing final approval of the Century
12 Transaction documents?

13 A. No, for the following reasons, taking Mr. Kollen’s points in sequence:

- 14 • If Century does not sign the contracts this entire discussion is
15 irrelevant.
- 16 • The contract documents operate appropriately, whatever
17 election Century makes regarding its “level and manner of
18 operation.”
- 19 • The Base Load number is simply plugged into the contract
20 framework and is immaterial to the Commission’s decision
21 about whether to approve the Century Transaction documents.
22 The SSR Agreement is basically a tariff, although some points

1 may be negotiated. The Century Transaction documents
2 contemplate that the SSR Agreement may not be in effect on the
3 effective date of the transaction documents. And the Century
4 Transaction documents will require Century to reimburse
5 Kenergy and Big Rivers for all costs, even if unspecified in those
6 documents, incurred by them in connection with the Century
7 Transaction, in addition to requiring Century to reimburse the
8 costs of Big Rivers and Kenergy specified in those documents.

- 9 • The SSR Agreement will be between Big Rivers and MISO, not
10 Big Rivers and Century. See my comments to the previous
11 point.
- 12 • The level of transmission revenues and SSR costs are always
13 subject to change based upon changes in Century's load and
14 other factors. In any event, this bullet point in Mr. Kollen's
15 testimony is addressed entirely to rate impacts. As I previously
16 noted, the Commission has already stated that the Rate Case is
17 the proper forum for addressing the impact of the Century
18 contracts on rates.

19 The overarching point here is that these purported "uncertainties" are
20 either accounted for in the Century Transaction documents, or do not
21 need to be resolved for the Commission to approve or deny the
22 application in this case.

1 Q. KIUC states that approval of the Century Transaction documents at
2 issue in this case could foreclose an opportunity for the Smelters to
3 participate in a proposed "workout" regarding Big Rivers' application
4 in Case No. 2012-00535. Do you agree?

5 A. No. Putting aside the question of how much of an "opportunity" really
6 exists, more importantly Big Rivers reiterates that suggestions about a
7 "workout" discussion are inappropriate, infeasible, and unacceptable.

8 KIUC is simply repackaging the same arguments that it made
9 at the hearing in Case No. 2012-00535, where it first sprung this
10 proposal on Mr. Bailey, who testified: "[I]f you start to go to your
11 creditors and ask them to forgive part of your debt ... in the end,
12 philosophically it's a problem. Do we renege on our obligations and ask
13 others to pick them up? No." (Bailey Hrg. Test. in Case No. 2012-
14 00535, July 1, 2013, Tr. 13:17'42".) "It's both a corporate and a
15 personal philosophy ... to honor your commitments, and we honor ...
16 our commitment to them that we will pay that money back, and that's
17 our intent." (Berry Hrg. Test. in Case No. 2012-00535, July 2, 2013,
18 Tr. 14:11'27".)

19 In addition, KIUC incorrectly assumes that there is time to
20 pursue this proposal. There is not. To reiterate what I stated in my
21 Direct Testimony:

22 Century has already sent its notice of termination of the 2009
23 Retail Agreement, so that contract will terminate effective

1 August 20, 2013. If the Century Transaction is not in place, Big
2 Rivers will not have any basis to provide Electric Services to
3 Kenergy for service to Century Kentucky, even if the Hawesville
4 Smelter is used for some other purpose. As a result, the
5 Hawesville Smelter would be forced to shut down, causing
6 significant negative economic consequences for the region—
7 especially Century Kentucky’s employees, many of whom are
8 served on a residential basis by electric power generated by Big
9 Rivers.

10 (Berry Direct at p. 47:8-14.)

11 Even aside from those transaction-related deadlines, the
12 revenue loss that will befall Big Rivers as a result of Century’s contract
13 termination is immediate and significant. Still, KIUC continues to
14 lack appreciation of this fact. KIUC likewise refuses to acknowledge
15 that Big Rivers has already worked with its creditors to refinance its
16 debts and obtain the best possible terms.

17 Big Rivers is aware that representatives of National Rural
18 Utilities Cooperative Finance Corporation (“CFC”) watched portions of
19 the hearing in Case No. 2012-00535 and that they continue to watch
20 these proceedings closely. Following that hearing, representatives of
21 CFC informed us that they were reevaluating their support of the
22 revolving credit agreement recently approved by the Commission. On
23 the morning of July 24, 2013, Big Rivers was told that CFC will
24 continue to move forward with the transaction. Big Rivers expects
25 other creditors are also carefully monitoring these proceedings. In
26 addition, at least one potential electric power customer of Big Rivers

1 has suspended discussions with Big Rivers based upon regulatory
2 uncertainty. Despite these unsurprising facts, KIUC continues to
3 endorse the fallacy that intentionally undermining regulatory support
4 for Big Rivers will somehow intimidate Big Rivers' creditors into
5 lending funds necessary to continue operations while simultaneously
6 writing-off millions of dollars in debt. Nothing could be further from
7 the truth.

8 Big Rivers already faces the possibility of RUS implementing a
9 lockbox, but its management has thus far succeeded in convincing RUS
10 to abstain from that action while Big Rivers implements its mitigation
11 plan. It is but a small leap to see that adverse regulatory activity in
12 Case No. 2012-00535 could change those circumstances, and if the
13 lockbox is implemented, Big Rivers' cash balance could materially
14 decrease before any proposed "workout" could even be negotiated.

15 KIUC's proposal is inappropriate, unrealistic,
16 counterproductive, and potentially ruinous for Big Rivers, the
17 Hawesville Smelter, and Western Kentucky. Consequently, the
18 Commission should reject KIUC's proposal that the Commission
19 manufacture the regulatory circumstances for a "workout."
20

21 V. KIUC MISSTATES THE PERCENTAGE RATE INCREASE BIG
22 RIVERS SEEKS IN THE RATE CASES

1

2 Q. Mr. Kollen states that "This request is the latest in a series of Big
3 Rivers cases pending before the Commission seeking massive rate
4 increases of 72% on the Rural and 110% on the Large Industrial
5 classes" (Kollen 5:5-8) Is this accurate?

6 A. No. The "request" in this case is for approval of contractual
7 arrangements, not a rate increase as Mr. Kollen states. I repeat the
8 obvious by referring to the Commission statement in its July 19, 2013
9 order that any rate impacts of these contracts are subjects for the
10 pending rate cases. Although Mr. Kollen's mischaracterization of rate
11 request percentages has nothing to do with the terms of the proposed
12 contracts being reviewed in this case, I have no choice but to respond.

13 Mr. Kollen simply misrepresents the percentage rate increases
14 being sought by Big Rivers in the Rate Cases. Since rate increase
15 percentages are not issues in this case, presumably he is doing this for
16 any emotional effect it may have on the Commission in the Century
17 Rate Case the Commission is currently considering. But this
18 particular issue was thoroughly discussed in the Century Rate Case
19 hearing, and Mr. Kollen must know that he is incorrectly stating the
20 amount of the rate increases Big Rivers is seeking.

21 What Mr. Kollen does is simple. He starts with the actual
22 amount of the rate increases that Big Rivers is seeking. He should

1 also end there if his representation is to be correct, but he does not.
2 Next he takes the actual amount of the rate increases that Big Rivers
3 is seeking, and adds the effects of the inevitable, unrelated exhaustion
4 of the Economic Reserve and the Rural Economic Reserve rate credits.
5 He also adds in the effects of the smelter contract surcharge and
6 surcredit extinguishments, which occur automatically when the
7 smelter contracts terminate pursuant to the smelter notices. Depletion
8 of the reserve accounts and termination of the smelter surcharge and
9 surcredit will happen regardless of Big Rivers' general rate case filing.

10 Q. What are the mathematical flaws with Mr. Kollen's calculations?

11 A. As Mr. Wolfram noted in his rebuttal testimony and cross-examination
12 in Case No. 2012-00535, Mr. Kollen inappropriately includes the
13 effects of the FAC, ES, and Non-FAC Purchased Power Adjustment
14 ("Non-FAC PPA") mechanisms in his calculation. Mr. Kollen also
15 improperly includes the elimination of the smelter surcharge and
16 smelter surcredit in his calculation. Finally, Mr. Kollen ignores the
17 offsetting effect of the accelerated use of reserve funds that Big Rivers
18 proposed in Case No. 2013-00199. In fact, Mr. Kollen ignores the effect
19 of the reserve funds altogether (even without the increased offset from
20 the reserves as proposed by Big Rivers). Attributing all of these
21 increases to the base rate adjustments requested by Big Rivers in the

1 two rate cases is inappropriate and overstates the effect of the request
2 by Big Rivers in those cases.

3 Q. What are the appropriate quantifications of the rate adjustments
4 requested by Big Rivers in the two rate cases, on a cumulative basis?

5 A. For the appropriate quantifications of the proposed rate adjustments I
6 refer you to the Notice in Tab 6 of the Application in Case No. 2013-
7 00199. Tab 6 includes a page entitled *Schedule Showing the Amount*
8 *of Rate Change Requested in Both Dollar Amounts and Percentage*
9 *Change for Each Customer Classification for which the Proposed Rate*
10 *Change will Apply [Net of MRSM and RER]*, a copy of which is
11 attached to this rebuttal testimony as Exhibit RWB Rebuttal 1, which
12 shows that the proposed wholesale base rate increase after both cases,
13 if approved as filed, will be 30.5% for the Rural rate class and 54.0%
14 for the Large Industrial rate class. Even without including the effects
15 of the MRSM and RER, (as listed on the *Schedule Showing the Amount*
16 *of Rate Change Requested in Both Dollar Amounts and Percentage*
17 *Change for Each Customer Classification for which the Proposed Rate*
18 *Change will Apply [Gross of MRSM and RER]* in Tab 6), the wholesale
19 increases sought by Big Rivers in the Rate Cases are 62.4% and 44.9%
20 for the Rurals and Large Industrials, respectively. The retail
21 increases, while not included in the exhibit, are lower than these
22 amounts, as Mr. Kollen correctly notes in his footnote 1 on page 5 of

1 his testimony. Mr. Kollen's claim that Big Rivers is seeking retail rate
2 increases of 72% on the Rural rate class and 110% on the Large
3 Industrial rate class is wrong.

4
5 VI. THE CENTURY DESCRIPTION OF THE CENTURY TRANSACTION
6 DOCUMENTS MUST BE CORRECTED

7
8 Q. Mr. Early, in his testimony on behalf of Century, describes several
9 aspects of how he believes the Century Transaction documents
10 function. Do you have any comments on his testimony on those
11 subjects?

12 A. Yes. I would like to make sure there is no misunderstanding about the
13 meaning of any terms in the Century Transaction documents. First, I
14 would note that use of the word "net" is inappropriate in Mr. Early's
15 testimony on pages 4:01 and 11:18.

16 Mr. Early's definition of "Curtable Load" on page 4:04 should
17 state that Curtable Load is the maximum amount of additional Load
18 above the Base Load, rather than below 482 MW, that may be served
19 on a reliable basis as confirmed or approved by MISO assuming the
20 installation of Protective Relays. This is the definition in Section
21 1.1.28 of the Electric Service Agreement.

1 Based upon the context in which Mr. Early undertakes to define
2 “Base Load,” that definition should be the maximum amount of Load,
3 not to exceed 482 MW, that may be reliably delivered to the Hawesville
4 Node, as confirmed or approved by MISO, in circumstances where Big
5 Rivers has idled the Coleman Generation Station. Base Load was
6 never intended to be variable except under the conditions stated in the
7 proposed contracts, which includes confirmation or approval by MISO.
8 These terms are found in Section 1.1.10 of the Electric Service
9 Agreement.

10 Q. In detailing the “package of mitigation measures” that Century will
11 employ to protect its electric service from transmission contingencies,
12 Mr. Early mentions capacitors, protective relays, and “potentially other
13 equipment (including dynamic reactive equipment)” Big Rivers
14 and Kenergy have separate agreements with Century addressing
15 capacitors and protective relays. Is there a separate agreement
16 addressing “dynamic reactive equipment”?

17 A. No. We were unaware that Century was considering installing
18 dynamic reactive equipment until we read Mr. Early’s testimony. But
19 if Century decides to install such equipment, additional discussions
20 will be required because dynamic reactive equipment was never
21 discussed during the negotiation of the Century Transaction
22 documents.

1 Q. Are there other clarifications you wish to make with respect to Mr.
2 Early's testimony?

3 A. Yes. Where Mr. Early discusses Century's alternatives under the
4 proposed contracts if the capacitor additions and protective relays are
5 not in place by August 20, 2013, pages 8 and 9, I would add the
6 additional alternative of operating at or below the Base Load. I would
7 also note on page 9:14 that Century pays transmission revenues to
8 Kenergy, not Big Rivers.

9
10 VII. BIG RIVERS DOES NOT AGREE TO PERFORM LIVE LINE
11 TRANSMISSION MAINTENANCE AS PROPOSED BY CENTURY

12
13 Q. Mr. Early asks the Commission to find that live line maintenance by
14 Big Rivers on specified transmission lines is consistent with good
15 utility practice, and is both necessary and appropriate to allow
16 Century to operate at load levels that are sufficient to continue full
17 operation of the Hawesville Smelter. Does Big Rivers want live line
18 maintenance performed on the specified transmission lines?

19 A. No. Big Rivers does not want the live line maintenance that Century
20 advocates performed on its transmission facilities. That type of
21 maintenance is not required by the Century Transaction documents.
22 This subject was first raised by Century on the next-to-last day before

1 the forms of the Century Transaction documents were completed and
2 turned over for filing with the Commission. At that time Century was
3 talking about live line maintenance on one 345 kV transmission line
4 (Coleman to Daviess); a proposal that Big Rivers rejected. We learned
5 for the first time after reviewing Mr. Early's testimony that Century
6 now wants live line maintenance performed on three of Big Rivers'
7 transmission lines.

8 The negotiations among Century, Kenergy and Big Rivers began
9 on the basis of determining whether Kenergy could provide electric
10 service to Century with energy priced basically at market prices, with
11 other arrangements as necessary to protect Kenergy and Big Rivers
12 from the costs and risks related to that arrangement. Century's
13 payment of the SSR costs was included in the proposed contracts when
14 it became apparent that MISO would likely make Coleman Station
15 must-run for Century to operate at 482 MW.

16 In late March, near the end of the negotiation of the principal
17 transaction terms, Century raised the concept of incorporating
18 capacitors and protective relays in a plan that Century hoped would
19 allow it to operate its Hawesville smelter at an acceptable level for
20 them without Coleman being designated as a SSR. So that concept
21 was added to the Century Transaction documents. Contrary to Mr.
22 Early's statement on page 11:09 of his testimony, while MISO was

1 receptive to use of protective relays, MISO never commented to the
2 transaction parties one way or the other on the subject of live line
3 maintenance.

4 Century may, under the Century Transaction documents,
5 operate at full load with Coleman Station under an SSR Agreement, or
6 operate at the Base Load plus, when permitted, Curtailable Load.
7 This represents the agreements of the parties to the Century
8 Transaction. Big Rivers did not agree and is not willing to agree to
9 have its maintenance decisions on its system made based upon the
10 economic desires of an individual transmission customer. This case is
11 based on Century's desire for Kenergy to acquire the electric services
12 required to serve the Hawesville smelter from the wholesale market.
13 The risks of relying solely on the wholesale market rather than a firm
14 power supply include both the volatility of price and the risk of
15 transmission congestion constraints affecting delivery.

16 Q. Please explain why Big Rivers does not want live line maintenance
17 performed on its transmission facilities as proposed by Century.

18 A. Fundamentally, live line maintenance is more dangerous than
19 maintenance performed on a transmission line that is out of service.
20 Big Rivers' number one value is safety and its philosophy is simply:
21 "Safety is a way of life so no operating condition or urgency of service
22 can ever justify endangering the health and well-being of anyone."

1 Whether the live line maintenance is performed by Big Rivers or by a
2 contractor, there is a greater risk to human life. Any injury to a
3 contractor's employee still affects a human life, reflects on Big Rivers
4 and involves Big Rivers directly in the consequences. Even if outside
5 contractors were engaged to perform this maintenance, in addition to
6 the obvious human cost, an injury or casualty could result in Big
7 Rivers being embroiled in years of investigations, litigation and claims
8 consuming enormous internal and unreimbursed expenses. Big Rivers'
9 understanding is that most live line maintenance is performed to
10 protect the reliability of a transmission system serving an entire
11 system, not just to protect the profits of a single customer. Century
12 witness Mr. Morrow suggests that the only factors required to
13 determine whether live line maintenance is prudent utility practice are
14 whether it is cost-justified and performed by a properly trained and
15 equipped crew. Big Rivers believes that prudent utility practice
16 includes consideration of whether the increased risk to human life is
17 justified. In other words, Big Rivers is not willing to put a price on a
18 human life, which is what Century and Mr. Morrow are suggesting
19 when they infer it is acceptable to take additional safety risks for the
20 purposes proposed by Century if it is cost-justified.

21 Q. Does Big Rivers believe that the live line maintenance wanted by
22 Century would accomplish what Century is seeking?

1 A. If the goal is to avoid any transmission constraints during the term of
2 the Electric Service Agreement that would require Century to operate
3 at or below the Base Load with Coleman idled, I have my doubts. On
4 page 9:04-22 of his testimony, Mr. Morrow lists a number of
5 circumstances that could limit use of live line maintenance, but neither
6 he nor Big Rivers know whether any of those factors would limit live
7 line maintenance on the subject transmission lines. On page 10:8-9 of
8 his testimony, Mr. Morrow suggests that live line maintenance is
9 frequently used in the industry. There are over 3,200 electric
10 providers in the United States, but in three years Mr. Morrow's
11 company has only performed energized projects for 18 participants. In
12 my opinion, 18 utility providers out of 3,200 does not constitute
13 "frequent." Furthermore, on page 19:13, Mr. Morrow admits that
14 transmission maintenance is typically performed de-energized.

15 Live line maintenance would only apply to scheduled
16 maintenance of the subject transmission lines. It would not limit the
17 effect of any forced outages of transmission facilities. The Coleman to
18 Wilson 345 kV line is 16.3 miles in length. The Reid to Daviess County
19 161 kV line is 22 miles in length. Big Rivers owns only three miles of
20 the Coleman to Newtonville 161 kV transmission line. The balance of
21 that transmission line is located in the State of Indiana and is owned
22 and maintained by Hoosier Energy Rural Electric Cooperative, Inc.,

1 not Big Rivers. And all other objections aside, breaker work on the
2 Coleman to Newtonville line cannot be physically performed in any
3 event without taking the line out of service. So the Century demand is
4 that Big Rivers be directed to have all scheduled maintenance on 41.3
5 miles of its transmission system forever performed by the live line
6 method.

7 Last but not least, Century can continue to operate at its
8 historical load of 482 MW without performing live line maintenance.
9 This can be accomplished by operating the Coleman plant under a SSR
10 Agreement, which would also provide additional economic benefits to
11 Hancock County and Western Kentucky. The Coleman plant
12 contributes over \$132,000,000 annually to the local economy. This
13 number does not include the school tax, occupational tax or coal
14 severance money contributed annually to Hancock County.

15
16 **VIII. BIG RIVERS HAS RECEIVED THE ATTACHMENT Y REPORT**
17 **FROM MISO**

18
19 **Q.** What is the latest information Big Rivers has received from MISO on
20 the Base Load level for Century?

21 **A.** Big Rivers has received the Attachment Y report on Coleman Station
22 from MISO. A copy of that report, redacted by MISO to conceal or

1 delete critical infrastructure information, is attached to this rebuttal
2 testimony as Exhibit RWB Rebuttal 2. In that report, MISO
3 establishes the Base Load at 338 MW.

4 IX. CONCLUSION

5 Q. Do you have any concluding remarks?

6 A. Yes. For the reasons stated in the application, our data requests
7 responses and rebuttal testimony, I would ask the Commission to enter
8 its order granting the relief requested in the application, and denying
9 the live line maintenance directive sought by Century.

10 Q. Does this conclude your testimony?

11 A. Yes.

Table of Contents to Exhibits
Rebuttal Testimony of Robert W. Berry
Case No. 2013-00221

Exhibit RWB Rebuttal 1 Rate Change Schedule

Exhibit RWB Rebuttal 2 Attachment Y Study Report Draft Dated July 18,
2013 (Redacted to remove critical infrastructure data)

**Schedule Showing the Amount of Average Usage and Effect Upon the Average Bill for
Customer Classification for which the Proposed Rate Change will Apply
[Gross of MRSM & RER]**

Average Wholesale Bill at						
Rate Schedule	Rates In Effect Jun 28, 2013	Rates in Case No. 2012-00535 As Filed Jan 15, 2013	Rates in Case No. 2012-00535 Updated Jun 24, 2013	Proposed Rates	Average Usage (kWh)	
#	1	2	3	4	5	6
1	Rural Delivery Service (RDS)	\$ 4,009,440	\$ 5,059,701	\$ 4,989,036	\$ 6,513,040	769,517,333
2						
3	Incr/(Decr) from Column 2	-	\$ 1,050,260	\$ 979,595	\$ 2,503,599	
4		-	26.2%	24.4%	62.4%	
5						
6	Incr/(Decr) from Previous Column	-	\$ 1,050,260	(\$ 70,665)	\$ 1,524,004	
7		-	26.2%	-1.4%	30.5%	
8						
9						
10	Large Industrial Customer (LIC)	\$ 217,874	\$ 254,271	\$ 250,996	\$ 315,716	49,158,950
11						
12	Incr/(Decr) from Column 2	-	\$ 36,397	\$ 33,122	\$ 97,842	
13		-	16.7%	15.2%	44.9%	
14						
15	Incr/(Decr) from Previous Column	-	\$ 36,397	(\$ 3,275)	\$ 64,720	
16		-	16.7%	-1.3%	25.8%	

18 Notes

19 For the Rural Delivery Service (RDS) the average represents the average wholesale bill for the three members served under the rate, and for the Large
20 Industrial Customer rate (LIC) the average represents the average bill for the twenty industrial customers served under the rate.

21 Column 2 represents the effective rates in Big Rivers' approved tariffs as of June 28, 2013

22 Column 3 represents the rates filed in Case No. 2012-00535 in the Application dated January 15, 2013.

23 Column 4 represents the rates provided in Case No. 2012-00535 in Rebuttal Testimony dated June 24, 2013.

Column 5 represents the rates filed in the Application in this case.

**Schedule Showing the Amount of Average Usage and Effect Upon the Average Bill for
Customer Classification for which the Proposed Rate Change will Apply
[Net of MRSM and RER]**

		Average Wholesale Bill at				
Rate Schedule	Rates In Effect Jun 28, 2013	Rates in Case No. 2012-00535 As Filed Jan 15, 2013	Rates in Case No. 2012-00535 Updated Jun 24, 2013	Proposed Rates	Average Usage (kWh)	
#	1	2	3	4	5	6
1	Rural Delivery Service (RDS)	\$ 3,138,407	\$ 4,188,668	\$ 4,118,003	\$ 4,095,418	769,517,333
2						
3	Incr/(Decr) from Column 2	-	\$ 1,050,260	\$ 979,595	\$ 957,010	
4		-	33.5%	31.2%	30.5%	
5						
6	Incr/(Decr) from Previous Column	-	\$ 1,050,260	(\$ 70,665)	(\$ 22,585)	
7		-	33.5%	-1.7%	-0.5%	
8						
9						
10	Large Industrial Customer (LIC)	\$ 167,007	\$ 203,403	\$ 200,129	\$ 257,113	49,158,950
11						
12	Incr/(Decr) from Column 2	-	\$ 36,397	\$ 33,122	\$ 90,107	
13		-	21.8%	19.8%	54.0%	
14						
15	Incr/(Decr) from Previous Column	-	\$ 36,397	(\$ 3,275)	\$ 56,984	
16		-	21.8%	-1.6%	28.5%	

18 Notes

19 For the Rural Delivery Service (RDS) the average represents the average bill for the three members served under the rate, and for the Large Industrial Customer rate (LIC) the average represents the average bill for the twenty industrial customers served under the rate.

20 Column 2 represents the effective rates in Big Rivers' approved tariffs as of June 28, 2013.

21 Column 3 represents the rates filed in Case No. 2012-00535 in the Application dated January 15, 2013.

22 Column 4 represents the rates provided in Case No. 2012-00535 in Rebuttal Testimony dated June 24, 2013.

23 Column 5 represents the rates filed in the Application in this case.

24 For column 5, the Large Industrial increase reflects the exhaustion of Economic Reserve in July 2014.

Table 1a Branch Results

MISO Coleman Units 1, 2, & 3 Attachment Y-2 Study - Compare Branch Results
CONFIDENTIAL / CEH - DO NOT RELEASE

Table with columns: Model, Contingency Description, From Bus, To Bus, Type, Rating, Coleman 1,2 & 3 OFF (Cont MVA, Base Flow, Loading %), Coleman 1,2 & 3 ON (Cont MVA, Base Flow, Loading %), MW/OT, P/OT, D/OT, Unit Impact, MISO Comments. Rows list various models and contingencies such as 2017SP, 2017SH, and 2017SHContOff with their respective technical specifications and impact assessments.

MISO Coleman Units 1, 2, & 3 Attachment Y-2 Study - Compare Voltage Results
 CONFIDENTIAL / CEII - DO NOT RELEASE

Model	Contingency Description	Limiting Element							Coleman 1. 2, & 3 OFF			Coleman 1. 2, & 3 ON			Unit Impact	MISO Comments
		Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	V of	Volt-Von (>0.01)	
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8516	0.9693	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.873	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340558	SSKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8516	0.9693	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.873	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340558	SSKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8171	0.9928	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8516	0.9693	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.873	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340558	SSKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8171	0.9928	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9029	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248431	07BRISTW	161	207	1207	0.9	1.1	0.846	1.0033	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.7325	0.9693	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248865	07TRY161	161	207	1207	0.9	1.1	0.7926	0.9907	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.7505	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.6378	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8516	0.9693	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.873	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on
2014SP	[REDACTED CONTINGENCY]	340558	SSKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on

Table 1b: Voltage Results

MISO Coleman Units 1, 2, & 3 Attachment Y-2 Study - Compare Voltage Results
 CONFIDENTIAL / CEII - DO NOT RELEASE

Model	Contingency Description	Limiting Element							Coleman 1 2. & 3 OFF			Coleman 1 2, & 3 ON			Unit Impact	MISO Comments
		Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Volt-Von (>0.01)	
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9081	0.9855 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8236	0.97 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8959	0.9743 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8172	0.9676 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340566	SMEADE	161	314	1314	0.92	1.05	0.8775	0.9851 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340616	5N HARD	161	314	1314	0.92	1.05	0.8616	0.9957 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340566	SMEADE	161	314	1314	0.92	1.05	0.8775	0.9851 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340616	5N HARD	161	314	1314	0.92	1.05	0.8616	0.9957 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9031	0.9855 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8907	0.9743 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8516	0.9893 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.873	0.9793 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8714	0.9669 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9738 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9081	0.9855 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8171	0.9928 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8235	0.97 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	324139	5DORCHST	161	363	379	0.9	1.1	0.8832	1.0034 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	324149	5MARBODEN	161	363	379	0.9	1.1	0.8724	1.0025 L	1.1048	1.003 H		0.232	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	324157	5POCKET	161	363	379	0.9	1.1	0.8677	1.0048 L	1.111	1.0053 H		0.243	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	324158	5POCKET	161	363	379	0.9	1.1	0.8677	1.0047 L	1.111	1.0052 H		0.243	Violation caused by suspens on	
2014SP	[REDACTED CONTINGENCY]	324310	4SPENC	138	363	380	0.9	1.1	0.8823	0.9699 L	0.8718	0.9699 L		0.011	Pre-existing	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8482	0.9696 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.8697	0.979 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8085	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8173	0.9662 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8454	0.9791 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9049	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8197	0.9694 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8928	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8132	0.967 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8482	0.9696 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.8697	0.979 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8085	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8173	0.9662 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8454	0.9791 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	SDAVIS	161	314	1314	0.92	1.05	0.9049	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8132	0.9921 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340564	SNATAL	161	314	1314	0.92	1.05	0.8197	0.9694 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	SNEWMAN	161	314	1314	0.92	1.05	0.8928	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340621	SCOLEEHV	161	314	1314	0.92	1.05	0.8132	0.967 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8482	0.9696 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	253581	10NTVL13	138	210	1210	0.95	1.05	0.9354	0.9903 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340552	SCOLEMAN	161	314	1314	0.92	1.05	0.8085	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340557	SHANCO	161	314	1314	0.92	1.05	0.8173	0.9662 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8454	0.9791 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	

Table 1b: Voltage Results

MISO Coleman Units 1, 2, & 3 Attachment Y-2 Study - Compare Voltage Results
 CONFIDENTIAL CEII - DO NOT RELEASE

Model	Contingency Description	Limiting Element							Coleman 1, 2, & 3 OFF			Coleman 1, 2, & 3 ON			Unit Impact	MISO Comments
		Bus #	Bus Name	kV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Volt-Volt (>0.01)	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9049	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8132	0.9921 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8197	0.9694 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8928	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340621	5SCOLEEHV	161	314	1314	0.92	1.05	0.8132	0.967 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8924	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.88	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8923	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.88	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	253580	10NTVL16	161	210	1210	0.95	1.05	0.9349	0.9697 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8923	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.88	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8923	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.88	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8923	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248431	07BRISTW	161	207	1207	0.9	1.1	0.8436	1.0012 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.7285	0.9695 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248865	07TRY161	161	207	1207	0.9	1.1	0.7692	0.9896 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.7568	0.979 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspens on	
2017SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.6327	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8482	0.9695 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.8697	0.979 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8085	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340557	5SHANCC	161	314	1314	0.92	1.05	0.8174	0.9662 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8455	0.9791 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9049	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8198	0.9694 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8928	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340621	5SCOLEEHV	161	314	1314	0.92	1.05	0.8132	0.967 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340565	5MEADE	161	314	1314	0.92	1.05	0.8653	0.9846 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340616	5N.HARD	161	314	1314	0.92	1.05	0.8484	0.9956 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	253580	10NTVL16	161	210	1210	0.95	1.05	0.9367	0.9697 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	253580	10NTVL16	161	210	1210	0.95	1.05	0.9367	0.9697 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340565	5MEADE	161	314	1314	0.92	1.05	0.8654	0.9846 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340616	5N.HARD	161	314	1314	0.92	1.05	0.8484	0.9956 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.8952	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8829	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8482	0.9695 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.8697	0.979 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8085	0.9602 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340557	5SHANCC	161	314	1314	0.92	1.05	0.8173	0.9662 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8454	0.9791 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9049	0.984 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8132	0.9921 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8197	0.9694 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8928	0.973 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	340621	5SCOLEEHV	161	314	1314	0.92	1.05	0.8132	0.967 L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension	
2017SP	[REDACTED CONTINGENCY]	360430	5SHARRIMAN TN	161	347	1368	0.9	1.1	0.7645	1.0426 L	0.7822	1.0427 L	#N/A	#N/A	-0.017 Pre-existing	

Table 2a: 20145P FCITC(Century Load is modeled as 10MW Initial value)

ANIL	LD CENTURY	1000.0	331.9	367.0	-35.1	U:248435 0710TVL1	161 340552 SCOLEMAN	161 1	Person	711.0	334.7	335.0	0.67396	0.64514	-	0.76300
									[REDACTED]	1162						
									[REDACTED]							
									[REDACTED]							
			331.9	367.0	-35.1	U:246475 0710TVL1	161 340552 SCOLEMAN	161 1	[REDACTED]	1114						
									[REDACTED]							
									[REDACTED]							
			331.9	367.0	-35.1	U:248435 0710TVL1	161 340552 SCOLEMAN	161 1	[REDACTED]	2539						
									[REDACTED]							
									[REDACTED]							
			543.8	630.5	-86.6	U:340552 SCOLEMAN	161 340621 SCOLEMAN	161 2	[REDACTED]	2411						
									[REDACTED]							
									[REDACTED]							
			543.8	630.5	-86.6	U:340552 SCOLEMAN	161 340621 SCOLEMAN	161 2	[REDACTED]	1164						
									[REDACTED]							

Table 2b: 20175H FCITC(Century Load is modeled as 10MW Initial value)

ANIL	LD CENTURY	1000.0	541.7	719.4	-82.2	U:248435 0710TVL1	161 340552 SCOLEMAN	161 1	Person	72.8	324.1	335.0	0.66468	0.63341	-	0.73427
									[REDACTED]	2591						
									[REDACTED]							
			491.2	719.6	-228.4	U:340551 SPEID	161 340559 DOWNS	161 1	[REDACTED]	1124						
									[REDACTED]							
									[REDACTED]							
			632.0	759.0	-86.6	U:248435 0710TVL1	161 340552 SCOLEMAN	161 1	[REDACTED]	1154						
									[REDACTED]							
									[REDACTED]							
			632.0	759.0	-86.6	U:248435 0710TVL1	161 340552 SCOLEMAN	161 1	[REDACTED]	2590						
									[REDACTED]							
									[REDACTED]							
			544.0	855.0	-311.0	U:340557 SNAKED	161 340559 DOWNS	161 1	[REDACTED]	2591						
									[REDACTED]							

Table 2c: 2014SP Stressed FCITC (Century Load is modeled as 10MW as initial value)

PHIL	LD CENTURY	Transfer (MW)	PIC (MW)	PIC (MW)	PIC (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)

Table 2d: 2014SP Stressed FCITC under Double Outage Condition (Century Load is modeled as 10MW as initial value) (to Capture Prior-outage Impact)

PHIL	LD CENTURY	Transfer (MW)	PIC (MW)	PIC (MW)	PIC (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)	Unit (MW)

Table 2e: PSS/e Verification on 2014SP Stressed Case on the outage of BERC_B3

Location	Bus	V (kV)	Angle (deg)	W (MW)	Q (MVar)	W (MW)	Q (MVar)	V (kV)	Angle (deg)	Current Loading (%)
Coleman	318	306.9	105.5	324.5271	1142.097196			335		
Newtonsville	318	310.1	87.5	322.2084	1142.909792			335	1.019	164.059
Coleman	338	319.3	96	333.4194	1181.507757			335	1.011	162.771
Newtonsville	338	322.8	76.7	331.7872	1182.736096			335	1.012	162.932
Coleman	348	325.5	91.3	338.062	1201.521295			335	1.006	161.966
Newtonsville	348	329.1	71.2	336.7139	1202.689634			335	1.009	162.449
									1.004	161.644
										1201.354
										95.07%
										95.14%
										98.35%
										98.45%
										100.01%
										100.11%

(REDACTED)
 (REDACTED)
 (REDACTED)
 (REDACTED)
 (REDACTED)