SULLIVAN, MOUNTJOY, STAINBACK & MILLER PSC
ATTORNEYS AT LAW

Ronald M. Sullivan
Jesse T. Mountjoy
Frank Stainback
James M. Miller
Michael A. Fiorella
Allen W. Holbrook
R. Michael Sullivan
Bryan R. Reynolds*
Tyson A. Kamuf
Mark W. Starnes
C. Ellsworth Mountjoy

*Also Licensed in Indiana

June 25, 2013

Via Federal Express

Jeff Derouen
Executive Director
Public Service Commission
211 Sower Boulevard, P.O. Box 615
Frankfort, Kentucky 40602-0615

Re: In the Matter of: Joint Application of Kenergy Corp. and Big Rivers Electric Corporation for Approval of Contracts and for a Declaratory Order, Case No. 2013-00221

Dear Mr. Derouen:

Enclosed are an original and ten copies of Big Rivers Electric Corporation's Compliance Filing, prepared in response to directives received from the Public Service Commission staff during the informal telephonic conference in this matter on June 20, 2013. We would point out that, among other things, this Compliance Filing proposes a procedural schedule, the first deadline in which is Friday, June 28, 2013.

I certify that on this date, I served copies of this letter and the attached Compliance Filing by overnight courier, or by first class mail, postage prepaid, on each of the persons shown on the attached service list, and, as a courtesy copy, on counsel for each of the other parties in P.S.C. Case No. 2012-00535.

Sincerely yours,

James M. Miller

JMM/ej
Enclosures

cc: DeAnna Speed

Telephone (270) 926-4000
Telecopier (270) 683-6694

100 St. Ann Building
PO Box 727
Owensboro, Kentucky
42302-0727

www.westkylaw.com

Service List
PSC Case No. 2013-00221

Jennifer B. Hans
Lawrence W. Cook
Dennis G. Howard, II
Assistant Attorneys General
1024 Capital Center Dr.
Suite 200
Frankfort, KY 40601

Michael L. Kurtz, Esq.
Kurt J. Boehm, Esq.
Boehm, Kurtz & Lowry
36 E. Seventh St., Suite 1510
Cincinnati, Ohio 45202

Bernard F. Lovely, Jr.
Bowles Rice LLP
Suite 1700
333 West Vine Street
Lexington, KY 40507

Michael Early
Corporate Energy Director
Century Aluminum
1300 SW Fifth Avenue, Suite 1750
Portland, Oregon 97201

Robert A. Weishaar, Jr.
McNees Wallace & Nurick LLC
777 N. Capitol St., NE
Suite 401
Washington, DC 20002-4292

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 A Declaratory Order	))))	Case No. 2013-00221

COMPLIANCE FILING

Come Big Rivers Electric Corporation ("*Big Rivers*") and Kenergy Corp. ("*Kenergy*"), and for their response to the directives and questions received by them from Public Service Commission ("*Commission*") staff during the telephonic informal conference in this matter held June 20, 2013 ("*Compliance Filing*"), state as follows:

MISO Matters

1. Commission staff asked that Big Rivers describe the commitments it has from the Midcontinent Independent Transmission System Operator, Inc. ("*MISO*") regarding reliability requirements for the proposed transaction ("*Century Transaction*"), including a description of what information Big Rivers has received from MISO related to the Century Transaction, and what information it expects to receive later.

2. MISO has issued its Attachment Y-2 Study Report dated June 2, 2013 ("*Y-2 Report*"). A copy of the Y-2 Report, from which MISO has redacted Critical Energy Infrastructure Information in accordance with the Federal

Energy Regulatory Commission's rulemakings in Order Nos. 702, 630, 630-A, 643, 649 and 683, is attached as Exhibit A to this Compliance Filing.

3. MISO has indicated that it expects to provide to Big Rivers and Century Aluminum of Kentucky General Partnership ("*Century*") by the end of this month its calculation of "*Base Load.*" Base Load is defined in Section 1.1.10 of the Electric Service Agreement, filed as Exhibit 4 to the Application in this matter, as the maximum amount of Load (not to exceed 482 MW), that may be reliably delivered to the Hawesville Node, as confirmed or approved by MISO, in circumstances where Big Rivers has idled the Coleman Generation Station. Upon receipt of this information, Century will select one of the following alternatives to commence beginning August 20, 2013: (i) operate at the Base Load; (ii) operate at the Base Load plus any Curtailable Load, provided that protective relays are in place; (iii) operate above the Base Load plus any Curtailable Load, with the understanding that Big Rivers and MISO must negotiate a System Support Resources Agreement ("*SSR Agreement*") and Big Rivers must operate Coleman Generating Station in accordance with the SSR Agreement; or (iv) cease smelting operations at its Hawesville Smelter.

4. If Century elects to continue smelting operations and does not operate at or below the Base Load, Big Rivers must immediately commence negotiations with MISO for a SSR Agreement. MISO must file the SSR Agreement with the Federal Energy Regulatory Commission ("FERC").

However, FERC acceptance or approval of the SSR Agreement is not a condition to the occurrence of the Effective Date in any of the contracts that comprise the Century Transaction.

Suggested Procedural Schedule

5. Commission staff asked that Big Rivers propose a procedural schedule for expedited review of the Application. A proposed procedural schedule was agreed to by consensus in a conference among representatives of Big Rivers, Kenergy, Century and Kentucky Industrial Utility Customers, Inc. ("*KIUC*") on June 20, 2013. The Attorney General, in an e-mail message dated June 24, 2013, stated, among other things, that if the Commission decides to proceed on an expedited schedule, the Attorney General "will abide by the schedule proposed by Big Rivers," Kenergy, Century and KIUC. The proposed procedural schedule is:

Data requests to applicants filed – June 28

Informal conference at the Commission offices – July 11

Applicants' responses to data requests filed – July 12

Intervenor testimony or comments filed – July 19

Hearing at Commission's offices, with oral rebuttal by Applicants – July 23

Simultaneous briefs – August 2

Reasons Why A Final Order Should Be Issued Expeditiously

6. Commission staff asked that Big Rivers and Kenergy give the reasons why an order in this matter needs to be issued on an expedited basis. The reasons why expedited consideration is necessary is stated by Big Rivers and Kenergy on pages 12-13 of the June 12, 2013 Application. In addition, the parties negotiated the contracts filed in this matter (the "*Century Contracts*") based on the assumption that a final order in a proceeding to review the Century Contracts would be issued no later than August 19, 2013. If that assumption becomes incorrect, the Century Contracts, which were negotiated by the parties over a period of several months, must be carefully reviewed and renegotiated to reflect that change.

7. The threshold subjects Big Rivers and Kenergy have identified that would have to be renegotiated to accommodate issuance of a final order after August 19, 2013, include, but may not be limited to, material issues regarding cost recovery, cost protection, security for payments, modification of the Effective Dates of obligations and rights, termination rights after entry of a final order, fuel and reagent contract issues, and power plant employee issues. The process of fully identifying issues in the Century Contracts that would be impacted by issuance of a final order after August 19, 2013, drafting contractual revisions, and negotiating those terms with Century would necessarily be a time-consuming task, as would the process of attempting to obtain reapproval of the amended documents by the Big Rivers and Kenergy

constituencies. The timing associated with these additional processes render any temporary or interim approval infeasible.

8. For these reasons, an order in this matter should be issued in accordance with the expedited procedural schedule provided in this Compliance Filing.

Respectfully submitted, on this the 25th day of June, 2013.

J. Christopher Hopgood
DORSEY, KING, GRAY, NORMENT & HOPGOOD
318 Second Street
Henderson, Kentucky 42420
Phone: (270) 826-3965
Facsimile: (270) 683-6694
chopgood@dkgnlaw.com

Counsel for Kenergy Corp.

James M. Miller
Tyson Kamuf
SULLIVAN, MOUNTJOY, STAINBACK & MILLER, P.S.C.
100 St. Ann Street
P. O. Box 727
Owensboro, Kentucky 42302-0727
Phone: (270) 926-4000
Facsimile: (270) 683-6694
jmiller@smsmlaw.com
tkamuf@smsmlaw.com

Edward T. Depp
Dinsmore & Shohl LLP
101 South Fifth Street
Suite 2500
Louisville, KY 40202
Phone: (502) 540-2347
Facsimile: (502) 585-2207
tip.depp@dinsmore.com

Counsel for Big Rivers Electric Corporation

VERIFICATION

I, Robert W. Berry, Chief Operating Officer for Big Rivers Electric Corporation, hereby state that I have read the foregoing Application and that the statements contained therein are true and correct to the best of my knowledge and belief, on this the 25th day of June, 2013.

Robert W. Berry
Chief Operating Officer
Big Rivers Electric Corporation

COMMONWEALTH OF KENTUCKY)

COUNTY OF HENDERSON)

The foregoing verification statement was SUBSCRIBED AND SWORN to before me by Robert W. Berry, Chief Operating Officer for Big Rivers Electric Corporation, on this the 25th day of June, 2013.

Notary Public, Ky.
My commission expires: _____

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

CERTIFICATE OF SERVICE

I certify that a true and accurate courtesy copy of the foregoing Application has been provided by Federal Express or by hand delivery upon the persons listed on the attached service list, on the date this Application is filed with the Kentucky Public Service Commission or the following day. The inclusion of any individual or entity in this courtesy service list does not constitute a concession that the individual or entity is, or should be, a party to this proceeding.

On this the 25th day of June, 2013,

Counsel for Big Rivers Electric Corporation

Attachment Y-2 Study
Coleman Units 1, 2 & 3: 443 MW Coal
29 Month Suspension 8/20/2013 – 1/1/2015

ATTACHMENT Y-2 STUDY REPORT

May 2, 2013

CONTAINS CONFIDENTIAL AND

CRITICAL ENERGY INFASTRUCTUE INFORMATION (CEII)

DO NOT RELEASE

Exhibit A

EXECUTIVE SUMMARY

MISO received an Attachment Y-2 Request for Non-Binding Study Regarding Potential SSR Status (Attachment Y-2 Request) from Big Rivers Electric Corporation (BRPS) on December 18, 2012. The request was for MISO to determine the reliability impact of the potential Suspension of Coleman Units 1 & 2 & 3 from August 20, 2013 to January 1, 2015. Attachment Y-2 analysis is performed as a non-binding assessment of potential reliability issues due to the Suspension or Retirement of a Generation Resource. The results of the study are not definitive and the analysis is intended only to provide information to the Market Participant (MP) to assist them in evaluating their options. However, it does not commit the Market Participant to proceed with plans for Suspension or Retirement.

The study results indicate that potential reliability issues exist that would require the need for Coleman Units 1, 2 and 3 to enter into an System Support Resource (SSR) Agreement if a mitigation plan is not developed and implemented prior to the potential unit change of status, in accordance with Section 38.2.7 of the MISO Open Access Transmission, Energy & Operating Reserve Markets Tariff ("Tariff"). In addition to determining if reliability issues result from the suspension, further analysis was performed to identify the areas that are subject to allocation of the SSR costs. The areas identified for the cost allocation are Big Rivers Electric Corporation (BREC), Southern Illinois Gas & Electric (SIGE), Ameren Illinois (AMIL), and Duke Energy Indiana (DEI).

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I. INTRODUCTION

Big Rivers Electric Corporation, submitted an Attachment Y-2 "Request for Non-Binding Study Regarding Potential SSR Status". Unlike the Attachment Y, an Attachment Y-2 Request is for an informational study to evaluate the potential for a unit to be designated as an SSR and does not commit the Market Participant to proceed with plans to Retire or Suspend. This study of the Coleman Generation Units 1, 2 and 3 determined the reliability impacts that would occur if these units were to be removed from service on August 20, 2013 and return to service on January 1, 2015. With Coleman generation unavailable during this period of time, the study will also address the reliability impacts of two scenarios: 1) Century Aluminum ceases operation on August 19, 2013 and 2) Century Aluminum continues normal operations.

Location: Hawesville, Kentucky
Number and type of generating units: (3) coal fired, steam turbine units
Plant and unit numbers: Coleman Unit #1 (150 MW), Unit #2 (138 MW), and Unit #3 (155 MW)

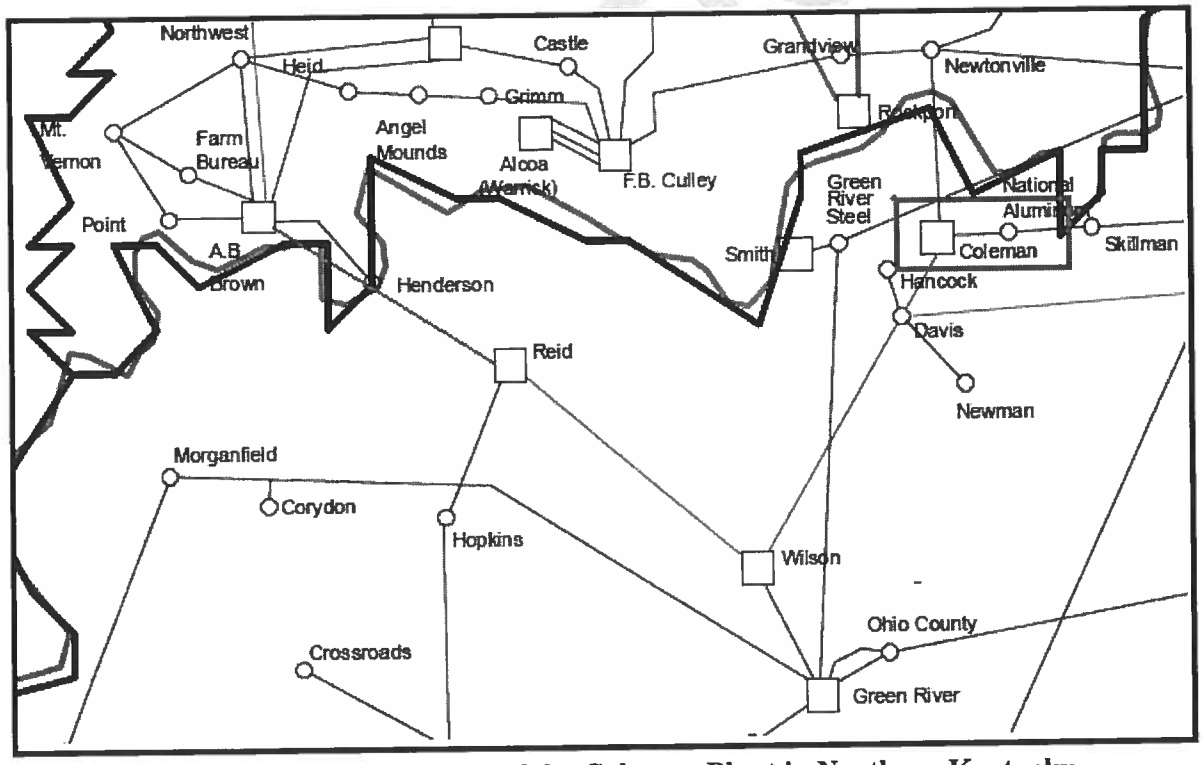

Figure 1: General Location of the Coleman Plant in Northern Kentucky

II. STUDY OBJECTIVES

Under Section 38.2.7 of MISO's Tariff, SSR procedures maintain system reliability by providing a mechanism for MISO to enter into agreements with Market Participants that own or operate Generation Resources or Synchronous Condenser Units (SCUs) that have requested to either Retire or Suspend, but are required to maintain system reliability.

The principal objective of an Attachment Y-2 study is to determine if the units for which a change in status is requested are necessary for system reliability based on the criteria set forth in the MISO Business Practices Manuals. The study work included monitoring and identifying the steady state thermal/voltage violations on transmission facilities due to the unavailability of the Generation Resource. The relevant MISO Transmission Owner and/or regional reliability criteria were used for monitoring such violations.

III. MODELS AND ASSUMPTIONS

Corresponding to the anticipated suspension of the Coleman Units 1, 2, & 3 the following power system analysis source models were used for the study:

- 2014 Summer Peak
- 2017 Summer Peak
- 2017 Shoulder

The Attachment Y study models were created following the MISO Transmission Planning Business Practice Manual (BPM-020-r8) Section 6.2.2. This includes creating a set of models from each source model in which the units being studied are at full generation or taken out of service.

a. Model Assumptions

1. Load Sensitivity to Century Aluminum Plant (485 MW)

b. Transmission Projects

1. LGEE / KU Matanzas 161 kV Substation The new Matanzas 161 kV Substation has an anticipated in-service date of December 1, 2012. This new substation will be included in the 2014 and 2017 models since the substation will be in-service during the time Coleman Generation is unavailable.

c. **Table of Models**

n	Model	Coleman 1,2,3	Century Aluminum	Contingency Categories
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IV. STUDY CRITERIA AND METHODOLOGY

Siemens PTI's Power System Simulator for Engineering (PSS/E) and Managing and Utilizing System Transmission (MUST) were used to perform AC contingency analysis. Contingency analysis is the study of transmission system facility outages. Outages of transmission facilities are applied to a mathematical model of the transmission system in order to calculate the effects on the remainder of the system. The models were solved with automatic control of Load Tap Changers (LTCs), phase shifters, DC taps, switched shunts enabled (regulating), and area interchange disabled. The results are compared to determine if there were any criteria violations due to the change in the status for the unit(s).

a. Applicable Reliability Planning Criteria

MISO Transmission Owners

AMIL Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for AMIL System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for AMIL System

AMIL Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, all substation voltages less than 95% or above 105%
- For Category B and C contingencies, all substation voltages less than 90% or above 110%

BREC Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for BREC System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for BREC System

BREC Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, all substation voltages less than 95% or above 105%
- For Category B and C contingencies, all substation voltages less than 90% or above 110%

DEI Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for DEI System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for BREC System

DEI Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 90% or above 105%

HE Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for HE System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for HE System

HE Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 90% or above 110%

SIGE Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for SIGE System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for SIGE System

SIGE Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 95% or above 105%

SIPC Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for SIGE System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for SIGE System

SIPC Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 91% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 91% or above 105%

Non–MISO Transmission Owners

LGEE Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for LGEE System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for LGEE System

LGEE Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 90% or above 110%

TVA Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for TVA System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for TVA System

TVA Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 90% or above 110%

AECI Transmission Planning Criteria applied for the thermal analysis:

- For Category A contingencies, all thermal loadings exceeding 100% of the normal rating for AECI System
- For Category B and C contingencies, all thermal loadings exceeding 100% of the emergency rating for AECI System

AECI Transmission Planning Criteria applied for the voltage analysis:

- For Category A contingencies, >100 kV substation voltages less than 95% or above 105%
- For Category B and C contingencies, >100 kV substation voltages less than 90% or above 110%

Under category C contingencies, for the valid thermal and voltage violations as specified above, generation re-dispatch, system reconfiguration, and/or load shedding will be considered if applicable.

b. MISO Transmission Planning BPM - SSR Criteria

As specified in MISO BPM-020-r8, the SSR criteria for determining if an identified facility is impacted by the generator change of status will be:

- Under system intact and contingent events, branch thermal violations are only valid if the flow increase on the element in the "after" retirement scenario is equal to or greater than:

a) 5% of the "to-be-retired" unit(s) MW amount (i.e. 5% Power Transfer Distribution Factor (PTDF)) for a "base" violation compared with the "before" retirement scenario, or
b) 3% of the "to-be-retired" unit(s) amount (i.e. 3% Outage Transfer Distribution Factor (OTDF)) for a "contingency" violation compared with the "before" retirement scenario.

- Under system intact and contingent events, high and low voltage violations are only valid if the change in voltage is greater than 1% as compared to the "before" retirement voltage calculation.

c. Contingencies

A subset of the MISO Transmission Expansion Plan (MTEP) contingencies in the central region was used for AC contingency analysis. Additional contingencies from TVA, LG&E, and AECI were included in this analysis to provide coverage for events on those adjacent transmission systems.

The following North American Electric Reliability Corporation (NERC) Categories of contingencies were evaluated:

1. Category A when the system is under normal conditions.
2. Category B contingencies resulting in the loss of a single element.
3. Category C contingencies resulting in the loss of two or more (multiple) elements.
4. Maintenance outage condition with forced outage during shoulder load conditions.

V. STUDY RESULTS

a. Branch Results (Appendix A Table 1a)

Table 1a in Appendix A shows contingent conditions causing branch criteria violations without Coleman Units 1 & 2 & 3 and the improvements resulting from the operation of Coleman Units 1 & 2 & 3. Contingent events causing branch violations include NERC Categories B, C1, C2, and C3. While the study scenario with Century Aluminum off does indicate fewer constraints, there remain a few thermal loading issues resulting from Category C contingencies that exist in the MISO Transmission system even with the load removed.

b. Voltage Results (Appendix A Table 1b)

Significant voltage criteria violations associated with the suspension of Coleman Units 1, 2, & 3 and continued operation of Century Aluminum were identified when compared to the continued availability of the units. Table 1 in Appendix A shows contingent conditions causing criteria violations without Coleman Units 1, 2, & 3 and the improvements resulting from the operation of Coleman Units 1, 2, & 3. Contingent events causing voltage criteria violations include NERC Categories B, C1, C2, and C3. The acceptable post-contingency voltage range is between 0.92 per unit to 1.07 per unit. Therefore, voltages less than 0.92 or greater than 1.07 per unit are a

criteria violation. If Century Aluminum were to cease operations, with a load of 0 MVA, the voltage issues within the MISO would be eliminated.

VI. POTENTIAL SSR AGREEMENT COST ALLOCATION

MISO utilizes a load shed methodology to determine the reliability benefits to each MISO Local Balancing Area (LBA) of operation, without the SSR unit(s). Although load shed is not permitted for NERC Category A or B events, this methodology determines the load shed amount needed to relieve all Category B reliability issues and the most severe Category C reliability issues identified, as a proxy for the reliability benefit of the SSR unit operation. The potential SSR Agreement LBA shares that were calculated for this Attachment Y-2 study are included below in Table 2.

Table 2: Potential SSR Agreement LBA Shares

LBA	Load Shed (MW)	LBA Share
BREC	1541.84	91.63%
SIGE	76.11	4.52%
AMIL	63.02	3.75%
DEI	1.72	.10%
Total	1682.69	100.00%

VII. CONCLUSION

The study results indicate that potential reliability issues exist which would require the need for Coleman Units 1, 2 and 3 to enter into an SSR Agreement if a mitigation plan is not developed and implemented prior to the potential unit change of status, in accordance with Section 38.2.7 of the MISO Open Access Transmission, Energy & Operating Reserve Markets Tariff ("Tariff"). In addition to determining if reliability issues result from the suspension, further analysis was performed to identify the areas that are subject to allocation of the SSR costs. The areas identified for the cost allocation are Big Rivers Electric Corporation (BREC), Southern Illinois Gas & Electric (SIGE), Ameren Illinois (AMIL), and Duke Energy Indiana (DEI).

VIII. APPENDICES

Appendix A: Steady-State AC Contingency Results

Table 1a: Branch Results

Table 1b: Voltage Results

Table 1a: Branch Results

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

		Limiting Element			Coleman 1, 2, & 3 OFF			Coleman 1,2, & 3 ON			Unit Impact			
Model	Contingency Description	** From bus ** ** To bus ** CKT	Type	Rating	Cont MVA	Base Flow	Loading %	Cont MVA	Base Flow	Loading %	MWoff-MWon	PTDF (> 5%)	OTDF (> 3%)	MISO Comments
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	335.0	239.6	100.0	#N/A	#N/A	#N/A	#N/A		#N/A	
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	335.0	239.6	100.0	#N/A	#N/A	#N/A	#N/A		#N/A	
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	335.3	239.6	100.1	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	335.3	239.6	100.1	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.9	25.6	102.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.9	25.6	102.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.9	25.6	102.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	253580 10NTVL16 161 253581 10NTVL13 138 T5	TR	176	217.4	91.9	123.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.9	25.6	102.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	335.3	239.6	100.1	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	335.3	239.6	100.1	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	491.0	239.6	146.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.9	25.6	102.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	324094 2TRTLE CRK T69.0 324562 2HAR557 69.0 1	LN	35	37.8	13.3	108.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	324543 2FOUR M 69.0 324686 2PINEVI 69.0 1	LN	32	33.6	15.4	105.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	249631 08THRNTN 230 991964 THORNTWN 1.00 1	TR	69.9	87.3	48.7	125.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250310 08BRINGH 69.0 250451 08FLORAJ 69.0 1	LN	34	37.4	3.0	110.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250321 08BURROW 69.0 250790 08ROCKFL 69.0 1	LN	34	47.6	8.1	139.9	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250441 08FFWSTJ 69.0 250457 08FRAK B 69.0 1	LN	100.3	112.0	57.8	111.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250451 08FLORAJ 69.0 250790 08ROCKFL 69.0 1	LN	34	43.6	4.5	128.2	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250457 08FRAK B 69.0 250683 08MIDLFO 69.0 1	LN	45	87.1	31.3	193.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250608 08KOK HP 69.0 250610 08KOHAJ1 69.0 1	LN	45	129.0	10.3	286.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250608 08KOK HP 69.0 250614 08KOSE 69.0 1	LN	65	69.7	44.0	107.2	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250610 08KOHAJ1 69.0 250798 08RUSIAV 69.0 1	LN	45	129.5	10.3	287.9	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250625 08LAF 69.0 250948 08WVMONI 69.0 1	LN	45	66.9	18.0	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250683 08MIDLFO 69.0 250795 08ROSSVL 69.0 1	LN	44	52.7	6.1	119.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250683 08MIDLFO 69.0 250798 08RUSIAV 69.0 1	LN	44	150.2	9.6	341.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250795 08ROSSVL 69.0 250948 08WVMONI 69.0 1	LN	45	65.9	17.0	146.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2014SPCentoff	[REDACTED CONTINGENCY]	250847 08THRNTW 69.0 991964 THORNTWN 1.00 1	TR	69.9	84.1	47.2	120.4	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	342.6	248.6	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	342.6	248.7	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	354.5	248.6	105.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	354.5	248.7	105.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	497.6	248.6	148.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	497.7	248.7	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.8	24.9	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	497.6	248.6	148.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	497.7	248.7	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.8	24.9	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	497.6	248.6	148.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	497.7	248.7	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.8	24.9	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	253510 10NE13 138 253511 10NE69 69.0 T2	TR	72	72.0	70.4	100.0	#N/A	#N/A	#N/A	#N/A		#N/A	
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	497.6	248.6	148.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	497.7	248.7	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.8	24.9	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248807 07DOGWOD 69.0 248808 07MAUKPT 69.0 1	LN	25	27.5	26.5	109.9	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248807 07DOGWOD 69.0 248808 07MAUKPT 69.0 1	LN	25	27.5	26.5	109.9	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	354.5	248.6	105.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	354.5	248.7	105.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	497.6	248.6	148.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	497.7	248.7	148.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension

Table 1a: Branch Results

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

Model	Contingency Description	Limiting Element: ** From bus ** ** To bus ** CKT	Limiting Element: Type	Limiting Element: Rating	Coleman 1, 2, & 3 OFF: Cont MVA	Coleman 1, 2, & 3 OFF: Base Flow	Coleman 1, 2, & 3 OFF: Loading %	Coleman 1,2, & 3 ON: Cont MVA	Coleman 1,2, & 3 ON: Base Flow	Coleman 1,2, & 3 ON: Loading %	Unit Impact: MWoff-MWon	Unit Impact: PTDF (> 5%)	Unit Impact: OTDF (> 3%)	MISO Comments
2017SP	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	35.8	24.9	102.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	362186 2WATAUGA HP 69.0 362187 2ELIZABETHTN69.0 1	LN	58.4	62.7	61.4	107.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SPCentoff	[REDACTED CONTINGENCY]	248807 07DOGWOD 69.0 248808 07MAUKPT 69.0 1	LN	25	28.2	27.2	112.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SPCentoff	[REDACTED CONTINGENCY]	248807 07DOGWOD 69.0 248808 07MAUKPT 69.0 1	LN	25	28.2	27.2	112.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SPCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	62.2	61.2	106.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SPCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	60.0	61.2	102.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SPCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	62.2	61.2	106.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	347946 4PANA 138 348788 4SCHRAMCY TP 138 1	LN	202	232.8	38.0	115.2	219.4	35.0	108.6	13.4		3.0248307	Violation made worse by suspension
2017SH	[REDACTED CONTINGENCY]	348067 7RAMSEY 345 348068 4RAMSEY CIPS 138 1	TR	382	388.9	94.9	101.8	371.0	95.6	97.1	17.9		4.0406321	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	348067 7RAMSEY 345 348068 4RAMSEY CIPS 138 1	TR	382	388.3	94.9	101.7	370.5	95.6	97.0	17.8		4.0180587	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 253580 10NTVL16 161 1	LN	335	434.2	133.5	129.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248435 07NWTVL1 161 340552 5COLEMAN 161 1	LN	335	434.4	133.6	129.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248642 07MIDWAY 69.0 248861 07TRY_69 69.0 1	LN	35	37.1	24.6	106.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	324578 2HRDSTB 69.0 324769 2WALKRKU 69.0 1	LN	28	29.0	11.0	103.4	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	324628 2MARI S 69.0 324629 2MARONKU 69.0 1	LN	28	28.4	19.6	101.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.6	62.7	105.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	325077 5COLEMAN TAP 161 325078 5PADUCAH PRI 161 1	LN	245	251.4	181.2	102.6	236.0	172.3	96.3	15.4		3.476298	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340618 5LIVING 161 360016 5MARSHALL KY 161 1	LN	223	238.1	63.0	106.8	214.2	56.1	96.1	23.9		5.3950339	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340618 5LIVING 161 360326 5BARKLEY HP 161 1	LN	223	281.2	92.6	126.1	250.2	79.5	112.2	31.0		6.9977427	Violation made worse by suspension
2017SH	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.7	62.7	105.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.7	62.7	105.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.7	62.7	105.6	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	325077 5COLEMAN TAP 161 325078 5PADUCAH PRI 161 1	LN	245	248.9	181.2	101.6	233.5	172.3	95.3	15.4		3.476298	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340618 5LIVING 161 360016 5MARSHALL KY 161 1	LN	223	232.5	63.0	104.3	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340618 5LIVING 161 360326 5BARKLEY HP 161 1	LN	223	274.7	92.6	123.2	243.6	79.5	109.2	31.1		7.020316	Violation made worse by suspension
2017SH	[REDACTED CONTINGENCY]	362186 2WATAUGA HP 69.0 362187 2ELIZABETHTN69.0 1	LN	58.4	60.6	61.6	103.8	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348774 7BALDWIN 345 348776 7TURKEY HILL 345 1	LN	956	1177.0	693.4	123.1	1161.5	692.2	121.5	15.5		3.4988713	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348728 4W MT VERN W 138 348827 7W MT VERNON 345 1	TR	448	465.3	250.7	103.9	451.7	249.1	100.8	13.6		3.0699774	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	347016 4EFFGHMNW 138 347024 4EFFINGHM 138 1	LN	263	293.2	60.8	111.5	279.5	60.2	106.3	13.7		3.0925508	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	347016 4EFFGHMNW 138 347024 4EFFINGHM 138 1	LN	263	293.5	60.8	111.6	279.7	60.2	106.4	13.8		3.1151242	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	347946 4PANA 138 348788 4SCHRAMCY TP 138 1	LN	202	236.0	39.5	116.9	220.2	35.8	109.0	15.8		3.5665914	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348730 4MIDWAY E 138 348788 4SCHRAMCY TP 138 1	LN	202	266.3	73.5	131.8	251.0	70.2	124.2	15.3		3.4537246	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	347946 4PANA 138 348068 4RAMSEY CIPS 138 1	LN	264	266.4	44.5	100.9	251.3	44.8	95.2	15.1		3.4085779	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348067 7RAMSEY 345 348068 4RAMSEY CIPS 138 1	TR	382	390.9	95.5	102.3	370.2	96.0	96.9	20.7		4.6726862	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	347946 4PANA 138 348068 4RAMSEY CIPS 138 1	LN	264	266.3	44.5	100.9	251.2	44.8	95.1	15.1		3.4085779	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348067 7RAMSEY 345 348068 4RAMSEY CIPS 138 1	TR	382	390.4	95.5	102.2	369.6	96.0	96.8	20.8		4.6952596	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348774 7BALDWIN 345 348776 7TURKEY HILL 345 1	LN	956	1054.9	693.4	110.3	1039.9	692.2	108.8	15.0		3.3860045	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	348774 7BALDWIN 345 348775 4BALDWIN 138 1	TR	448	470.3	293.8	105.0	456.3	287.1	101.8	14.0		3.1602709	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	350204 4CAMPBELLHIL 138 350205 5CAMPBELLHIL 161 1	TR	224	323.8	25.8	144.5	295.9	22.6	132.1	27.9		6.2979684	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	300061 5BOONE 161 300493 2BOONE 69.0 1	TR	112	126.0	92.7	112.5	111.6	92.8	99.7	14.4		3.2505643	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	324512 2EDDY P 69.0 324693 2PRINCE 69.0 1	LN	64	67.8	32.1	106.0	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	324512 2EDDY P 69.0 362916 2KY DAM 69.0 1	LN	70	71.5	35.8	102.1	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	360103 5PHIPPS B NP 161 360705 5JSEV C34 TP 161 3	LN	472.1	492.1	319.4	104.2	478.7	314.4	101.4	13.4		3.0248307	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.6	62.7	105.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	340618 5LIVING 161 360016 5MARSHALL KY 161 1	LN	223	224.2	59.3	100.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	340618 5LIVING 161 360326 5BARKLEY HP 161 1	LN	223	261.8	83.9	117.4	230.1	70.6	103.2	31.7		7.1557562	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	63.9	62.7	109.5	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.7	62.7	105.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	340618 5LIVING 161 360326 5BARKLEY HP 161 1	LN	223	255.3	83.9	114.5	223.6	70.6	100.3	31.7		7.1557562	Violation made worse by suspension
2017SHCentoff	[REDACTED CONTINGENCY]	362124 2LOVELLTN 69.0 362496 2WATTROAD TN69.0 1	LN	58.4	61.7	62.7	105.7	#N/A	#N/A	#N/A	#N/A		#N/A	Violation caused by suspension

Table 1b: Voltage Results

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

		Limiting Element							Coleman 1, 2, & 3 OFF			Coleman 1,2, & 3 ON			Unit Impact	
Model	Contingency Description	Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Voff-Von (>0.01)	MISO Comments
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340621	5COLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340621	5COLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340621	5COLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9029	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9028	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8905	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.7605	0.9793	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.6378	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension

Table 1b: Voltage Results

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

		Limiting Element							Coleman 1, 2, & 3 OFF			Coleman 1,2, & 3 ON			Unit Impact	
Model	Contingency Description	Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Voff-Von (>0.01)	MISO Comments
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8236	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8959	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340621	5COLEEHV	161	314	1314	0.92	1.05	0.8172	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340566	5MEADE	161	314	1314	0.92	1.05	0.8775	0.9851	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340566	5MEADE	161	314	1314	0.92	1.05	0.8775	0.9851	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9031	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8907	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8125	0.9607	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8214	0.9669	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8487	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9081	0.9855	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8235	0.97	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8958	0.9743	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	340621	5COLEEHV	161	314	1314	0.92	1.05	0.8171	0.9676	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
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 suspension
2014SP	[REDACTED CONTINGENCY]	324149	5IMBODEN	161	363	379	0.9	1.1	0.8724	1.0025	L	1.1048	1.003	H	-0.232	Violation caused by suspension
2014SP	[REDACTED CONTINGENCY]	324157	5POCK N	161	363	379	0.9	1.1	0.8677	1.0048	L	1.111	1.0053	H	-0.243	Violation caused by suspension
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 suspension
2014SPCentoff	[REDACTED CONTINGENCY]	324310	4SPENC	138	363	380	0.9	1.1	0.8823	0.9699	L	0.8718	0.9699	L	0.011	Pre-exsting
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 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	5HANCO	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]	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	5COLEEHV	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]	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 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	5HANCO	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	5COLEEHV	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]	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 suspension
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 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	5HANCO	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

Table 1b: Voltage Results

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CONFIDENTIAL / CEII - DO NOT RELEASE

		Limiting Element							Coleman 1, 2, & 3 OFF			Coleman 1,2, & 3 ON			Unit Impact	
Model	Contingency Description	Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Volt-Von (>0.01)	MISO Comments
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	5COLEEHV	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]	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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
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 suspension
2017SP	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.7285	0.9696	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SP	[REDACTED CONTINGENCY]	248865	07TRY161	161	207	1207	0.9	1.1	0.7892	0.9896	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	0.7568	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	0.6327	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	0.9696	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	5HANCO	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	5COLEEHV	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]	340566	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]	340566	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	0.9696	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	5HANCO	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	5COLEEHV	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	5HARRIMAN TN	161	347	1368	0.9	1.1	0.7649	1.0426	L	0.7822	1.0427	L	-0.017	Pre-exsting

Table 1b: Voltage Results

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

		Limiting Element							Coleman 1, 2, & 3 OFF			Coleman 1,2, & 3 ON			Unit Impact	
Model	Contingency Description	Bus #	Bus Name	KV	Area	Zone	Low Limit	Upp Limit	Cont Volt	Base Volt	Viol	Cont Volt	Base Volt	Viol	Volt-Von (>0.01)	MISO Comments
2017SP	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7641	1.0477	L	0.7815	1.0477	L	-0.017	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7638	1.0474	L	0.7812	1.0474	L	-0.017	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.6888	1.0426	L	0.7309	1.0427	L	-0.042	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.6889	1.0477	L	0.7311	1.0477	L	-0.042	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.6885	1.0474	L	0.7307	1.0474	L	-0.042	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361383	5W OAK RIDGT	161	347	1368	0.9	1.1	0.689	1.0479	L	0.7312	1.0479	L	-0.042	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.6979	1.0426	L	0.7309	1.0427	L	-0.033	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	360692	5ROANE B#2	161	347	1368	0.9	1.1	0.6981	1.0479	L	0.7312	1.0479	L	-0.033	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.6981	1.0477	L	0.7311	1.0477	L	-0.033	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.6976	1.0474	L	0.7307	1.0474	L	-0.033	Pre-exsting
2017SP	[REDACTED CONTINGENCY]	361383	5W OAK RIDGT	161	347	1368	0.9	1.1	0.6981	1.0479	L	0.7312	1.0479	L	-0.033	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.7308	1.0426	L	0.6782	1.0426	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.731	1.0477	L	0.6784	1.0477	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7306	1.0474	L	0.6779	1.0474	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361383	5W OAK RIDGT	161	347	1368	0.9	1.1	0.731	1.0479	L	0.6784	1.0479	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.7556	1.0426	L	0.7821	1.0426	L	-0.027	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7548	1.0477	L	0.7814	1.0477	L	-0.027	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7544	1.0474	L	0.781	1.0474	L	-0.027	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.7308	1.0426	L	0.6782	1.0426	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.731	1.0477	L	0.6784	1.0477	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7306	1.0474	L	0.6779	1.0474	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361383	5W OAK RIDGT	161	347	1368	0.9	1.1	0.731	1.0479	L	0.6784	1.0479	L	0.053	Pre-exsting
2017SPCentoff	[REDACTED CONTINGENCY]	361364	5WEAVER GA	161	347	1367	0.9	1.1	0.5784	1.0104	L	0.5537	1.0104	L	0.025	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	340566	5MEADE	161	314	1314	0.92	1.05	0.9011	0.9887	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340616	5N.HARD	161	314	1314	0.92	1.05	0.8889	0.998	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248435	07NWTVL1	161	207	1207	0.9	1.1	0.8438	0.9768	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248865	07TRY161	161	207	1207	0.9	1.1	0.8832	0.9902	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	248887	07NWTNVL	161	207	1207	0.9	1.1	0.8622	0.9831	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340552	5COLEMAN	161	314	1314	0.92	1.05	0.8062	0.9699	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340557	5HANCO	161	314	1314	0.92	1.05	0.8109	0.9696	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340558	5SKILMAN	161	314	1314	0.92	1.05	0.8386	0.9824	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340559	5DAVIS	161	314	1314	0.92	1.05	0.9048	0.9902	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340563	7COLEMAN	345	314	1314	0.92	1.05	0.8062	0.9931	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340564	5NATAL	161	314	1314	0.92	1.05	0.8128	0.9724	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	340565	5NEWMAN	161	314	1314	0.92	1.05	0.8933	0.9798	L	#N/A	#N/A	#N/A	#N/A	Violation caused by suspension
2017SH	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.757	1.0422	L	0.7804	1.0424	L	-0.023	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7562	1.0473	L	0.7797	1.0474	L	-0.024	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7558	1.047	L	0.7793	1.0472	L	-0.024	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.757	1.0422	L	0.7803	1.0424	L	-0.023	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7562	1.0473	L	0.7796	1.0474	L	-0.023	Pre-exsting
2017SH	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7558	1.047	L	0.7793	1.0472	L	-0.024	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	324310	4SPENC	138	363	380	0.9	1.1	0.8782	0.9682	L	0.8646	0.9682	L	0.014	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.757	1.0422	L	0.7803	1.0423	L	-0.023	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7562	1.0473	L	0.7796	1.0474	L	-0.023	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7558	1.047	L	0.7793	1.0471	L	-0.024	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	360033	8UNION MS	500	347	1356	0.9	1.1	0.8606	1.0475	L	0.8793	1.0476	L	-0.019	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	360430	5HARRIMAN TN	161	347	1368	0.9	1.1	0.757	1.0422	L	0.7803	1.0423	L	-0.023	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	361099	5BLAIR RD TP	161	347	1368	0.9	1.1	0.7562	1.0473	L	0.7796	1.0474	L	-0.023	Pre-exsting
2017SHCentoff	[REDACTED CONTINGENCY]	361146	5BLAIR RD TN	161	347	1368	0.9	1.1	0.7558	1.047	L	0.7793	1.0471	L	-0.024	Pre-exsting