




Associated Electric Cooperative, Inc.

Your Touchstone Energy® Partner 

*PRC-023-4*

*Assessment (Requirement R6)*

*Compliance Year 2017*

December 2017

## Contents

Introduction.....	3
Attachment B Criteria.....	4
Table 1 – 2016 Monitored Facilities of Flowgates.....	5
Table 2 - Summary of Criteria B4 Analysis.....	8
Summary.....	14
Table 3 - Comprehensive Listing of Identified Facilities.....	14

## Introduction

The purpose of Standard PRC-023 is to ensure that protective relay settings reliably detect all fault conditions but do not limit transmission loadability, and therefore allows system operators to take remedial action to protect system reliability during contingencies.

Requirement R6 of PRC-023 generally provides for an annual assessment by the Planning Coordinator to determine any circuits below 200kV for which requirements R1 through R5 must apply.

As a NERC registered Planning Coordinator, AECI is required to perform this assessment at least once each calendar year, with no more than 15 months between assessments, by applying the criteria in Attachment B of Standard PRC-023. This will determine the circuits (below 200kV) in its Planning Coordinator area that must comply with requirements R1 through R5 of the Standard.

This report presents the results from the 2017 assessment that was performed by applying the criteria in Attachment B.

## Attachment B Criteria

Attachment B specifies which circuits must be evaluated and provides the criteria that determine if the circuit must meet loadability requirements. Attachment B is as follows:

### *PRC-023 — Attachment B*

#### *Circuits to Evaluate*

- *Transmission lines operated at 100 kV to 200 kV and transformers with low voltage terminals connected at 100 kV to 200 kV.*
- *Transmission lines operated below 100 kV and transformers with low voltage terminals connected below 100 kV that are part of the BES.*

#### *Criteria*

*If any of the following criteria apply to a circuit, the applicable entity must comply with the standard for that circuit.*

*B1. The circuit is a monitored Facility of a permanent flowgate in the Eastern Interconnection, a major transfer path within the Western Interconnection as defined by the Regional Entity, or a comparable monitored Facility in the Québec Interconnection, that has been included to address reliability concerns for loading of that circuit, as confirmed by the applicable Planning Coordinator.*

*B2. The circuit is a monitored Facility of an IROL, where the IROL was determined in the planning horizon pursuant to FAC-010.*

*B3. The circuit forms a path (as agreed to by the Generator Operator and the transmission entity) to supply off-site power to a nuclear plant as established in the Nuclear Plant Interface Requirements (NPIRs) pursuant to NUC-001.*

*B4. The circuit is identified through the following sequence of power flow analyses performed by the Planning Coordinator for the one-to-five-year planning horizon:*

*a. Simulate double contingency combinations selected by engineering judgment, without manual system adjustments in between the two contingencies (reflects a situation where a System Operator may not have time between the two contingencies to make appropriate system adjustments).*

*b. For circuits operated between 100 kV and 200 kV evaluate the post-contingency loading, in consultation with the Facility owner, against a threshold based on the Facility Rating assigned for that circuit and used in the power flow case by the Planning Coordinator.*

*c. When more than one Facility Rating for that circuit is available in the power flow case, the threshold for selection will be based on the Facility Rating for the loading duration nearest four hours.*

*d. The threshold for selection of the circuit will vary based on the loading duration assumed in the development of the Facility Rating.*

*i. If the Facility Rating is based on a loading duration of up to and including four hours, the circuit must comply with the standard if the loading exceeds 115% of the Facility Rating.*

*ii. If the Facility Rating is based on a loading duration greater than four and up to and including eight hours, the circuit must comply with the standard if the loading exceeds 120% of the Facility Rating.*

*iii. If the Facility Rating is based on a loading duration of greater than eight hours, the circuit must comply with the standard if the loading exceeds 130% of the Facility Rating.*

*e. Radially operated circuits serving only load are excluded.*

*B5. The circuit is selected by the Planning Coordinator based on technical studies or assessments, other than those specified in criteria B1 through B4, in consultation with the Facility owner.*

*B6. The circuit is mutually agreed upon for inclusion by the Planning Coordinator and the Facility owner.*

**Criteria B1**

Criteria B1 includes any circuit that is a monitored facility of a permanent flowgate in the Eastern Interconnection.

AECI System Operations provided a listing of permanent flowgates for 2017. A flowgate consists of a “monitored facility” accompanied by a “contingent element”. The same monitored facility can be present in more than one flowgate but only needs to be considered once for loadability purposes.

Table 1 lists the applicable monitored facilities from AECI flowgates. If the evaluation criteria were not applicable to the flowgate, it is noted as such in the table.

**Table 1 – 2017 Monitored Facilities of Flowgates**

FG ID	Flowgate Monitored Facility	PRC-023 attachment B applicability (Criteria B1)?
1671, 1089	Adair - Novelty 161 kV	Yes
1092, 1674	Apache Tap - Barnett 161 kV	Yes
1093, 1094, 1096	Barnett - Eldon 161 kV	Yes
1099	Barnett 161/69 XFMR	N/A. LV terminals below 100 kV
1063	Blackberry - Jasper 345 kV	N/A. Previously identified since 200 kV+
1653	BOONE 161/69 XFMR	N/A. LV terminals below 100 kV
1070	California 161/69 XFMR	N/A. LV terminals below 100 kV
30130, 30131	Chouteau Plant #1 - Maid 161 kV	Yes
30139	Chouteau Plant #2 - Sportsmans Acres 161 kV	Yes
30007	Coffman - Lebanon #2 161 kV	Yes

FG ID	Flowgate Monitored Facility	PRC-023 attachment B applicability (Criteria B1)?
1029, 30148	Collins (OSCEOLA) - Stockton 161 kV	Yes
1044, 1666	Cooper - Fairport 345 kV	N/A. Previously identified since 200 kV+
1668, 1669, 1687, 1696, 30134	Cottleville - Kisker 161 kV	Yes
1688, 1698, 1699, 2653	Cox Creek - Thayer South 161 kV	Yes
1073, 1078, 1691	Dardenne - Troy 161 kV	Yes
1071, 1076, 1087, 30145, 30159	Enon - Ethlyn 161 kV	Yes
30150	Enon - Lake St. Louis 161 kV	Yes, Previously identified by B4 criteria
1077, 1670	Enon 345/161 XFMR	Yes
1041, 1042, 1690	Essex - Lutesville 345kV	N/A. Previously identified since 200 kV+
1040	Essex - Stoddard 161kV	Yes
1064	Essex - West New Madrid 345 kV	N/A. Previously identified since 200 kV+
1682, 30126	Essex 345/161 XFMR	Yes
1043, 1648, 2652	Essex-Idalia 161 kV	Yes
1075	Fairport - Darlington 69 kV	N/A. Below 100 kV.
1061, 1667, 1676	Fairport - Gentry 161 kV	Yes
1058, 1059, 1060	Fairport - Hickory Creek 161 kV	Yes
1015, 1046, 30019	Fairport - Osborn 161 kV	Yes
1045, 1074	Fairport - St. Joe 345 kV	N/A. Previously identified since 200 kV+
1098, 1684, 1697	Fairport 345/161 XFMR	Yes
30132	Franks - Fort Wood 161 kV	Yes
1065, 1066, 1067	Franks - Huben 345 kV	N/A. Previously identified since 200 kV+
2657	Franks - South Crocker 161 kV	Yes
30127	Franks 345/161 XFMR 1	Yes
1685	Fredericktown - Fredericktown Tap 161 kV	Yes
2655	Gobbler Knob - Fletcher 345 kV	N/A. Previously identified since 200 kV+
1686	Hannibal West - Spalding 161 kV	Yes
1689, 30152	Huben 345/161 XFMR	Yes
6522	Jim Hill - St. Francis 161 kV	Yes
30142, 30143	Keystone - Fisher Tap 138 kV	Yes
30133	Kingdom City - Millersburg 161 kV	Yes
1693, 30128	Kingdom City 345/161 XFMR	Yes
30160	Lead Hill - Clevenger Cove 161 kV	Yes
2663	Lebanon - Orla 161kV	Yes
1007, 1090, 1665, 30125, 30147	Maries - Old Maries 138/161 XFMR	Yes
1072, 1664	Marion Tap - Spalding 161 kV	Yes
30156	Maryville-Nodaway 161 kV	Yes
30137	McBaine - Boone 161 kV	Yes
30158	Millersburg - Boone 161 kV	Yes
1694	Missouri City - Excelsior Springs (aka Maurer Lake) 161 kV	Yes
1675, 3085, 6530	Moberly Tap - Moberly 161 kV	Yes
1068	Montgomery City - Williamsburg 161 kV	Yes
2660, 2661, 30119	Montrose - Clinton 161kV	Yes
30155	New Madrid - New Madrid (SPA) 161 kV	Yes
2654, 2656	New Madrid - Sikeston 161 kV	Yes
1048	New Madrid - Tiptonville 161 kV	Yes
1051, 1069, 30121	New Madrid 345/161kV XFMR1	Yes
1052	New Madrid 345/161kV XFMR2	Yes

FG ID	Flowgate Monitored Facility	PRC-023 attachment B applicability (Criteria B1)?
1020, 1050	New Madrid 500/345kV XFMR1	N/A. Previously identified since 200 kV+
1021, 1049	New Madrid 500/345kV XFMR2	N/A. Previously identified since 200 kV+
1672	Nodaway - Gentry 161 kV	Yes
1663	Oran - Morley 161 kV	Yes
30141	Palmyra (UE) - South River 161 kV	Yes
1030, 1031, 3175, 30140, 30154	Palmyra 345/161 kV XFMR	Yes
1681	Pike - Cyrene 161 kV	Yes
30153	Salem 345/161 kV XFMR	Yes
30135	Silver City - Bristow 138 kV	Yes
1091	South River - Muldrow 69 kV	N/A. Below 100 kV.
1673	Spalding 161/69 XFMR	N/A. LV terminals below 100 kV
30138	Sportsmans Acres 345/161 kV XFMR 2	Yes, Previously identified by B4 criteria
30144	Springfield - Nixa 1 161 kV	Yes
1678, 1680, 1695, 2651	St Francis - Gobbler Knob 345 kV	N/A. Previously identified since 200 kV+
5052	Stockton - Morgan 161 kV	Yes
30136, 30157	Sullivan 161/138 XFMR	Yes
1062, 1088, 2658	Thomas Hill - Adair 161 kV	Yes
1057	Thomas Hill - Salisbury 161 kV	Yes
1053, 1054, 1055, 1056	Thomas Hill 345/161 XFMR	Yes
30146	Troy - Auburn 161 kV	Yes
1692	Truman - Clinton 161 kV	Yes
30161	Truman - Lost Valley 161 kV	Yes
1079	Warrenton - Big Creek 161 kV	Yes
1097, 1677, 1679	Wedekind Tap - Fredericktown 161 kV	Yes
1017, 1018, 1019, 1351, 1366, 1367	West New Madrid - Dell 500 kV	N/A. Previously identified since 200 kV+
2648, 2649, 2650	West New Madrid 500/345 kV XFMR	N/A. Previously identified since 200 kV+
<p style="text-align: center;">Indicates new facility identified by B1 criteria in 2017</p>		

Criteria B2

AECI 2016 TPL studies did not identify any IROL's.

Criteria B3

AECI does not have any transmission paths supplying off-site power to nuclear power plants as established in the Nuclear Plant Interface Requirements (NPIRs) pursuant to NUC-001.

Criteria B4

Criteria B4 describes a power flow analysis methodology used to identify circuits that must comply with the standard. This described methodology closely follows the steady state analysis related to planning events P3, P6, and P7 in standard TPL-001-4. Therefore, AECI uses the results from their 2016 TPL-001-4 study to evaluate criteria B4. Table 2 summarizes the applicable results from the TPL-001-4 study and identifies the facilities that must comply with the PRC-023 standard per criteria B4.

Table 2 - Summary of Criteria B4 Analysis

(AECI 100 kV and Above Elements Loaded Over 100% in 2016 TPL-001-4)

CONTINGENCY/FACILITY	17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
P6:SPORTSMN-GRDA:SPORTSMN-BB										
Chouteau Plant #1-Maid 161kV Ckt 1 Line Loading	107.90%	108.00%	113.10%	113.20%	107.70%	107.80%	113.30%	113.40%	108.20%	113.60%
P3:WOLFCRK_U1:BARNETT-OSAGE										
Old Maries 161/138kV Xfmr #1 Loading	-	-	-	-	-	101.00%	-	-	-	-
P6:FRANKS-BLAND:BARNETT-OSAGE										
Old Maries 161/138kV Xfmr #1 Loading	-	-	-	-	101.40%	107.10%	-	-	-	-
P6:HOLDEN-PITTSVL:PITTSVL-ECKLES										
Clinton-Holden 161kV Ckt 1 (100C) Line Loading	-	-	-	-	107.60%	106.40%	-	-	107.70%	108.50%
P3:CALLAWAY_U1:ENON_345-161										
Kisker-Cottleville 161kV Ckt 1 (100C) Line Loading	-	-	-	-	-	101.60%	-	-	-	-
Kisker 161/138kV Xfmr #1 Loading	100.80%	105.00%	-	-	105.80%	112.50%	-	-	101.00%	-
P3:COOPER_U1:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	103.30%	-	-	104.50%	111.00%	-	-	-	-
P3:HAWTH_U5:ENON_345-161										
Kisker-Cottleville 161kV Ckt 1 (100C) Line Loading	-	-	-	-	-	100.10%	-	-	-	-
Kisker 161/138kV Xfmr #1 Loading	-	102.10%	-	-	104.90%	111.50%	-	-	-	-
P3:IATAN_U1:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	103.30%	-	-	104.50%	111.10%	-	-	-	-
P3:IATAN_U2:ENON_345-161										
Kisker-Cottleville 161kV Ckt 1 (100C) Line Loading	-	-	-	-	-	100.40%	-	-	-	-
Kisker 161/138kV Xfmr #1 Loading	100.20%	104.30%	-	-	105.10%	111.70%	-	-	100.60%	-
P3:LAC_U1:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	103.40%	-	-	104.30%	110.90%	-	-	-	-
P3:LAC_U2:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	102.90%	-	-	104.20%	110.80%	-	-	-	-
P3:LOUISA_U1:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	101.70%	-	-	102.70%	109.20%	-	-	-	-



CONTINGENCY/FACILITY	17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
P3:OTTUMWA_U1:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	102.60%	-	-	103.60%	110.10%	-	-	-	-
P3:PENOCRK_U2:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	-	-	-	101.50%	108.10%	-	-	-	-
P3:PENOCRK_U3:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	-	-	-	101.50%	108.10%	-	-	-	-
P3:PENOCRK_U4:ENON_345-161										
Kisker 161/138kV Xfmr #1 Loading	-	-	-	-	101.50%	108.10%	-	-	-	-
P3:THILL_U3:ENON_345-161										
Kisker-Cottleville 161kV Ckt 1 (100C) Line Loading	-	-	-	-	-	102.20%	-	-	-	-
Kisker 161/138kV Xfmr #1 Loading	101.60%	105.70%	-	-	106.60%	113.30%	-	-	101.90%	-
P3:WOLFCRK_U1:ENON_345-161										
Kisker-Cottleville 161kV Ckt 1 (100C) Line Loading	-	-	-	-	-	102.10%	-	-	-	-
Kisker 161/138kV Xfmr #1 Loading	101.40%	105.50%	-	-	106.60%	113.20%	-	-	101.70%	-
P3:SIKESTN_U1:JONESBO-CENTRH										
New Madrid-NewMad(SPA) 161kV Ckt 1 (75C) Line Loading	-	-	-	-	-	-	-	-	100.80%	-
P6:WNM-LUTESVL:DRIVERSANSOUCI										
New Madrid-NewMad(SPA) 161kV Ckt 1 (75C) Line Loading	101.20%	-	-	-	-	-	-	-	-	-
P6:WNM-LUTESVL:SHELBY-DRIVER										
New Madrid-NewMad(SPA) 161kV Ckt 1 (75C) Line Loading	101.20%	-	-	-	-	-	-	-	-	-
P3:CBLUFFS_U3:CBLUFFS-RIVRBND										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	102.90%	-
P3:CBLUFFS_U3:RIVRBND-BUNGE										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	101.50%	-
P3:CBLUFFS_U3:MARYVLSJ-MIDWAY										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	100.60%	-
P3:CBLUFFS_U3:MIDWAY-AVENUECTY										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	103.70%	-
P3:CBLUFFS_U3:STJOE-AVENUECTY										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	104.10%	-
P3:CBLUFFS_U4:CBLUFFS-RIVRBND										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	103.40%	-
P3:CBLUFFS_U4:RIVRBND-BUNGE										
Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	101.90%	-
P3:CBLUFFS_U4:BUNGE-HASTINGS										

2017 PRC-023-4 R6 Assessment

CONTINGENCY/FACILITY		17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	100.00%	-
P3:CBLUFFS_U4:MARYVLSJ-MIDWAY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	101.40%	-
P3:CBLUFFS_U4:MIDWAY-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	104.50%	-
P3:CBLUFFS_U4:STJOE-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	100.40%	-	-	104.90%	-
P6:BOONVL-ATCHISN:MARYVLSJ-MIDWAY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	101.20%	-
P6:BOONVL-ATCHISN:MIDWAY-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	104.40%	-
P6:BOONVL-ATCHISN:STJOE-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	104.80%	-
P6:CBLUFFS-RIVRBND:BOONVL-ATCHISN											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	105.60%	-
P6:CBLUFFS-RIVRBND:BROOKST-CRESTON											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	101.80%	-
P6:CBLUFFS-RIVRBND:BROOKST-CLARND											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	100.80%	-
P6:CBLUFFS-RIVRBND:MARYVLSJ-MIDWAY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	103.20%	-	-	111.10%	-
P6:CBLUFFS-RIVRBND:MIDWAY-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	106.50%	-	-	115.00%	-
P6:CBLUFFS-RIVRBND:STJOE-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	107.00%	-	-	115.40%	-
P6:RIVRBND-BUNGE:BOONVL-ATCHISN											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	104.40%	-
P6:RIVRBND-BUNGE:BROOKST-CRESTON											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	100.20%	-
P6:RIVRBND-BUNGE:MARYVLSJ-MIDWAY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	101.80%	-	-	109.40%	-
P6:RIVRBND-BUNGE:MIDWAY-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	105.10%	-	-	113.20%	-
P6:RIVRBND-BUNGE:STJOE-AVENUECTY											

2017 PRC-023-4 R6 Assessment

CONTINGENCY/FACILITY		17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	105.60%	-	-	113.60%	-
P6:BUNGE-HASTINGS:BOONVL-ATCHISN											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	102.50%	-
P6:BUNGE-HASTINGS:MARYVLSJ-MIDWAY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	-	-	-	106.90%	-
P6:BUNGE-HASTINGS:MIDWAY-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	103.10%	-	-	110.80%	-
P6:BUNGE-HASTINGS:STJOE-AVENUECTY											
	Maryville-Nodaway 161kV Ckt 1 (110C) Line Loading	-	-	-	-	-	103.60%	-	-	110.90%	-
P6:MAYWOOD-SUBT:MAYWOOD-HERLEMAN											
	Palmyra 345/161kV Xfmr #1 Loading	118.00%	118.00%	-	-	-	-	-	-	-	-
P6:SPALD-PENOCRK:MAYWOOD-HERLEMAN											
	Palmyra 345/161kV Xfmr #1 Loading	102.00%	103.00%	-	-	-	-	-	-	-	-
P3:CALLAWAY_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	103.20%	107.70%	-	-	105.30%	112.70%	-	-	104.70%	-
	Sullivan 161/138kV Xfmr #1 Loading	107.10%	110.30%	-	-	108.80%	114.40%	-	-	107.00%	-
P3:CBLUFFS_U3:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	104.50%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	101.30%	-	-	100.20%	106.00%	-	-	-	-
P3:CBLUFFS_U4:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	105.20%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	102.10%	-	-	100.90%	106.80%	-	-	-	-
P3:COOPER_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	105.20%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	102.10%	-	-	100.90%	106.80%	-	-	-	-
P3:FLINTCR_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	103.20%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	104.50%	-	-	-	-
P3:HAWTH_U5:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	105.60%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	100.00%	-	-	101.30%	107.10%	-	-	-	-
P3:IATAN_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	105.10%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	101.80%	-	-	100.80%	106.60%	-	-	-	-
P3:IATAN_U2:FLETCHR-FRANKS											

CONTINGENCY/FACILITY		17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	101.00%	-	-	-	106.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	100.10%	103.30%	-	-	101.80%	107.60%	-	-	100.30%	-
P3:JTEC_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	101.80%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	103.00%	-	-	-	-
P3:JTEC_U2:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	103.20%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	104.40%	-	-	-	-
P3:LAC_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	105.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	102.20%	-	-	100.60%	106.50%	-	-	-	-
P3:LAC_U2:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	104.80%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	101.40%	-	-	100.40%	106.30%	-	-	-	-
P3:MUSKOG_U4:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	103.20%	-	-	-	-
P3:MUSKOG_U5:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	103.20%	-	-	-	-
P3:MUSKOG_U6:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	103.30%	-	-	-	-
P3:NEBCTY_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	103.30%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	100.90%	-	-	-	104.70%	-	-	-	-
P3:NEBCTY_U2:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	104.50%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	101.20%	-	-	100.20%	106.00%	-	-	-	-
P3:NES_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	100.80%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	102.10%	-	-	-	-
P3:NES_U3:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.60%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	103.90%	-	-	-	-
P3:SOONER_U1:FLETCHR-FRANKS											

2017 PRC-023-4 R6 Assessment

CONTINGENCY/FACILITY		17SP	17SP T&D	17WP	17WP T&D	21SP	21SP T&D	21WP	21WP T&D	26SP	26WP
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.90%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	104.20%	-	-	-	-
P3:SOONER_U2:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	-	-	-	-	102.90%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	104.20%	-	-	-	-
P3:THILL_U3:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	102.20%	-	-	100.20%	107.50%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	101.50%	104.70%	-	-	103.40%	109.20%	-	-	101.70%	-
P3:WOLFCRK_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (75C) Line Loading	-	102.60%	-	-	100.60%	108.00%	-	-	-	-
	Sullivan 161/138kV Xfmr #1 Loading	101.90%	105.10%	-	-	103.80%	109.50%	-	-	101.90%	-
P3:CALLAWAY_U1:CLARK_161-138											
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	100.30%	-	-	-	-
P3:WOLFCRK_U1:CLARK_161-138											
	Sullivan 161/138kV Xfmr #1 Loading	-	-	-	-	-	101.30%	-	-	-	-
P3:CALLAWAY_U1:FLETCHR-FRANKS											
	Pea Ridge-Clark(UE) 138kV Ckt 1 (100C) Line Loading	-	-	-	-	-	104.30%	-	-	-	-
P3:THILL_U1:THILL_345-161_#1											
	Thomas Hill 345/161kV Xfmr #2 Loading	107.20%	105.80%	-	-	103.40%	103.60%	-	-	-	-
P3:THILL_U2:THILL_345-161_#1											
	Thomas Hill 345/161kV Xfmr #2 Loading	113.10%	113.70%	-	-	110.10%	111.30%	-	-	105.30%	-
P6:THILL_345-161_#1:OVERTN345-161											
	Thomas Hill 345/161kV Xfmr #2 Loading	103.40%	102.20%	-	-	100.60%	101.40%	-	-	-	-
P6:THILL_345-161_#1:SPNCRK-MAYWOOD											
	Thomas Hill 345/161kV Xfmr #2 Loading	107.80%	106.30%	-	-	104.60%	104.20%	-	-	-	-
P6:THILL_345-161_#1:SPNCRK-MONTG											
	Thomas Hill 345/161kV Xfmr #2 Loading	107.80%	106.30%	-	-	104.60%	104.20%	-	-	-	-
P6:OVERTN345-161:THILL-SALISBRY											
	Moberly Tap-Moberly 161kV Ckt Z1 Line Loading	100.80%	100.50%	-	100.00%	101.90%	104.10%	102.50%	104.30%	103.20%	103.80%
P6:OVERTN-MCCRD-MONTG:THILL-SALISBRY											
	Moberly Tap-Moberly 161kV Ckt Z1 Line Loading	-	-	-	-	101.10%	102.30%	-	-	-	-
P6:THILL-MCCRD-KINGDM:THILL-SALISBRY											
	Moberly Tap-Moberly 161kV Ckt Z1 Line Loading	112.10%	112.30%	111.60%	114.00%	111.80%	113.30%	112.10%	115.40%	115.30%	115.10%
	Thomas Hill-Moberly Tap 161kV Ckt 1 (100C*) Line Loading	-	-	-	-	-	-	-	100.20%	-	-

Since AECI Facility Ratings are based on continuous load durations, criteria B4.d.iii applies and circuits that are loaded above 130% must comply with the standard.

Criteria B5, B6

AECI does not have any additional circuits that must comply with the standard based on criteria B5 or B6.

**Summary**

Table 3 is a comprehensive listing of facilities that were identified through this 2017 assessment required by PRC-023 requirement R6.

**Table 3 - Comprehensive Listing of Identified Facilities**

FACILITY TYPE	FACILITY	ATTACHMENT B CRITERIA	FIRST CALENDAR YEAR THAT CRITERIA APPLIES	NOTES
Line	Adair3-Novelty 161kV ckt. 1	B1	2013	
Line	Apache Tap-Barnett 161kV ckt. 1	B1	2013	
Line	Barnett-Eldon 161kV ckt. 1	B1	2013	
Line	Chouteau Plant #1-Maid 161 kV ckt. 1	B1	2015	
Line	Chouteau Plant #2-Sportsmans Acres 161 kV ckt. 1	B1	2015	
Line	Coffman-Lebanon #2 161 kV ckt. 1	B1	2013	
Line	Collins (OSCEOLA)-Stockton 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	Cottleville-Kisker 161kV ckt. 1	B1	2013	
Line	Cox Creek-Thayer 161kV ckt. 1	B1	2013	
<del>Line</del>	<del>Dardenne Lake-St. Louis 161 kV ckt. 1</del>	<del>B4</del>	<del>2014</del>	Not identified in 2017 assessment
Line	Dardenne-Troy 161kV ckt. 1	B1	2013	
Line	Enon-Ethyln 161kV ckt. 1	B1	2013	
Line	Enon-Lake St. Louis 161 kV ckt. 1	B4, B1	2015	Identified in 2017 under B1
Transformer	Enon 345/161kV xfmr. 1	B1	2013	
Line	Essex-Idalia 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	Essex-Stoddard 161kV ckt 1	B1	2013	
Transformer	Essex 345/161kV xfmr. 1	B1	2013	
Line	Fairport-Gentry 161kV ckt. 1	B1	2013	
Line	Fairport-Hickory Creek 161kV ckt. 1	B1	2013	
Line	Fairport-Osborn 161kV ckt. 1	B1	2013	
Transformer	Fairport 345/161kV xfmr. 1	B1	2013	
Line	Franks-Fort Wood 161 kV ckt. 1	B1	2015	
Line	Franks-South Crocker 161 kV ckt. 1	B1	2014	
Transformer	Franks 345/161kV xfmr. 1	B1	2015	
Line	Fredericktown-Fredericktown(UE) 161kV ckt. 1	B1	2013	
Line	Hannibal West-Spalding 161kV ckt. 1	B1	2013	
Transformer	Huben 345/161kV xfmr. 1	B1	2013	
Line	Jim Hill-St. Francis 161 kV ckt. 1	B1	2014	
Line	Keystone-Fisher Tap 138 kV	B1	2015	
Line	Kingdom City-Millersburg 161kV ckt. 1	B1	2015	
Transformer	Kingdom City 345/161kV xfmr. 1	B1	2013	
Line	Lead Hill-Clevenger Cove 161 kV ckt. 1	B1	2017	
Line	Lebanon-Orla 161 kV ckt. 1	B1	2014	
Transformer	Maries-Old Maries 161/138 kV xfmr. 1	B1	2014	
Line	Marion Tap-Spalding 161kV ckt. 1	B1	2013	

FACILITY TYPE	FACILITY	ATTACHMENT B CRITERIA	FIRST CALENDAR YEAR THAT CRITERIA APPLIES	NOTES
Line	Maryville-Nodaway 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	McBaine-Boone 161 kV ckt. 1	B1	2015	
Line	Millersburg-Boone 161kV ckt. 1	B1	2017	
Line	Missouri City-Maurer Lake 161kV ckt. 1	B1	2013	
Line	Moberly Tap-Moberly 161kV ckt. 1	B1	2013	
Line	Montgomery City-Williamsburg 161kV ckt. 1	B1	2013	
Line	Montrose-Clinton 161 kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	New Madrid-New Madrid (SPA) 161 kV	B1	2017	
Line	New Madrid-Sikeston 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	New Madrid-Tiptonville 161kV ckt. 1	B1	2013	
Transformer	New Madrid 345/161kV xfmr. 1	B1	2013	
Transformer	New Madrid 345/161kV xfmr. 2	B1	2013	
Line	Nodaway-Gentry 161kV ckt. 1	B1	2013	
Line	<del>North Warsaw-Edmonson 161kV ckt. 1</del>	<del>B4</del>	<del>2013</del>	No longer exists, replaced by Truman-Lost Valley 161 kV
Line	Oran-Morley 161kV ckt. 1	B1	2013	
Line	Palmyra (UE)-South River 161 kV ckt. 1	B1	2015	
Transformer	Palmyra 345/161kV xfmr. 1	B1	2013	
Line	Pike-Cyrene 161kV ckt. 1	B1	2013	
Transformer	Salem 345/161 kV xfmr. 1	B1	2017	
Line	Silver City-Bristow 138 kV ckt. 1	B1	2015	
Transformer	Sportsman 345/161kV xfmr. 1	B4	2013	
Transformer	Sportsman 345/161kV xfmr. 2	B4, B1	2013	Identified in 2017 under B1
Line	Springfield-Nixa 1 161 kV ckt. 1	B1	2015	
Line	Stockton-Morgan 161 kV	B1	2011	
Transformer	Sullivan 161/138kV xfmr. 1	B1	2015	
Line	Thomas Hill-Adair1 161kV ckt. 1	B1	2013	
Line	<del>Thomas Hill-Moberly Tap 161kV ckt. 1</del>	<del>B4</del>	<del>2013</del>	Line was not identified in 2014 assessment.
Line	Thomas Hill-Salisbury 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Transformer	Thomas Hill 345/161kV xfmr. 1	B1	2013	
Line	Troy-Auburn 161 kV ckt. 1	B1	2015	
Line	Truman-Clinton 161kV ckt. 1	B1	2013	In SPP's 2014 assessment
Line	Truman-Lost Valley 161 kV ckt. 1	B1	2017	
Line	Warrenton-Big Creek 161kV ckt.1	B1	2013	
Line	Wedekind Tap-Fredericktown 161kV ckt. 1	B1	2013	