Massaro, Luly (PUC)

From: Gregory Schultz <gSchultz@riag.ri.gov>
Sent: Friday, March 3, 2023 4:45 PM
To: Massaro, Luly (PUC)
Cc: Marcaccio, Andrew; O'Brien, Celia; Ramos, Adam M.; Briggs, Stephanie; Begnal, Nicole Ann; Toronto, Susan M; LaBarre, Alan T; Constable, Ryan; Scanlon, Joanne; Castro, Kathy R; Rooney, Christopher J; Oliveira, Jeffrey; Ellen Golde; Bell, John (DPUC); Contente, Al (DPUC); Bailey, Robert (DPUC); Hagopian, Jon (DPUC); Hogan, Margaret (DPUC); Roberti, Paul (DPUC); Djeffron@aol.com; gboothpe@gmail.com; Lkushner33@gmail.com; Vitali, Albert (DOA); Russolino, Nancy (DOA); Kearns, Christopher (DOA); Beland, Shauna (DOA); Owen, William (DOA); Moretta, Matthew (DOA - Contractor); Nicholas Vaz; Massaro, Luly (PUC); WilsonFrias, Cynthia (PUC); Bianco, Todd (PUC); Nault, Alan (PUC); Rodvien, Emma (PUC); ms@green-ri.com
Subject: RE: Docket No. 22-53-EL - Electric FY2024 ISR Plan - RI Energy's Response to Attorney General & Rebuttal Testimony
Attachments: 22-53-EL-FY 2024 Electric ISR DPUC Responses to RIE DR's Set 1 (3-3-23).pdf

Dear Luly:

Attached for filing in the above-referenced docket is the electronic version of the Division's Responses to Rhode Island Energy's First Set of Data Requests Issued February 17, 2023.

Regards,

Greg

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Rhode Island Energy 1-1

Request:

On December 15, 2022, the Rhode Island Executive Climate Change Coordinating Council ("EC4") approved a final draft of the Rhode Island 2022 Climate Update ("EC4 Climate Update"). A copy may be downloaded at: https://climatechange.ri.gov/act-climate/working-draft-workplan. What is the extent of the Division of Public Utilities and Carriers' ("Division") participation in EC4 meetings? Is the Division in general alignment with the priority actions for the electric sector as described within the EC4 Climate Update (pages 4-7)? If not, please explain.

Response:

Pursuant to R.I. Gen Laws 42-6.2-1, the Division is a member agency of the EC4. The Division's participation in the EC4 is a matter of public record, ascertainable from the EC4s meetings. The Division voted to issue the EC4s RI 2022 Climate Update Report dated December 15, 2022.

Prepared by: Paul Roberti

Rhode Island Energy 1-2

Request:

Looking at the priority actions in Table X of the EC4 Climate Update (pages 71-72), does the Division agree that modernizing the electric grid to enable the electric grid to more readily integrate distributed energy resources and improve customer energy management is a priority action? If no, please explain.

Response:

The Division voted to issue the EC4s RI 2022 Climate Update Report dated December 15, 2022.

Prepared by: Paul Roberti

Rhode Island Energy 1-3

Request:

Page 99 of the EC4 Climate Update states that the: "[u]pdate reflects on past progress and identifies our **priority short-term actions needed** to stay on the right path to meet our 2030 emissions mandate, **in hope these priorities will be well established by 2025**. The 2025 Climate Strategy will then build out workplans for each sector to meet our mandates and set us on a viable path to reach net-zero emissions by 2050." (emphasis added.)

(i) Does the Division believe that modernizing the electric grid to enable the electric grid to more readily integrate distributed energy resources and improve customer energy management is a priority short-term action item? If no, please explain. If yes, what is the Division's definition of "short-term" in regard to this action item?

(ii) What would the Division consider to be "well established" by 2025 in regard to modernizing the electric grid to enable the electric grid to more readily integrate distributed energy resources and improve customer energy management?

Response:

(i) The Division voted to issue the EC4s RI 2022 Climate Update Report dated December 15, 2022. As set forth on page 72 of the report, modernizing the electric grid is one of six priority actions in the electric sector.

(ii) The Division interprets the reference to "well-established" at page 99 of the report as meaning that progress would occur collectively in all of the priority actions across all sectors. The Division does not believe that the report mandates any specific progress in any specific timetable for the modernization of the electric grid. The report notes that modernization of the electric grid will include considerations of timing of investments, scale of investments and use of technologies. The report presumes that the utility will propose investments. The report also provides that "all actions must be considered within the larger framework of policy objectives, and should be refined to improve affordability, equity, land use, and other policy objectives." The Division will respond to all proposed investments within the scope of the PUC's docket process.

Prepared by: Paul Roberti

Rhode Island Energy 1-4

Request:

Reclosers
Notwithstanding the Company's classification under the Infrastructure, Safety, and Reliability ("ISR") Plan, in terms of purpose, does the Division believe there is a difference between advanced reclosers and mainline reclosers? Please explain.

Response:

The Company has not performed a protective coordination study and did not provide detailed specifications for the advanced reclosers or the mainline reclosers, thus the Division cannot provide a precise answer. Notwithstanding this lack of information, the Division believes that there should not be any functional difference between the reclosers themselves while the controls, communications and detailed settings will vary. A recloser could have the manufacturer's controls and microprocessor built into the device or the recloser could have a different manufacturer's microprocessor control. These reclosers and associated controls can take on many different forms and may include simple overcurrent fault detection, could have high impedance fault detection, or could have more sophisticated controls allowing for two-way feed, fault detection protection and self-healing circuit capabilities. These are just a few of the variables determined by preparing a protective coordination study.

Prepared by or under the supervision of: Gregory L. Booth, PE

Rhode Island Energy 1-5

Request:

Systemwide Fault Current Availability Protective Device Coordination Study
In connection with the issuance of Division 1-25, please provide an example or examples of a systemwide fault current availability protective device coordination study that was conducted for the purpose of identifying recloser locations.

Response:

These studies are utility specific and proprietary to each utility. The Company should be aware of these studies and have its own examples and studies. Notwithstanding, attached as *Attachment RIE 1-5 Div Response*, is representative study for a utility which serves approximately 1,650 square miles (Rhode Island is approximately 1,214 square miles). In addition to this study, the utility has a protective coordination philosophy, a construction work plan and associated budget outlining the details of the protective equipment capital cost and installation years, and the associated loan documents for the funding. These additional planning documents, excluding the loan documents, form the equivalent of an ISR Plan, but are proprietary and not available to be produced. In addition, Delaware has an ISR Plan process and Delmarva Power (serving approximately 1,982 square miles) has stated it prepares systemwide protective coordination studies approximately every 2 years, and that a systemwide study is what established the number and location for recloser additions included in it program and budget. This type of study process is consistent with the Rural Utilities Service ("RUS") guidelines utilized by approximately 900 electric utility companies participating under the Rural Electrification Act.

Prepared by or under the supervision of: Gregory L. Booth, PE

[redacted]

[redacted]

SYSTEM SECTIONALIZING STUDY

JANUARY 2017

Power Services
Engineering and Management Services®

PowerServices, Inc.
1616 E. Millbrook Road, Suite 210
Raleigh, North Carolina 27609
Phone: (919) 256-5900 | Fax: (919) 256-5939
www.powerservices.com

[redacted]

[redacted]

SYSTEM SECTIONALIZING STUDY

JANUARY 2017

PowerServices, Inc.
DBA PowerServices of North Carolina, Inc.
1616 E. Millbrook Road, Suite 210
Raleigh, North Carolina 27609
[redacted]
Phone: (919) 256-5900

I hereby certify this Sectionalizing Study was prepared by me or under my direct supervision. I also certify I am a duly registered professional engineer under the laws of the [redacted]

Homer E. Montsinger IV, P.E.

TABLE OF CONTENTS

SECTIONALIZING STUDY OVERVIEW

1 OVERVIEW

This Sectionalizing Study of the [redacted] System has been performed to evaluate the appropriateness of the existing device locations and settings. Additionally, the study was performed to enhance system protection, reliability and to provide practical mitigation of serious accidents including arc flash hazards.

This Sectionalizing Study was performed as a part of the Cooperative's periodic update of system planning. Its purposes included:

1. A complete overview of the system's sectionalizing.

2. A series of existing system fault current calculations predicting the likely maximum and minimum (based on assumed fault impedance using CRN Bulletin recommendations) fault levels throughout the system.

3. An evaluation of the existing substation and distribution line protection devices.

4. Recommendations for device additions, changes, and setting modifications to improve reliability and system performance while protecting personnel and system equipment while adhering to the Cooperative's protective coordination philosophy.

5. Determining the adequate interruption of maximum calculated fault current levels combined with a practical detection of minimum fault current levels based on generally accepted industry practices, RUS, and NRECA standards and CRN publications.

The sectionalizing study has been organized as follows. Section two lists all existing devices by substation area and uses a color coding scheme to emphasize the devices with an identified deficiency. Section three contains a table of proposed devices for each substation area listing all devices with loading, fault levels and down-line conductor size. Section four is a summary of the recommended device changes. Sections five and six contain the TCC curves for the existing and proposed devices respectively. Section seven contains the WindMil model one-line circuit maps with devices indicated by circuit. Section eight is the source impedance data

1 OVERVIEW

by delivery point as provided by [redacted] Throughout this report, red text indicates a setting change recommendation.

Study Basis

The recommendations contained in this study are based on the incorporation of modern technology, and communications with the Cooperative's management, engineering and operations staff. The recommendations contained herein are intended to achieve a reasonable balance of:

1. System reliability enhancement
2. Personnel protection
3. Maximum fault current interruption capability
4. Reasonably anticipated minimum fault current detection capability (based on 30 ohm rule), recognizing it is impossible to detect 100% of all minimum fault current situations
5. Existing and short term load growth
6. Load transfer capability and contingency analysis

As the system load increases and system improvements are implemented, the specific line sections affected should be re-evaluated immediately. In addition, the entire system should be evaluated periodically based on the changes in fault current levels and system configuration every five years. This will also allow the system sectionalizing to remain balanced with the system operating practices to mitigate hazards for personnel.

Power Delivery

The system currently receives service from [redacted] at 115 kV and 69 kV. The existing system fault current calculations contained in this study were predicated on the normal system feeds for the 25 kV and 12.47 kV systems using the Milsoft WindMil engineering model. The source impedance data used in this model for the delivery points was provided by [redacted] and is included in Section 8. [redacted] maintains transmission lines from two of the 115 kV deliveries; Table 1-1 shows the existing and proposed relay settings for the transmission protection.

Substation Transformers

Existing substation transformers are protected by a combination of station fuses and high side station relaying. The substation transformer protection was evaluated by reviewing the coordination of each station's high side protection to both the transformer's damage and inrush curves. When applicable, proposed fuse sizes and relay settings have been standardized to promote operational efficiency. The following tables provide the existing and proposed settings. Table 1-2 shows the existing and proposed relay settings for substation transformer protection.

1 OVERVIEW

Table 1-1: Transmission Protection: Existing and Proposed Settings

Transmission Protection																					
Transmission Line	Device Type	Phase										Ground									
		Voltage	CT Ratio	Curve		Tap		Time Dial		Inst.		CT Ratio	Curve		Tap		Time Dial		Inst.		
Belfield to Three Creeks	BE-851	115	200:5	VI		4.70		6.00		37.50		200:5	VI		4.70		5.00		16.00		
Elams	BE1-51	115	200:5	VI		3.75		8				200:5	VI		1.25		1				

Table 1-2: Substation Transformer Protection: Existing and Proposed Settings

High Side Protection																											
Substation	Device Type	HS-LS Voltages	Transformer Size		Phase								Ground								XO Relay							
					CT Ratio	Curve		Tap		Time Dial		Inst.		CT Ratio	Curve		Tap		Time Dial		Inst.		CT Ratio	Curve		Tap		Time Dial		Inst.	
Beechwood 12.47kV	Fuses	115-12.47	10/11.2/14	7.40%		PF		75																					
Beechwood 25kV	BE1-851	115-25	12/16/20	8.58%	400:5	V2-VI		3.3	2	4.00		20.50		400:5	V2-VI		1.00		2.00		--		600:5	V-VI		3.00		6.00	3	--	
Belfield	BE1-951	115-25	15/20/25	8.36%	200:5	V2-VI		4.7		3.00		25.00		200:5	V2-VI		1.00		1.00		14.30		600:5	V2-VI		3.00		5.00	3	--	
Black Branch	BE1-951	115-12.47	15/20/25	10.08%	300:5	V2-VI		3.1		1.00		22.00		300:5	V2-VI		1.00		1.50		--		600:5	V2-VI		3.00		3.00		--	
Boydton	Fuses	115-12.47	10/11.2/14	7.83%		PF		60																					
Brink	Fuses	115-25	3 - 2.5/2.8/3.5	8.30%		PE		50	40																				
Burlington Drive	BE1-951	115-12.47	2 - 20/26/33.3	9.51%	250:5	V1-VI		4.8		3.60		46.00		250:5	V1-VI		2.00		0.20		7.80		600:5	VI		5.50		7.20		--	
Clarksville	Fuses	115-12.47	10/11.2/14	6.08%		SMD-2B		65E																					
Climax	BE1-851	69-25	10/11.2/14	8.09%	200:5	B-VI		4.2		3.00		30.00		200:5	B-VI		2.10		1.50		40.00		600:5	B-VI		3.70		4.00	2	40.00	
Crystal Hill-T1-West	BE1-11f	115-25	10/12.5/14	8.36%	150:5	V2-VI		3.6		4.00		22.80		150:5	V2-VI		3.60		1.00		13.40		600:5	V2-VI		5.00	3	2.00		--	
Crystal Hill-T2-East	BE1-851	115-25	10/12.5/14	8.45%	150:5	V2-VI		3.3		4.00		20.50		150:5	V2-VI		1.00		2.00		--		600:5	VI		3.00		6.00	2	--	
DC Jackson	Fuses	115-12.47	10/11.2/12.5	8.95%		PF		60																					
Ebony	CO-9	115-25	10/12.5/14	8.85%	150:5	VI		4		3.00		--		--	--		--		--		--		300:5	B - VI		5.00		3.00		--	
Emporia	BE1-851	115-25	12/16/20	8.80%	200:5	V2-VI		3.8		4.00		20.00		--	--		--		--		--		600:5	V1-VI		3.00		7.50	3	--	
Freeman	SEL 351A	115-12.47	10/11.2	7.59%	100:5	U3-VI		6.3		2.20		35.00		100:5	U3-VI		1.25		1.00		21.00		600:5	U3-VI		5.10	3	6.20	3	--	
Gasburg	BE1-851	69-25	10/11.2	7.00%	200:5	V2-VI		5		0.80	3	34.00		--	--		--		--		--		400:5	V2-VI		4		3		24	
Gretna	CO-9	69-12.47	10/11.2/12.5/14	7.72%	200:5	VI		3		3.00		--		--	--		--		--		--		600:5	VI		1.50	3	9.00	3	--	
Grit	Fuses	115-12.47	10 MVA	7.04%		PF		60																					
Hickory Grove - CP	Fuses	115-4.16	10/11.2/14	6.03%		SMD-2B		65E																					
Hickory Grove - Dist	Fuses	115-12.47	3.75/4.687/5.25	6.67%		SMD-2B		30E																					
Huber	CO-9	115-25	15/20/25	9.08%	600:5	VI		2		2.50		70.00		--	--		--		--		--		400:5	VI		3.00		6.50		--	
Island Creek	Fuses	115-12.47	3 - 1.25 MVA	7.50%		PE		30	25																				
Jones Store	BE1-11f	115-12.47	15/20/25/28	9.02%	300:5	V2-VI		3.1		1.00		20.00		300:5	V2-VI		1.00		1.50		--		600:5	V2-VI		3.00		3.00		--	
Mt. Airy	SEL 351A	69-12.47	10/11.2	8.11%	100:5	U3-VI		7.05		3.00		38.00		100:5	U3-VI		1.40		1.00		25.20		600:5	U3-VI		5.00	3	5.50	3	--	
Northview	BE1-951	115-12.47	10/15.68	9.02%	200:5	V2-VI		3.2		3.00		15.30		200:5	V2-VI		3.20		5.00		15.30		600:5	V2-VI		3.00		8.00	3	--	
Omega	BE1-951	115-25	15/20/25	8.27%	200:5	V2-VI		4.7		3.00		24.00		200:5	V2-VI		3.50		7.00		15.00		600:5	V2-VI		3.00		6.00	3	--	
Sheva	SEL 351A	69-12.47	10/12.5/14	8.09%	150:5	U3-VI		5.86		4.00		29.52		150:5	U3-VI		5.86		1.00		29.52		600:5	U3-VI		5.00	3	4.00	3		
Shockoe	Fuses	69-12.47	7.5/8.4/9.375/10.5	7.20%		PF		100	40																				
Three Creek	SEL 351A	115-25	12/16/20	8.50%	200:5	U3-VI		4.75		4.00		23.85		200:5	U3-VI		4.75		1.00		14.25		600:5	U3-VI		5.00	3	4.00	3	--	

1 OVERVIEW

Substation Feeder Protection

Existing feeder protection is provided by using electronic recloser controls. As much as practical, settings for all electronically controlled substation reclosers will be standardized into two sets of settings.

Feeders with smaller conductor (less than 336 ACSR) exits will use the following settings:

Type (Ph/Grd)	Phase Setting	Phase Fast	Phase Slow	Ground Setting	Ground Fast	Ground Slow
235/125	235	103 + 0.08	112 + 0.08 x 2	125	111 + 0.08	164 + 0.15 x 2

* Electronic recloser controls should have the "sequence coordination" function enabled.

Feeders with larger conductor (336 ACSR and larger) exits will use the following settings:

Type (Ph/Grd)	Phase Setting	Phase Fast	Phase Slow	Ground Setting	Ground Fast	Ground Slow
450/170	450	103 + 0.15	112 + 0.15 x 2	170	111 + 0.15	164 + 0.2 x 2

* Electronic recloser controls should have the "sequence coordination" function enabled.

These proposed settings will provide back feed capability and maximum coordination for three-phase devices.

These new settings will coordinate with electronically controlled line reclosers with proposed settings, hydraulic line reclosers with a maximum size of 100 amps, and fuses with a maximum size of 50 (80 will coordinate with large conductor settings) amps for Type "T" fuses .

Table 1-3 shows the existing and proposed recloser settings for substation feeder protection.

1 OVERVIEW

Table 1-3: Substation Feeder Protection: Existing and Proposed Settings - Reclosers

Circuit	Recloser Type	Control Type	Low Side Protection: Phase Pick Up		Phase Fast TCC1: Curve		Time Adder		Mult.		Phase Slow TCC2: Curve		Time Adder		Mult.		Ground Pick Up		Ground Fast TCC1: Curve		Time Adder		Mult.		Ground Slow TCC2: Curve		Time Adder		Mult.		Feeder Exit Conductor
Beechwood																															
Palmer Springs	RKE	ME	400	450	104	103	0.05	0.15	--	--	111	112	0.15	0.15	--	2	140	170	117	111	0.05	0.15	--	--	131	164	--	0.2	--	2	4/0 ALURD
Americamps	VWVE	ME	400	450	104	103	0.05	0.15	--	--	111	112	0.15	0.15	--	2	160	170	117	111	0.10	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
South Hill	VWE	ME	400	235	104	103	--	0.08	--	--	111	112	--	0.08	--	2	140	125	117	111	--	0.08	--	--	133	164	--	0.15	--	2	1/0 ACSR
Tangelwood	VWVE	ME	400	450	104	103	0.05	0.15	--	--	111	112	0.15	0.15	--	2	160	170	117	111	0.10	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Belfield																															
310 North	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Adams Grove	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Airport	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Shopping Center	VWVE	ME	360	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	200	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Blackbranch																															
Chase City	RXE	ME	320	235	104	103	0.10	0.08	--	--	117	112	0.30	0.08	--	2	140	125	111	111	0.10	0.08	--	--	135	164	--	0.15	--	2	1/0 ACSR
Fire Tower	WE	ME	340	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Wylliesburg	RXE	ME	320	235	105	103	0.10	0.08	--	--	117	112	--	0.08	--	2	140	125	113	111	0.25	0.08	--	--	137	164	1.00	0.15	--	2	1/0 ACSR
Boydton																															
Prison	VWVE	ME	400	450	105	103	0.10	0.15	--	--	133	112	--	0.15	--	2	160	170	111	111	0.10	0.15	--	--	141	164	--	0.2	--	2	336 ACSR
Ridge	VWVE	ME	400	450	105	103	--	0.15	--	--	133	112	0.15	0.15	--	2	160	170	111	111	--	0.15	--	--	141	164	--	0.2	--	2	336 ACSR
Brink																															
Brink Store	VWVW 27	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	140	170	113	111	--	0.15	--	--	131	164	--	0.2	--	2	336 MCM
G.B. Ligon	VWVW 27	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	140	170	113	111	--	0.15	--	--	131	164	--	0.2	--	2	336 MCM
Clarksville																															
Clarksville	VWE	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	100	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	795 ACSR
Russel Stover	VWE	ME	520	450	104	103	--	0.15	--	--	118	112	--	0.15	--	2	160	170	111	111	--	0.15	--	--	135	164	--	0.2	--	2	795 ACSR
Island Creek	VWE	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	100	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	477 ACSR
Climax																															
Climax	VWVE	ME	400	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	240	125	113	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Concord	VWVE	ME	400	450	105	103	--	0.15	--	--	133	112	--	0.15	--	2	240	170	113	111	--	0.15	--	--	131	164	--	0.2	--	2	500 MCM
Rondo	VWVE	ME	400	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	240	125	113	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Crystal Hill																															
Crystal Hill East	VWVE	ME	400	450	104	103	--	0.15	--	--	111	112	--	0.15	--	2	180	170	117	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Crystal Hill West	VWVE	ME	400	450	104	103	1.00	0.08	--	--	117	112	0.20	0.08	--	2	180	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	336 ACSR
DC Jackson																															
Morgans Mill	VWE	ME	400	450	104	103	--	0.15	--	--	117	112	0.10	0.15	--	2	140	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Clarks Pool	WE	ME	280	450	104	103	--	0.15	--	--	111	112	--	0.15	--	2	140	170	117	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Ebony																															
Ebony	VWVE	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	180	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Tangelwood	VWVE	ME	280	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	180	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Emporia																															
58 West	VWVE	ME	400	235	104	103	0.05	0.08	--	--	117	112	0.05	0.08	--	2	180	125	111	111	0.10	0.08	-	--	131	164	--	0.15	--	2	1/0 ACSR
301 South	VWVE	ME	420	235	104	103	0.05	0.08	--	--	133	112	--	0.08	--	2	240	125	111	111	--	0.08	--	--	141	164	--	0.15	--	2	3/0 ACSR
Low Ground	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	106	111	--	0.08	--	--	135	164	--	0.15	--	2	3/0 ACSR

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Table 1-3 cont.: Substation Feeder Protection: Existing and Proposed Settings - Reclosers

Low Side Protection																														
Circuit	Recloser Type	Control Type	Phase Pick Up		Phase Fast TCC1						Phase Slow TCC2						Ground Pick Up		Ground Fast TCC1						Ground Slow TCC2						Feeder Exit Conductor
					Curve		Time Adder		Mult.		Curve		Time Adder		Mult.				Curve		Time Adder		Mult.		Curve		Time Adder		Mult.		
Freeman																														
Pleasant Shade	VWE	ME	400	450	104	103	0.05	0.15	--	--	117	112	0.10	0.15	--	2	140	170	111	111	0.05	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Rocky Quarry	VWE	ME	400	450	104	103	0.05	0.15	--	--	117	112	0.10	0.15	--	2	140	170	111	111	0.05	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Smokey Ordinary	VWE	ME	400	235	104	103	0.05	0.08	--	--	117	112	0.10		--	2	140	125	111	111	0.05	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Gasburg																														
46 North	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	141	164	--	0.15	--	2	1/0 ACSR
Gasburg	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	141	164	--	0.15	--	2	1/0 ACSR
Valentines	VWVE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	141	164	--	0.15	--	2	1/0 ACSR
Gretna																														
40 East	VWVE	ME	340	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	135	164	--	0.15	--	2	2/0 ACSR
40 West	VWVE	ME	400	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	160	170	111	111	--	0.15	--	--	135	164	--	0.2	--	2	336 ACSR
Transco	VWVE	ME	340	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	135	164	--	0.15	--	2	2 ACSR
Grit																														
Grit	VWE	ME	320	450	105	103	--	0.15	--	--	133	112	--	0.15	--	2	140	170	111	111	--	0.15	--	--	135	164	--	0.2	--	2	336 ACSR
Level Run	VWE	ME	320	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	135	164	--	0.15	--	2	2/0 ACSR
Renan	VWE	ME	320	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	135	164	--	0.15	--	2	2/0 ACSR
Hickory Grove																														
Republican Grove N	200-L	Hyd	--	235	--	103	--	0.08	--	--	--	112	--	0.08	--	2	--	125	--	111	--	0.08	--	--	--	164	--	0.15	--	2	1/0 ACSR
Republican Grove S	70-L	Hyd	--	235	--	103	--	0.08	--	--	--	112	--	0.08	--	2	--	125	--	111	--	0.08	--	--	--	164	--	0.15	--	2	1/0 ACSR
Republican Grove W	1Ø 50L	Hyd	Multi-Phase project																											1/0 ACSR
Island Creek																														
Cedar Grove	RXE	ME	340	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	140	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Ponderosa	VWVE	ME	340	450	104	103	--	0.15	--	--	117	112	--	0.15	--	2	140	170	111	111	--	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Jones Store																														
Chase City	VWVE	ME	280	450	104	103	0.10	0.15	--	--	117	112	--	0.15	--	2	140	170	111	111	0.10	0.15	--	--	131	164	--	0.2	--	2	336 ACSR
Finchley	VWVE	ME	340	450	104	103	0.10	0.15	--	--	117	112	--	0.15	--	2	140	170	111	111	0.10	0.15	--	--	135	164	--	0.2	--	2	246 ACSR
Mt. Airy																														
40 East	Nova STS	ME	320	235	105	103	0.10	0.08	--	--	117	112	--	0.08	--	2	140	125	113	111	0.25	0.08	--	--	137	164	1.00	0.15	--	2	1/0 ACSR
Renan	Nova STS	ME	320	450	105	103	0.10	0.15	--	--	117	112	--	0.15	--	2	140	170	113	111	0.25	0.15	--	--	137	164	1.00	0.2	--	2	336 ACSR
Riceville	Nova STS	ME	320	235	105	103	0.10	0.08	--	--	117	112	--	0.08	--	2	140	125	113		0.25	0.08	--	--	137	164	1.00	0.15	--	2	1/0 ACSR
Northview																														
Union Level	VWVE	ME	320	235	105	103	0.05	0.08	--	--	133	112	0.15	0.08	--	2	160	125	111	111	0.05	0.08	-	--	135	164	--	0.15	--	2	1/0 ACSR
Rt 58	VWVE	ME	400	450	105	103	0.05	0.15	--	--	133	112	0.15	0.15	--	2	160	170	111	111	0.05	0.15	-	--	135	164	--	0.2	--	2	336 ACSR
Omega																														
Clarksville	VWVE	ME	400	235	104	103	0.10	0.08	--	--	117	112	--	0.08	--	2	180	125	111	111	0.10	0.08	--	--	135	164	--	0.15	--	2	1/0 ACSR
Lewis Cole	VWVE	ME	400	235	104	103	0.10	0.08	--	--	117	112	--	0.08	--	2	180	125	111	111	0.10	0.08	--	--	135	164	--	0.15	--	2	1/0 ACSR
South Boston	VWVE	ME	400	235	104	103	0.10	0.08	--	--	117	112	--	0.08	--	2	180	125	111	111	0.10	0.08	--	--	135	164	--	0.15	--	2	1/0 ACSR

1 OVERVIEW

Table 1-3 cont.: Substation Feeder Protection: Existing and Proposed Settings - Reclosers

Low Side Protection																													
Circuit	Recloser Type	Control Type	Phase Pick Up		Phase Fast TCC1						Phase Slow TCC2						Ground Pick Up		Ground Fast TCC1						Ground Slow TCC2						Feeder Exit Conductor
					Curve		Time Adder		Mult.		Curve		Time Adder		Mult.				Curve		Time Adder		Mult.		Curve		Time Adder		Mult.		
Sheva																														
Feeder 1	VWVE	ME	400	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	240	125	105	111	--	0.08	--	--	135	164	0.03	0.15	--	2	2 ACSR
Feeder 2	VWVE	ME	400	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	240	125	105	111	--	0.08	--	--	135	164	0.03	0.15	--	2	2 ACSR
Shockoe																														
832 East	VWE	ME	400	235	104	103	0.10	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	0.10	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Java	VWE	ME	280	235	104	103	--	0.08	--	--	117	112	--	0.08	--	2	140	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Spring Garden	VWE	ME	340	235	105	103	--	0.08	--	--	133	112	--	0.08	--	2	100	125	111	111	--	0.08	--	--	131	164	--	0.15	--	2	1/0 ACSR
Three Creeks																														
Industry Parkway	VWVE	ME	400	450	105	103	--	0.15	--	--	133	112	--	0.15	--	2	240	170	105	111	0.03	0.15	--	--	135	164	--	0.2	--	2	336 ACSR

1 OVERVIEW

Line Reclosers

Line protection for the distribution system is provided by a combination of single phase hydraulic and three-phase electronically control reclosers. All single phase reclosers have been assumed to be 2-fast "A" curve operations and 2- slow "B" curve operations.

Settings for all electronically controlled line reclosers will be standardized to coordinate with the new substation feeder settings. These new settings (180-90) will coordinate with hydraulically controlled line reclosers up to size 70 Amp, and fuses with a maximum size of 30 Amps when using Type "T" fuses.

Type (Ph/Grd)	Phase Setting	Phase Fast	Phase Slow	Ground Setting	Ground Fast	Ground Slow
New Settings for All Electronic 3Ø Line Reclosers						
230/125	230	103 + 0.08	112 + 0.08 x 2	125	111 + 0.08	164 + 0.15 x 2
180/90	180	103 +0.02	112 + 0.03 x 2	90	111 + 0.02	164 + 0.10 x 2

*Electronic recloser controls should have the "sequence coordination" function enabled.

Distribution Fuses

Distribution expulsion fuses on the Cooperative's system are typically used on taps, transformers, and capacitors. The Cooperative currently uses type "T" fuse links to protect lines and devices within its service territory. The following are the recommendations and comments concerning the distribution fuses:

1. Distribution transformer fuse protection was evaluated in Cyme TCC for each transformer size to interrupt faults between the transformer damage curve and the transformer inrush curve.

2. Current limiting fuses should be installed to according to manufacturer's sizing and instructions in areas subject to fault current levels above 2500A.

3. Cascaded line fuses, or line fuses down-line of other line fuses should be coordinated by a skipping a size whenever possible.

1 OVERVIEW

The following tables can be used for sizing fuses for these applications.

Table 1-4: Proposed Fusing Practices – Electronic Three Phase Reclosers

Electronic Recloser/Relay Fusing Recommendations

When Using Type "T" Expulsion Fuses

DEVICE		MAX "T" FUSE
Station	450/170	80
Station / Line	230/125	50
Line	180/90	30

Table 1-5: Proposed Fusing Practices – Single Phase Hydraulic Reclosers

Single Phase Recloser Fusing Recommendations

When Using Type "T" Expulsion Fuses

DEVICE			Max "T" Fuse
REC	100	V4L	30
REC	70	V4L	25
REC	50	V4L	15
REC	35	V4L	12
REC	25	V4L	10
REC	15	V4L	6

Table 1-6: Proposed Fusing Practices – 12.47/7.2 kV-Y Installations

Distribution Transformer Fusing Recommendations When Using Type "STD" and "T" Expulsion Fuses

Single-Phase Transformer Size (kVA)	Three-Phase Transformer Size (kVA)	Transformer Rated Amperes	Expulsion Fuse
10	30	1.39	3 STD
15	45	2.08	5 STD
25	75	3.47	7 STD
37.5	112.5	5.21	8 T
50	150	6.94	10 T
75	225	10.42	12 T
100	300	13.89	15 T
167	500	23.19	25 T
250	750	34.72	40 T
333	1000	46.25	50 T

Table 1-7: Proposed Fusing Practices – 24.9-14.4 kV-Y Installations

Distribution Transformer Fusing Recommendations When Using Type "STD" and "T" Expulsion Fuses

Single-Phase Transformer Size (kVA)	Three-Phase Transformer Size (kVA)	Transformer Rated Amperes	Expulsion Fuse
10	30	0.69	1 STD
15	45	1.04	2 STD
25	75	1.74	3 STD
37.5	112.5	2.60	5 STD
50	150	3.47	7 STD
75	225	5.21	8T
100	300	6.94	10T
167	500	11.60	15T
250	750	17.36	20T
333	1000	23.13	30T

Table 1-8: Proposed Fusing Practices – 12.47/7.2 kV-Y Installations
Capacitor Fusing - From Cooper Power CA132034EN

Line to Line Voltage	Capacitor Unit Voltage	Three Phase Bank kVAR	Rated Line Current Amps	Recommended Fuse Link
12470	7200	150	6.9	8 T
		300	13.9	15 T
		450	20.8	20 T
		600	27.8	25 T
		900	41.7	40 K
		1200	55.6	50 K

Table 1-8: Proposed Fusing Practices – 24.9/14.4 kV-Y Installations
Capacitor Fusing - From Cooper Power CA132034EN

Line to Line Voltage	Capacitor Unit Voltage	Three Phase Bank kVAR	Rated Line Current Amps	Recommended Fuse Link
24900	14400	300	6.9	8 T
		450	10.4	10 T
		600	13.9	15 T
		900	20.8	20 T
		1200	27.8	25 K

EXISTING DEVICES

2 EXISTING DEVICES

Beechwood

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Americamps	PD.3474	Recloser 400-160 VWVE	50	70	59	12000	470	2754	2880	336 ACSR
	TR.17704001	S.D. Transformer-3500 (3)	36	46	47		236	2366	2714	1/0 ALURD
	PD.2377	Recloser Triple-Single	72	92	93	12000	236	2354	2706	1/0 ACSR
	TR.17758001	S.D. Transformer-167 (B)	0	10	0		200	391	0	6 ACSR
	PD.17758001	Recloser 50-L	0	19	0	3000	200	391	0	4 ACSR
	TR.17769001	S.D. Transformer-167 (A)	6	0	0		200	389	0	4 ACSR
	PD.17769001	Recloser 35-L	12	0	0	2100	199	388	0	4 ACSR
	PD.4501	Recloser 35V4E	14	15	11	2100	213	532	561	1/0 ACSR
Palmer Springs	PD.3471	Recloser 400-140 RKE	199	253	221	10000	239	5369	5605	4/0 ALURD
	PD.5111	Recloser 70-L	18	9	19	4200	230	2053	2611	1/0 ACSR
	PD.2114	Recloser 50-L	13	20	17	3000	230	2070	2631	1/0 ACSR
	PD.4175	Recloser 200-V4E	72	104	77	6000	219	1194	1596	2/0 ACSR
	PD.5860	Recloser 35-L	12	14	19	2100	208	861	1168	1/0 ACSR
	PD.2350	Recloser 50-H	38	20	19	1250	203	762	1038	1/0 ACSR
	PD.2351	Recloser 50-4H	9	33	25	2000	199	682	932	2/0 ACSR
	PD.2353	Recloser 25-H	0	9	0	625	196	658	0	6 ACSR
	PD.2497	Recloser 25-H	0	0	11	625	186	537	0	6 ACSR
	PD.2411	Recloser 25-H	6	19	8	625	187	540	740	1/0 ACSR
	PD.4885	Recloser Triple-Single	63	77	67	12000	219	1192	1594	2/0 ACSR
	PD.5542	Recloser 50-4H	0	39	0	2000	208	887	0	#8 CWC
	PD.2388	Recloser 35-H	24	0	0	875	205	843	0	6 ACSR
	PD.4390	Recloser 50-H	0	0	27	1250	200	709	0	1/0 ACSR
	PD.5541	Recloser 35-L	10	10	10	2100	194	637	869	4 ACSR
	PD.3200	Recloser 35-H	12	0	0	875	194	629	0	4 ACSR
South Hill	PD.3472	Recloser 400-140 VWE	151	137	105	12000	239	5352	5593	1/0 ACSR
	PD.3250	Recloser 50-L	0	25	0	3000	215	1246	0	6 ACSR
	PD.3313	Recloser 70-L	40	30	48	4200	197	731	978	1/0 ACSR
	PD.2052	Recloser 35-L	0	0	8	2100	178	494	0	#8 CWC
	PD.2053	Recloser 35-4H	18	15	20	1400	178	494	667	1/0 ACSR
	PD.5545	Recloser Triple-Single	65	51	23	12000	197	727	972	1/0 ACSR
	PD.2061	Recloser 50-H	32	0	0	1250	189	612	821	6 ACWC

2 EXISTING DEVICES

Beechwood

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Tanglewood	PD.3473	Recloser 400-160 VWVE	103	94	114	12000	470	2746	2874	336 ACSR
	TR.22793001	S.D.Transformer-500(B)250 (C)	0	4	16		220	984	0	1/0 ACSR
	PD.3574	Recloser 35-L	0	7	33	2100	219	976	0	1/0 ACSR
	PD.5543	Recloser 280-VWE	72	63	72	12000	437	1551	1870	1/0 ACSR
	PD.4548	Recloser 50-E	16	13	28	2500	415	1292	1607	1/0 ACSR
	TR.22768001	S.D. Transformer-250 (B)	0	6	0		214	540	0	6 ACSR
	TR.22747001	S.D. Transformer-167 (C)	0	0	2		199	386	0	6 ACSR
	PD.22747002	Recloser 25-H	0	0	5	625	198	384	0	6 ACSR
	TR.27798002	S.D. Transformer-167 (A)	2	0	0		196	376	0	6 ACSR
	PD.27798001	Recloser 25-H	5	0	0	625	195	375	0	6 ACSR
	TR.27778001	S.D. Transformer-250 (A)	9	0	0		208	507	0	6 ACSR
	PD.27778002	Recloser 35-H	18	0	0	875	208	506	0	6 ACSR
	TR.27768001	S.D. Transformer-167 (B)	0	3	0		194	370	0	6 ACSR
	PD.5758	Recloser 25-H	0	0	16	625	358	838	0	1/0 ACSR
	TR.27758001	S.D. Transformer-250 (C)	0	0	16		207	501	0	1/0 ACSR
	TR.22890001	S.D. Transformer-333 (A)	13	0	0		221	675	0	1/0 ACSR
	PD.22890001	Recloser 35-H	25	0	0	875	220	668	0	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Belfield

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
301 N.	PD.3476	Recloser 280-140 VWVE	147	98	86	12000	474	3580	3695	1/0 ACSR
	PD.185	Recloser 70-4E	0	18	0	4000	469	3224	0	6 ACSR
	PD.207	Recloser 70-E	11	10	9	2500	435	1884	2268	1/0 ACSR
	PD.158	Recloser 70-M	36	10	25	4000	417	1552	1923	1/0 ACSR
	PD.59	Recloser 35-EF-2	16	4	2		377	1062	1368	1/0 ACSR
	ST.60	S.D. Transformer-250 (A)	5	0	0		215	1282	0	1/0 ACSR
	PD.2656	Recloser 25-H	10	0	0	625	214	1258	0	1/0 ACSR
	PD.226	Recloser 70-M	45	9	12	4000	432	1833	2217	1/0 ACSR
	PD.227	Recloser 35-E	0	9	0	2100	428	1761	0	2 ACSR
	PD.64	Recloser 35-E	44	0	0	2100	414	1495	0	1/0 ACSR
Adams Grove	PD.3475	Recloser 280-140 VWVE	79	65	51	12000	474	3575	3692	1/0 ACSR
	PD.12	Recloser - TS	56	58	43	12000	430	1857	2238	2/0 ACSR
	PD.33908001	Recloser 35-E	26	0	0	2100	409	1426	0	1/0 ACSR
	PD.34063001	Recloser 100-V4E	22	50	32	6000	373	1005	1302	2/0 ACSR
	PD.34064001	Recloser 50-M	0	10	0	3000	371	993	0	1/0 ACSR
	PD.380	Recloser 50-V4E	20	39	28	3000	350	827	1087	1/0 ACSR
	PD.379	Recloser 35-E	8	0	0	2100	338	757	0	1/0 ACSR
	PD.375	Recloser 35-E	7	0	0	2100	330	717	0	6 ACSR
	ST.509	S.D. Transformer-333 (B,C)	0	16	14		205	559	0	1/0 ACSR
	PD.3196	Recloser 200-H	0	0	5	2500	198	515	0	4 ACSR
	PD.3193	Recloser 200-H	0	30	0	2500	200	522	0	1/0 ACSR
	PD.318	Recloser 35-H	0	0	22	875	201	528	0	1/0 ACSR
Airport	PD.3478	Recloser 280-140 VWVE	66	47	59	12000	475	3595	3706	1/0 ACSR
	ST.4	S.D. Transformer-500 (3)	15	13	16		234	1138	1153	1/0 ACSR
	PD.5094	Recloser 50-L	30	27	31	3000	233	1104	1130	1/0 ACSR
	PD.251	Recloser 180 VWVE	51	34	42	10000	467	3146	3376	1/0 ACSR
	PD.408	Recloser 35-E	0	0	5	2100	415	1604	0	6 ACWC
Shopping Center	PD.3477	Recloser 360-200 VWVE	70	75	56	12000	475	3587	3700	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Black Branch

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Chase City	PD.3481	Recloser 320-140 RXE	125	132	163	6000	239	5924	6169	1/0 ACSR
	PD.47111001	Recloser 50-L	0	0	23	3000	231	2706	0	1/0 ACSR
	PD.1585	Recloser 70-L	0	0	16	4200	227	1998	2561	1/0 ACSR
	PD.1598	Recloser 70-L	59	91	56	4200	224	1743	2259	1/0 ACSR
	PD.57265001	Recloser 50-4H	0	16	0	2000	182	533	0	6 ACSR
	PD.57257001	Recloser 50-4H	49	30	31	2000	180	507	686	1/0 ACSR
	PD.1554	Recloser 35-H	0	0	3	875	158	353	0	6 ACSR
	PD.1555	Recloser 35-H	17	0	0	875	158	351	0	6 ACSR
	PD.1553	Recloser 35-H	29	11	18	875	160	361	490	1/0 ACSR
	PD.1656	Recloser 15-H	12	0	0	375	142	274	0	6 ACSR
	PD.1655	Recloser 15-H	0	0	13	375	141	270	0	6 ACSR
Fire Tower	PD.3480	Recloser 340-140 WE	137	100	103	10000	239	6039	6250	1/0 ACSR
	PD.1694	Recloser 50-L	0	18	0	3000	214	1499	0	6 ACSR
	PD.995	Recloser 35-H	14	0	0	875	209	1037	0	1/0 ACSR
	PD.1685	Recloser 70-L	93	37	55	4200	205	929	1229	1/0 ACSR
	PD.1686	Recloser 25-H	0	0	39	625	182	539	0	#8 CWC
	PD.1754	Recloser 35-H	0	17	0	875	172	449	0	6 ACSR
	PD.1753	Recloser 50-H	38	0	0	1250	172	448	0	6 ACSR
	PD.1755	Recloser 25-H	16	0	0	625	152	341	0	6 ACSR
	PD.1695	Recloser 100-V4L	27	35	39	6000	205	932	1233	1/0 ACSR
	PD.1679	Recloser 35-H	0	21	0	875	183	549	0	6 ACWC
	PD.1678	Recloser 50-H	15	11	36	1250	183	550	738	1/0 ACSR
	PD.1777	Recloser 25-H	0	9	0	625	171	441	0	1/0 ACSR
	PD.1776	Recloser 25-H	9	0	0	625	167	410	0	6 ACWC
	PD.1775	Recloser 35-H	0	0	33	875	167	413	0	1/0 ACSR
	PD.1774	Recloser 15-H	0	0	15	375	157	351	0	6 ACWC
Wylliesburg	PD.3479	Recloser 320-140 RXE	68	52	35	6000	239	6093	6288	1/0 ACSR
	PD.47065001	Recloser 70-L	63	50	31	4200	223	1716	2274	1/0 ACSR
	PD.47078003	Recloser 35-4H	23	0	0	1400	212	1110	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Boydton

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Prison	PD.5376	Recloser 400-160 VWVE	120	100	108	12000	254	5012	5117	336 ACSR
	PD.5761	Recloser 140-6H	0	0	0	2500	241	1757	2235	4/0 ACSR
	PD.5762	Recloser 140-6H	0	0	0	2500	241	1755	2233	4/0 ACSR
	PD.635	Triple Single	98	97	81	12000	241	1716	2190	4/0 ACSR
	PD.2171	Recloser 70-L	21	51	48	4200	231	1229	1639	1/0 ACSR
	PD.2277	Recloser 25-4H	0	0	9	1000	224	1001	0	4 ACSR
	PD.2276	Recloser 35-H	0	28	0	875	206	642	0	4 ACSR
	PD.2275	Recloser 35-H	6	8	24	875	206	644	914	1/0 ACSR
	PD.2175	Recloser 70-L	76	32	38	4200	232	1264	1682	1/0 ACSR
	PD.2187	Recloser 25-H	22	0	0	625	204	672	0	#8 CWC
	PD.4515	Recloser 35-4H	25	14	19	1400	204	658	899	1/0 ACSR
	PD.5108	Recloser 35-H	4	3	15	875	200	607	830	1/0 ACSR
Ridge	PD.5375	Recloser 400-160 VWVE	117	140	132	12000	254	5015	5118	336 ACSR
	PD.5109	Recloser 70-L	33	36	34	4200	251	3558	4040	1/0 ACSR
	PD.1807	Recloser 35-H	0	18	0	875	203	665	0	2 ACSR
	PD.5572	Recloser 35-H	24	0	0	875	203	663	0	6 ACSR
	PD.2090	Recloser 70-L	0	0	20	4200	241	1841	0	6 ACSR
	PD.2092	Recloser 70-L	32	38	46	4200	241	1878	2389	1/0 ACSR
	PD.2091	Recloser 70-L	36	53	29	4200	241	1878	2389	336 ACSR
	PD.2028	Recloser 35-H	0	32	0	875	231	1200	0	6 ACSR
	PD.27498001	Recloser 50-H	26	4	12	1250	195	623	808	6 ACWC
	PD.2260	Recloser 35-H	0	0	12	875	165	395	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Brink

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Brink Store	PD.3485	Recloser 280-140 VWVE	128	121	148	12000	469	1937	2010	336 MCM
	PD.5454	Recloser 100-V4E	17	19	26	6000	456	1619	1773	1/0 ACSR
	PD.346	Recloser 35-E	3	0	0	2100	429	1316	0	6 ACSR
	PD.440	Recloser 35-M	0	18	0	2100	397	1038	0	1/0 ACSR
	TR.23596001	S.D. Transformer 250 (C)	0	0	5		212	522	0	8 CWC
	PD.441	Recloser 25-H	0	0	10	625	211	518	0	8 CWC
	TR.18533001	S.D. Transformer-500 (3)	3	3	13		207	504	269	4 ACSR
	PD.18533001	Recloser 70-L	5	5	27	4200	205	499	537	4 ACSR
	PD.5568	Recloser 50-4H	0	0	26	2000	193	423	0	6A CWC
	PD.23637001	Recloser 70-V4E	0	0	36	4200	233	981	0	1/0 ACSR
	PD.349	Recloser VWVE	50	52	49	12000	453	1545	1715	1/0 ACSR
	PD.6201	Recloser 100-E	1	2	2	2500	456	1577	1739	336MCM
G.B. Ligon	PD.3486	Recloser 280-140 VWVE	15	18	19	12000	469	1938	2011	336 MCM
	ST.11	S.D. Transformer-333 (3)	13	16	15		226	717	732	1/0 ACSR
	PD.468	Recloser 70-L	26	33	29	4200	225	711	728	1/0 ACSR
	PD.464	Recloser 35-H	10	0	0	875	222	695	0	2 ACSR
	PD.465	Recloser 25-H	12	0	0	625	214	621	0	6 ACWC
	PD.18682001	Recloser 25-L	4	0	0	1500	207	561	0	6 ACWC
	PD.466	Recloser 25-4H	0	32	27	1000	204	541	0	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Burlington Drive

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
North #1	PD.6303	Customer Owned	153	153	153	2500	254	9192	9190	2 ALURD
North #2	PD.6304	Customer Owned	91	91	91	2500	254	9067	9081	1/0 ALURD

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Clarksville

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarksville	PD.3487	Recloser 280-100 VWE	142	139	203	12000	240	6780	6898	795 ACSR
	PD.1957	Recloser 50-L	34	23	34	3000	239	5319	5823	3/0 ACSR
	PD.22080001	Recloser Triple-Single	102	99	153	12000	238	4166	4845	3/0 ACSR
	PD.3660	Recloser 50-L	38	0	0	3000	235	3150	0	1/0 ACSR
	PD.4235	Recloser 50-4H	7	17	24	2000	212	1185	1563	1/0 ACSR
	PD.3410	Recloser 50-4H	38	49	50	2000	212	1168	1542	1/0 ACSR
Island Creek	PD.3488	Recloser 280-100 VWE	44	12	49	12000	240	6784	6899	477 ACSR
	PD.4296	Recloser 35-L	39	0	0	5000	234	3903	0	1/0 ACSR
	PD.2556	Recloser 50-H	0	0	32	1250	201	936	0	6 ACWC
Russel Stover	FD.47	Recloser 520-160 VWE	27	27	27	12000	240	6784	6900	795 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Climax

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Climax	PD.3497	Recloser 400-240 VWVE	83	86	94	12000	470	2431	2439	1/0 ACSR
	PD.1502	Recloser 50-E	2	0	0	2500	444	1880	0	2 ACSR
	PD.1415	Recloser 50-M	17	13	21	1250	413	1382	1612	1/0 ACSR
	ST.887	S.D. Transformer-333 (B)	0	12	0		219	673	0	2 ACSR
	PD.4914	Recloser 50-L	0	24	0	3000	218	669	0	2 ACSR
	ST.487	S.D. Transformer-250 (A)	6	0	0		210	529	0	6 ACWC
	PD.3414	Recloser 35-H	13	0	0	875	209	523	0	6 ACWC
	ST.484	S.D. Transformer-250 (C)	0	0	8		209	518	0	2 ACSR
	PD.4911	Recloser 35-4H	0	0	16	1400	208	517	0	2 ACSR
	ST.483	S.D. Transformer-250 (C)	0	0	9		208	517	0	6 ACSR
	PD.4910	Recloser 35-4H	0	0	18	1400	208	515	0	6 ACSR
	ST.886	S.D. Transformer-250 (A)	9	0	0		213	548	0	6 ACSR
	PD.1434	Recloser 50-L	18	0	0	3000	213	548	0	6 ACSR
	ST.491	S.D. Transformer-250 (C)	0	0	13		212	539	0	2 ACSR
	PD.1276	Recloser 50-L	0	0	27	3000	211	536	0	2 ACSR
	PD.3619	Recloser 70-4E	52	58	51	4000	384	1074	1307	1/0 ACSR
	ST.504	S.D. Transformer-500 (3)	42	14	24		216	769	852	1/0 ACSR
	PD.4931	Recloser 70-L	83	27	49	4200	215	766	849	1/0 ACSR
	PD.1320	Recloser 35-V4E	33	0	0	2100	212	714	0	1/0 ACSR
	PD.1334	Recloser 35-V4E	0	0	19	2100	193	546	0	2 ACSR
	PD.1333	Recloser 35-V4E	11	0	0	2100	191	539	0	4 ACSR
	PD.1332	Recloser 35-V4E	30	23	26	2100	191	532	635	1/0 ACSR
	PD.1362	Recloser 25-H	0	0	5	625	180	446	0	4 ACSR
	ST.497	S.D. Transformer-500 (3)	10	40	16		216	768	850	1/0 ACSR
	PD.4929	Recloser 70-L	21	81	32	4200	216	765	848	1/0 ACSR
	PD.1343	Recloser 35-H	0	34	0	875	185	465	0	6 ACWC
	PD.1366	Recloser 25-H	0	6	0	625	145	290	0	6 ACSR
	PD.1344	Recloser 25-H	0	0	5	625	168	363	0	6 ACSR
	PD.1352	Recloser 25-H	0	0	8	625	165	349	0	6 ACSR
	PD.1345	Recloser 35-H	0	26	0	875	164	346	0	6 ACSR

Concord	FD.31	Recloser 400-240 VWVE	86	85	85	12000	470	2431	2439	500 MCM
	PD.1491	Recloser 70-4E	11	9	7	2500	452	1951	2098	6 ACSR
	TR.982	S.D. Transformer-500 (A)	11	0	0		227	937	0	6 ACSR
	PD.1458	Recloser 50-4H	21	0	0	2000	225	920	0	6 ACSR
	PD.1447	Recloser 100-V4E	50	47	47	6000	429	1482	1703	2/0 ACSR
	ST.475	S.D. Transformer-500 (A)	8	0	0		224	875	0	6 ACSR
	PD.1446	Recloser 50-H	16	0	0	1250	224	873	0	6 ACSR
	ST.482	S.D. Transformer-167 (B)	0	3	0		198	386	0	6 ACSR
	PD.4189	Recloser 35-H	0	5	0	875	198	385	0	6 ACSR
	ST.473	S.D. Transformer-167 (C)	0	0	2		199	386	0	6 ACSR
	PD.4188	Recloser 35-4H	0	0	4	1400	197	383	0	6 ACSR
	PD.1448	Recloser 100-V4E	25	23	17	6000	428	1478	1700	1/0 ACSR
	PD.3603	Recloser 50-4E	5	9	5	3000	412	1292	1526	1/0 ACSR
	PD.4495	Recloser 25-E	8	0	0	1500	343	775	0	1/0 ACSR
	ST.481	S.D. Transformer-167 (A)	4	0	0		191	365	0	6 ACWC
	PD.4498	Recloser 25-H	7	0	0	625	190	363	0	6 ACWC

2 EXISTING DEVICES

Climax

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Rondo	PD.3495	Recloser 400-240 VWVE	31	52	27	12000	470	2428	2437	1/0 ACSR
	ST.478	S.D. Transformer-500 (B)	0	11	0		230	994	0	6 ACSR
	PD.1418	Recloser 50-4H	0	20	0	2000	229	978	0	6 ACSR
	PD.1503	Recloser 70-E	30	28	13	2500	399	1171	1408	1/0 ACSR
	ST.486	S.D. Transformer-250 (C)	0	0	7		212	535	0	6 ACSR
	PD.3614	Recloser 50-H	0	0	14	1250	210	530	0	6 ACSR
	ST.477	S.D. Transformer-500 (B)	0	22	0		222	854	0	6 ACSR
	PD.1464	Recloser 50-4H	0	44	0	2000	221	843	0	6 ACSR
	ST.476	S.D. Transformer-500 (B)	22	0	0		218	786	0	2 ACSR
	PD.1465	Recloser 50-4H	43	0	0	2000	217	781	0	2 ACSR
	PD.4490	Recloser 25-H	37	0	0	625	184	516	0	#8 CWC

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Crystal Hill

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
East	PD.5859	Recloser 400-180 VWVE	209	201	182	12000	472	2562	2611	336 ACSR
	PD.1102	Recloser 140-V4E	119	95	77	6000	446	1823	2047	248 ACSR
	ST.38	S.D. Transformer-500 (3)	46	4	18		230	973	1014	1/0 ACSR
	PD.1096	Recloser 70-L	93	8	37	4200	230	972	1013	1/0 ACSR
	PD.1160	Recloser 35-H	32	0	0	875	204	619	0	6 ACWC
	PD.1155	Recloser 25-H	56	0	0	625	197	557	0	6 ACWC
	PD.1097	Recloser 35-E	0	13	0	2100	402	1187	0	1/0 ACSR
	ST.466	S.D. Transformer-167 (A)	7	0	0		198	385	0	1/0 ACSR
	PD.3235	Recloser 35-4H	14	0	0	1400	198	385	0	6 ACWC
	ST.467	S.D. Transformer-333 (C)	0	0	14		217	655	0	6 ACWC
	PD.3236	Recloser 50-H	0	0	29	1250	216	647	0	6 ACWC
	PD.3242	Recloser 35-E	0	27	0	2100	371	936	0	1/0 ACSR
	PD.46432001	Recloser 50-E	48	24	28	2500	371	931	1181	2/0 ACSR
	ST.469	S.D. Transformer-250 (A)	19	0	0		203	485	0	6 ACSR
	PD.3245	Recloser 35-H	39	0	0	875	203	483	0	6 ACSR
	ST.470	S.D. Transformer-333 (A)	16	0	0		209	578	0	1/0 ACSR
	PD.3282	Recloser 50-H	33	0	0	1250	208	574	0	1/0 ACSR
	ST.471	S.D. Transformer-167 (C)	0	0	16		190	357	0	1/0 ACSR
	PD.3247	Recloser 35-H	0	0	31	875	189	357	0	#8 CWC
	PD.1103	Recloser 140-V4E	88	105	100	6000	446	1827	2050	1/0 ACSR
	ST.31	S.D. Transformer-333 (B)	0	6	0		223	713	0	6 ACSR
	PD.1031	Recloser 35-L	0	12	0	2100	222	708	0	6 ACSR
	PD.1030	Recloser 35-E	0	0	5	2100	419	1420	0	6 ACWC
	PD.1032	Recloser 35-E	0	0	0	2100	404	1253	0	4 ACSR
	ST.32	S.D. Transformer-500 (C)	0	0	26		224	881	0	6 ACSR
	PD.1036	Recloser 35-V4E	0	0	51	2100	223	873	0	6 ACSR
	PD.1033	Recloser 35-EF-2	0	3	0		370	955	0	4 ACSR
	PD.944	Recloser 50-H	25	25	7	1250	374	972	1218	1/0 ACSR
	PD.945	Recloser 35-V4E	18	0	0	2100	359	870	0	1/0 ACSR
	PD.6277	Recloser 25-H	3	0	0	625	329	699	0	6 ACWC
	PD.943	Recloser 35-H	3	0	0	875	343	772	0	6 ACSR
	PD.921	Recloser 35-H	0	0	2	875	315	636	0	6 ACWC
	PD.920	Recloser 35-H	0	17	0	875	314	632	0	6 ACWC
	ST.35	S.D. Transformer-167 (B)	0	3	0		193	372	0	6 ACSR
	PD.1043	Recloser 35-H	0	6	0	875	193	372	0	6 ACSR
	PD.3254	Recloser 35-E	23	0	0	2100	355	845	0	1/0 ACSR
	ST.472	S.D. Transformer-500 (A)	18	0	0		212	709	0	1/0 ACSR
	PD.4227	Recloser 50-H	7	0	0	1250	210	694	0	1/0 ACSR
	PD.3258	Recloser 50-H	28	0	0	1250	208	680	0	6 ACWC
	PD.142	Recloser 25-H	19	0	0	625	192	553	0	6 ACWC
	TR.3628	S.D. Transformer-333 (B)	0	15	0		210	594	0	6 ACWC
	PD.1045	Recloser 35-H	0	31	0	875	209	589	0	6 ACWC
	ST.461	S.D. Transformer-333 (C)	0	0	20		206	553	0	1/0 ACSR
	PD.3220	Recloser 25-H	0	0	40	625	206	552	0	6 ACWC
	ST.462	S.D. Transformer-167 (B)	0	7	0		185	342	0	1/0 ACSR
	PD.3223	Recloser 35-H	0	13	0	875	184	341	0	6 ACSR
	PD.1060	Recloser 50-E	4	14	6	2500	309	590	775	1/0 ACSR

2 EXISTING DEVICES

Crystal Hill

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
East cont.	PD.3225	Recloser 50-E	24	9	11	2500	310	595	780	1/0 ACSR
	ST.463	S.D. Transformer-250 (A)	5	0	0		197	448	0	1/0 ACSR
	PD.3228	Recloser 35-4H	11	0	0	1400	197	446	0	6 ACWC
	ST.464	S.D. Transformer-167 (B)	0	3	0		181	330	0	1/0 ACSR
	PD.3230	Recloser 35-H	0	7	0	875	181	330	0	6 ACSR
	ST.465	S.D. Transformer-167 (A)	13	0	0		180	326	0	1/0 ACSR
	PD.3234	Recloser 35-H	26	0	0	875	179	325	0	6 ACSR
West	PD.3498	Recloser 400-180 VWVE	172	162	177	12000	472	2593	2642	336 ACSR
	ST.39	S.D. Transformer-333 (3)	20	16	13		229	768	775	248 ACSR
	PD.1119	Recloser 50-L	40	33	27	3000	229	767	775	1/0 ACSR
	PD.1023	Recloser 35-V4E	16	0	0	2100	195	491	0	6 ACSR
	PD.1116	Recloser 70-4E	29	52	16	4000	461	1917	2127	1/0 ACSR
	PD.1171	Recloser 35-E	0	25	0	2100	445	1673	0	1/0 ACSR
	ST.43	S.D. Transformer-333 (A)	22	0	0		220	668	0	1/0 ACSR
	PD.1178	Recloser 35-V4E	43	0	0	2100	219	665	0	6 ACSR
	PD.1131	Recloser 50-E	8	0	0	2500	453	1612	0	1/0 ACSR
	PD.51136001	Recloser 100-V4E	80	63	94	6000	450	1469	1731	248 ACSR
	PD.1143	Recloser 70-4E	34	33	43	4000	428	1103	1370	248 ACSR
	PD.3202	Recloser 35-V4E	7	23	24	2100	416	958	1216	248 ACSR
	ST.517	S.D. Transformer-100(A), 333(B)	5	22	0		168	603	447	1/0 ACSR
	PD.5487	Recloser 25-H	10	45	0	625	168	599	446	1/0 ACSR
	ST.515	S.D. Transformer-333 (C)	0	0	21		222	617	0	1/0 ACSR
	PD.5483	Recloser 50-H	0	0	42	1250	222	615	0	1/0 ACSR
	PD.1193	Recloser 35-V4E	20	9	15	2100	414	952	1209	1/0 ACSR
	ST.527	S.D. Transformer-250 (A)	16	0	0		210	484	0	1/0 ACSR
	PD.5125	Recloser 35-H	33	0	0	875	209	481	0	1/0 ACSR
	ST.531	S.D. Transformer-250 (3)	35	24	41		236	2213	2749	1/0 ALURD
	PD.6599	Recloser 70-L	70	48	83	4200	236	2201	2738	1/0 ACSR
	PD.1219	Recloser 35-H	0	0	15	875	223	1302	0	6 ACSR
	PD.6159	Recloser 50-4H	3	7	12	2000	214	996	1335	336 ACSR
	PD.3529	Recloser 50-4H	35	24	32	2000	213	983	1319	1/0 ACSR
	PD.1208	Recloser 35-L	32	0	0	2100	190	588	0	6 ACWC
	PD.4180	Recloser 200-H	0	0	17	2000	192	601	0	1/0 ACSR
	PD.1139	Recloser 70-V4E	27	31	33	4200	446	1451	1716	6 ACWC
	PD.1011	Recloser 35-E	0	0	13	2100	390	1088	0	6 ACSR
	PD.1012	Recloser 35-E	31	17	15	2100	374	993	1239	6 ACWC
	PD.933	Recloser 25-E	0	3	0	1500	323	722	0	6 ACWC

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

DC Jackson

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarks Pool	PD.5787	Recloser 280-140 WE	127	60	65	10000	253	4335	4509	336 ACSR
	PD.5044	Recloser 50-L	0	0	13	3000	247	2661	0	6 ACSR
	PD.1736	Recloser 50-L	0	0	21	3000	240	1680	0	6 ACWC
	PD.1733	Recloser 50-H	45	0	0	1250	229	1172	0	6 ACWC
	PD.1734	Recloser 50-H	30	0	0	1250	228	1146	0	6 ACWC
	PD.1735	Recloser 35-H	31	36	14	875	227	1103	1451	1/0 ACSR
	PD.1828	Recloser 25-H	0	22	0	625	208	720	0	6 ACWC
	PD.1866	Recloser 25-H	3	3	0	625	192	535	723	1/0 ACSR
Morgans Mill	PD.5786	Recloser 400-140 VWE	174	175	220	12000	253	4350	4519	336 ACSR
	PD.5064	Recloser 200-VWVE	131	108	116	12000	251	2780	3238	1/0 ACSR
	PD.1844	Recloser 50-L	0	17	0	3000	245	2073	0	1/0 ACSR
	PD.1843	Recloser 50-H	0	0	14	1250	228	1162	0	6 ACWC
	PD.1708	Recloser 35-H	18	0	0	875	223	1025	0	6 ACWC
	PD.4520	Recloser 70-L	29	33	64	4200	249	2529	3014	1/0 ACSR
	PD.1700	Recloser 25-H	0	0	12	625	225	1062	0	1/0 ACSR
	PD.1701	Recloser 25-H	15	0	0	625	213	846	0	6 ACSR
	PD.5023	Recloser 25-4H	0	0	18	1000	213	852	0	#8 CWC
	PD.4519	Recloser 70-V4L	13	33	28	4200	248	2491	2980	2 ACSR
	PD.1619	Recloser 50-H	0	16	0	1250	212	874	0	6 ACSR
	PD.1617	Recloser 50-H	1	9	5	1250	216	958	1244	2 ACSR
	PD.1618	Recloser 50-H	0	0	11	1250	213	902	0	#8 CWC

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Ebony

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Ebony	PD.3502	Recloser 280-180 VWVE	92	93	113	12000	463	2093	2258	336 ACSR
	PD.5370	25	15	0	0		443	1718	0	1/0 ACSR
	ST.18	S.D. Transformer-333 (A)	13	0	0		224	718	0	6 ACWC
	PD.673	Recloser 25-L	26	0	0	1500	223	709	0	6 ACWC
	ST.19	S.D. Transformer-167 (A)	16	0	0		200	391	0	6 ACSR
	PD.674	Recloser 25-L	32	0	0	1500	199	391	0	6 ACSR
	PD.676	Recloser 50-4E	8	10	39	3000	397	1150	1410	1/0 ACSR
	PD.5392	Recloser 25-E	0	0	26	1500	386	1053	0	1/0 ACSR
	PD.675	Recloser 70-4E	32	60	60	4000	397	1152	1412	1/0 ACSR
	ST.23	S.D. Transformer-500 (3)	25	59	53		211	750	840	1/0 ACSR
	PD.729	Recloser 35-V4E	0	28	0	2100	209	728	0	4 ACSR
	PD.730	Recloser 50-4H	49	89	107	2000	209	717	812	1/0 ACSR
	PD.4313	Recloser 25-4H	0	0	46	1000	180	443	0	6 ACSR
Tanglewood	PD.3503	Recloser 280-180 VWVE	196	236	178	12000	463	2098	2261	336 ACSR
	PD.685	Recloser 50-E	18	26	17	2500	455	1935	2134	1/0 ACSR
	ST.20	S.D. Transformer-250 (A)	18	24	17		218	573	586	1/0 ACSR
	PD.686	Recloser 25-L	37	48	33	1500	218	569	584	1/0 ACSR
	PD.444	Recloser 35-E	0	16	0	2100	428	1505	0	1/0 ACSR
	PD.760	Recloser 25-E	0	9	0	1500	422	1428	0	2 ACSR
	PD.3592	Recloser 100-4E	27	46	27	4000	401	1190	1452	1/0 ACSR
	PD.5431	Recloser 35-H	0	0	9	875	381	1030	0	1/0 ACSR
	ST.888	S.D. Transformer-333 (A,B)	0	24	13		213	633	0	2 ACSR
	PD.4944	Recloser 50-H	0	48	26	1250	213	633	0	2 ACSR
	PD.824	Recloser 70-L	61	45	52	4000	397	1149	1409	1/0 ACSR
	TR.17886001	S.D. Transformer-333 (3)	14	14	11		218	633	694	1/0 ACSR
	PD.799	Recloser 35-L	28	27	22	2100	217	651	692	1/0 ACSR
	TR.17874001	S.D. Transformer-250 (A,B)	0	0	21		209	516	0	1/0 ACSR
	PD.17874001	Recloser 35-H	0	0	42	875	209	515	0	1/0 ACSR
	TR.17874002	S.D. Transformer-250 (A)	17	0	0		209	513	0	2 ACSR
	PD.17884001	Recloser 35-HR	35	0	0	875	208	512	0	2 ACSR
	TR.17882001	S.D. Transformer-250 (B,C)	0	11	9		207	507	0	1/0 ACSR
	TR.17859001	S.D. Transformer-3500 (3)	32	18	32		232	1985	2310	4/0 ALURD
	PD.807	Recloser Triple-Single	47	68	37	12000	405	1227	1490	4/0 ACSR
	PD.6089	Recloser 25-H	11	0	0	625	392	1078	0	2 ACSR
	PD.790	Recloser 35-4H	0	11	0	1400	389	1040	0	2 ACSR
	PD.789	Recloser 35-H	22	12	14	875	387	1022	1278	1/0 ACSR
	PD.785	Recloser 35-H	13	0	0	875	383	992	0	2 ACSR
	PD.6278	Recloser 35-H	8	0	0	875	377	953	0	2 ACSR
	TR.22897001	S.D. Transformer-167 (C)	0	0	9		198	383	0	#8 CWC
	PD.22897001	Recloser 25-4H	0	0	17	1000	197	380	0	#8 CWC
	TR.22896002	S.D. Transformer-333 (B)	0	27	0		218	648	0	2 ACSR
	PD.3365	Recloser 35-H	0	55	0	875	218	647	0	2 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Emporia

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
301 South	PD.3504	Recloser 400-180 VWVE	40	52	45	12000	473	2868	2920	3/0 ACSR
	PD.5135	Recloser 100-V4E	14	22	16	6000	438	1749	2026	2/0 ACSR
	PD.433	Recloser 25-E	0	0	5	1500	420	1452	0	1/0 ACSR
	PD.28787001	Recloser 25-E	1	0	0	1500	400	1195	0	2 ACSR
58 West	PD.3505	Recloser 420-240 VWVE	11	44	59	12000	473	2863	2916	1/0 ACSR
	ST.2	S.D. Transformer 333 (B)	0	17	0		435	1818	0	1/0 ACSR
	PD.198	Recloser 35-L	0	35	0	2500	434	1795	0	1/0 ACSR
	ST.3	S.D. Transformer 500 (3)	10	24	49		434	1804	2081	1/0 ACSR
	PD.199	Recloser 70-4E	19	48	98	4000	434	1800	2077	1/0 ACSR
	TR.38787001	S.D. Transformer 250 (C)	0	0	21		412	1439	0	1/0 ACSR
	PD.3427	Recloser 200-L	0	0	42	4000	411	1427	0	1/0 ACSR
	PD.5134	Recloser 70-L	2	18	48	4200	406	1360	1650	1/0 ACSR
	PD.145	Recloser 25-H	0	11	13	625	370	983	0	1/0 ACSR
Low Ground Rd	PD.3506	Recloser 280-140 VWVE	53	58	64	12000	473	2866	2918	3/0 ACSR
	ST.9	S.D. Transformer 333 (3)	7	13	27		419	1459	1754	2 ACSR
	PD.435	Recloser 50-L	14	26	54	3000	419	1455	1750	2 ACSR
	ST.10	S.D. Transformer 500 (3)	11	12	16		414	1379	1673	2/0 ACSR
	PD.434	Recloser 70-L	23	23	31	4200	413	1371	1665	2/0 ACSR
	PD.323	Recloser 35-H	18	20	27	875	373	955	1216	2/0 ACSR
	PD.459	Recloser 25-H	15	0	0	625	322	650	0	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Freeman

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Pleasant Shade	FD.1	Recloser 400-140 VWE	77	85	90	12000	253	5175	5392	336 ACSR
	PD.107	Recloser 50-L	46	24	11	3000	241	2158	2695	1/0 ACSR
	PD.151	Recloser 35-L	17	0	0	2100	234	1666	0	6 ACWC
	PD.136	Recloser 35-H	10	0	0	875	220	1022	0	6 ACSR
	PD.3654	Recloser 35-H	8	0	0	875	221	1044	0	1/0 ACSR
	PD.43694001	Recloser 35-H	0	16	0	875	215	972	0	#8 CWC
	PD.92	Recloser 50-4H	23	25	46	2000	217	998	1291	1/0 ACSR
	PD.72	Recloser 25-H	0	0	20	625	203	716	0	1/0 ACSR
	PD.4163	Recloser 35-H	12	0	0	875	186	515	0	6 ACSR
Rocky Quarry	PD.3437	Recloser 400-140 VWE	72	231	39	12000	253	5213	5418	336 ACSR
	PD.514	Recloser 50-4H	8	17	13	2000	240	1798	2341	1/0 ACSR
	PD.524	Recloser 35-H	0	0	16	875	232	1334	0	6 ACWC
	PD.523	Recloser 35-H	0	22	0	875	231	1304	0	6 ACWC
Smokey Ordinary	PD.3438	Recloser 400-140 VWE	103	80	79	12000	253	5197	5406	1/0 ACSR
	PD.108	Recloser 70-L	42	4	2	4200	237	1814	2312	1/0 ACSR
	PD.48569001	Recloser 35-H	37	0	0	875	206	791	0	4 ACSR
	PD.493	Recloser 70-L	55	54	72	4200	221	1052	1387	1/0 ACSR
	PD.6300	Recloser 35-H	0	33	0	875	207	768	0	1/0 ACSR
	PD.4299	Recloser 35-H	0	0	43	875	202	676	0	4 ACSR
	PD.53429001	Recloser 25-H	0	0	11	625	163	387	0	6 ACWC
	PD.500	Recloser 35-H	36	0	0	875	192	564	0	2 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Gasburg

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
46 North	PD.3439	Recloser 280-140 VWVE	98	104	121	12000	441	1643	1873	1/0 ACSR
	PD.632	Recloser 50-E	0	0	6	2500	429	1474	0	6 ACSR
	ST.22	S.D Transformer-500 (3)	16	24	22		225	884	946	1/0 ACSR
	PD.707	Recloser 70-L	33	45	44	4200	222	834	901	1/0 ACSR
	PD.5397	Recloser 35-H	0	24	0	875	213	713	0	1/0 ACSR
	PD.706	Recloser 35-E	9	23	8	2100	399	1148	1398	1/0 ACSR
	PD.704	Recloser Hyd. 3 Ø	70	45	76	2500	400	1162	1413	1/0 ACSR
	PD.705	Recloser 25-E	0	0	8	1500	381	1007	0	6 ACSR
	PD.697	Recloser 25-E	0	4	0	1500	365	896	0	6 ACSR
	PD.698	Recloser 35-H	0	3	0	875	341	765	0	4 ACSR
	PD.616	Recloser 50-H	32	0	0	1250	292	571	0	1/0 ACSR
	PD.615	Recloser 35-E	0	0	47	2100	282	536	0	1/0 ACSR
	ST.511	S.D Transformer-500 (3)	19	24	3		202	640	740	1/0 ACSR
	PD.5389	Recloser 70-L	38	48	6	4200	202	640	739	1/0 ACSR
	PD.614	Recloser 15-H	0	22	0	375	193	554	0	4 ACSR
	PD.611	Recloser 25-4H	19	0	0	1000	179	446	0	6 ACSR
Gasburg	PD.3441	Recloser 280-140 VWVE	81	76	86	12000	441	1642	1872	1/0 ACSR
	PD.634	Recloser 50-E	22	0	0	2500	421	1380	0	2 ACSR
	PD.585	Recloser 35-E	14	14	16	2100	385	1030	1274	1/0 ACSR
	PD.652	Recloser 70-M	1	3	13	4000	377	969	1207	1/0 ACSR
	PD.651	Recloser 25-E	0	0	10	1500	374	953	0	6 ACSR
	PD.586	Recloser 70-E	35	46	36	2500	376	970	1208	2 ACSR
	PD.587	Recloser 35-M	7	19	1	2100	373	948	1184	1/0 ACSR
	PD.578	Recloser 50-L	15	17	21	3000	350	819	1036	2 ACSR
	ST.507	S.D. Transformer-500 (3)	5	4	6		215	762	849	2 ACSR
	PD.4990	Recloser 50-4H	11	8	11	2000	215	762	849	2 ACSR
Valentines	PD.3440	Recloser 280-140 VWVE	17	44	47	12000	441	1642	1872	1/0 ACSR
	TR.18311001	S.D. Transformer-333 (3)	10	23	17		217	647	688	1/0 ACSR
	PD.775	Recloser 50-H	19	45	34	1250	217	642	685	1/0 ACSR
	ST.24	S.D. Transformer-250 (B)	0	7	0		211	524	0	6 ACSR
	PD.776	Recloser 35-H	0	15	0	875	210	522	0	6 ACSR
	ST.25	S.D. Transformer-500 (3)	6	10	23		221	827	901	1/0 ACSR
	PD.777	Recloser 50-L	11	20	46	3000	221	819	895	1/0 ACSR
	PD.772	Recloser 35-4H	1	6	17	1400	193	515	621	1/0 ACSR
	PD.773	Recloser 25-H	3	0	0	625	192	514	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Gretna

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
40 East	PD.3447	Recloser 340-140 VWVE	57	106	55	12000	252	3662	4107	2/0 ACSR
	PD.1250	Recloser 50-L	0	5	0	3000	232	1423	0	6 ACSR
	PD.1249	Recloser 50-L	32	39	11	3000	234	1441	1876	2/0 ACSR
	PD.1255	Recloser 70-L	25	42	31	4200	229	1200	1585	2/0 ACSR
	PD.1238	Recloser 25-L	12	0	0	1500	221	956	0	6 ACWC
	PD.1237	Recloser 50-L	1	15	7	3000	210	733	993	1/0 ACSR
	PD.1239	Recloser 35-V4E	0	13	0	2100	199	601	0	6 ACSR
40 West	PD.3448	Recloser 400-160 VWVE	290	256	195	12000	252	3669	4113	336 ACSR
	PD.1292	Recloser 50-L	52	45	19	3000	249	2555	3106	2/0 ACSR
	PD.1266	Recloser 35-L	36	0	0	2100	219	896	0	6 ACSR
	PD.733	Recloser 35-L	0	12	0	2100	218	881	0	6 ACSR
	PD.1296	Recloser 50-L	0	7	0	3000	244	1903	0	6 ACWC
	PD.1299	Recloser 50-L	0	29	0	3000	245	1963	0	2 ACSR
	PD.1309	Recloser 50-L	26	0	0	3000	237	1372	0	6 ACWC
	PD.5324	Recloser 50-L	11	15	11	3000	238	1217	1817	1/0 ACSR
	PD.4293	Recloser 50-L	29	8	30	3000	235	1063	1615	1/0 ACSR
	PD.1313	Recloser 50-L	0	10	15	3000	234	1055	1602	1/0 ACSR
	PD.1314	Recloser 50-L	49	33	9	3000	228	970	1459	6 ACWC
	PD.1275	Recloser 25-H	33	0	0	625	179	469	0	6 ACSR
Transco Test	PD.3446	Recloser 340-140 VWVE	54	84	109	12000	252	3676	4119	2 ACSR
	PD.1246	Recloser 35-L	0	0	16	2100	222	1171	0	6 ACSR
	PD.1432	Recloser 100-PR	50	73	82	10000	207	818	1061	2 ACSR
	PD.1431	Recloser 35-H	16	0	0	875	207	807	0	6 ACSR
	PD.1430	Recloser 35-H	7	0	0	875	193	622	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Grit

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Grit	PD.3449	Recloser 320-140 VWE	103	149	168	12000	253	5492	5694	336 ACSR
	PD.1381	Recloser 35-L	10	0	0	2100	249	2984	0	6 ACWC
	PD.6236	Recloser 35-4H	13	18	9	1400	246	2107	2757	1/0 ACSR
	PD.4190	Recloser 50-L	14	31	39	3000	246	2096	2742	1/0 ACSR
	PD.1603	Recloser 35-H	32	0	0	875	239	1274	0	2 ACSR
	PD.1405	Recloser 35-H	0	15	31	875	236	1160	0	1/0 ACSR
Level Run	PD.3450	Recloser 320-140 VWE	29	34	50	12000	253	5488	5691	2/0 ACSR
	PD.981	Recloser 50-H	0	18	0	1250	218	920	0	6 ACWC
	PD.979	Recloser 50-H	0	0	28	1250	214	853	0	4 ACSR
Renan	PD.3451	Recloser 320-140 VWE	50	33	20	12000	253	5488	5692	2/0 ACSR
	PD.1369	Recloser 35-L	15	0	0	2100	217	1150	0	6 ACWC
	PD.1355	Recloser 35-H	0	0	5	875	192	670	0	6 ACSR
	PD.1356	Recloser 35-H	26	0	0	875	181	545	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Hickory Grove

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Republican Grove	FD.3453	Fuse_125	129	165	137	12000	251	2228	2317	4/0 ALURD
	PD.926	Recloser 50-L	21	19	16	3000	250	2166	0	6 ACSR
	PD.924	Recloser 70-L	41	43	48	4200	247	1924	2092	1/0 ACSR
	PD.5493	Recloser 35-4H	0	38	0	1400	216	814	0	6 ACSR
	PD.930	Recloser 15-H	0	1	29	375	215	795	0	6 ACWC
	PD.5816	Recloser Triple-Single	74	106	80	12000	246	1874	2052	1/0 ACSR
	PD.907	Recloser 50-L	0	49	13	3000	219	883	0	6 ACWC
	PD.905	Recloser 25-H	0	20	0	625	189	552	0	6 ACSR
	PD.906	Recloser 50-L	54	53	55	3000	221	912	1142	1/0 ACSR
	PD.908	Recloser 35-L	18	17	18	2100	219	872	1099	1/0 ACSR
	PD.888	Recloser 25-4H	0	26	0	1000	202	618	0	6 ACSR
	PD.5377	Recloser 35-H	25	3	16	875	187	480	632	1/0 ACSR
	PD.887	Recloser 25-4H	13	0	0	1000	186	477	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Island Creek

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Ceder Grove	PD.3456	Recloser 340-140 RXE	45	22	21	6000	252	2124	2144	336 ACSR
	PD.2514	Recloser 35-L	0	9	9	2100	248	1722	0	2 ACSR
	PD.2547	Recloser 50-L	43	0	0	3000	225	1018	1229	4 ACWC
	PD.2555	Recloser 35-H	41	0	0	875	199	630	0	2 ACSR
Ponderosa	PD.3455	Recloser 340-140 VWVE	106	46	99	12000	252	2129	2147	336 ACSR
	PD.2513	Recloser 50-4H	2	3	15	2000	245	1554	1720	1/0 ACSR
	PD.2546	Recloser 35-L	0	0	6	2100	241	1392	0	6 ACSR
	PD.5825	Recloser 35-L	14	15	13	2100	225	922	1133	1/0 ACSR
	PD.2528	Recloser 50-4H	61	11	40	2000	225	933	1144	1/0 ACSR
	PD.2523	Recloser 25-H	27	5	25	625	201	589	759	1/0 ACSR
	PD.3184	Recloser 35-H	32	6	8	875	201	591	761	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Jones Store

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Chase City	PD.3457	Recloser 280-140 VWVE	93	71	133	12000	240	5732	6179	336 ACSR
	PD.4136	Recloser 70-L	27	33	35	4200	236	3073	3824	1/0 ACSR
	PD.4195	Recloser 35-H	0	29	35	875	205	858	0	1/0 ACSR
	PD.1814	Recloser 50-L	12	0	0	3000	229	2052	0	6 ACWC
	PD.1636	Recloser 50-L	0	0	10	3000	221	1437	0	6 ACWC
	PD.1635	Recloser 50-L	12	25	22	3000	222	1482	1971	6 ACWC
	PD.1726	Recloser 35-H	5	0	0	875	187	664	0	6 ACWC
	PD.1634	Recloser 50-L	40	2	59	3000	222	1509	2008	4 ACWC
	PD.1632	Recloser 35-H	0	0	30	875	193	703	0	6 ACSR
Finchley	PD.3458	Recloser 340-140 VWVE	156	215	207	12000	240	5733	6179	246 ACSR
	PD.5012	Recloser 25-H	0	12	0	625	239	3998	0	1/0 ACSR
	PD.5817	Recloser 50-L	0	9	0	3000	229	2098	0	6 ACSR
	PD.2154	Recloser 70-L	57	51	39	4200	230	2148	2767	1/0 ACSR
	PD.1943	Recloser 35-H	17	4	32	875	213	1081	1447	1/0 ACSR
	PD.1944	Recloser 35-H	0	44	0	875	205	860	0	6 ACSR
	PD.1824	Recloser 35-H	27	0	0	875	198	739	0	#8 CWC
	PD.2155	Recloser Triple-Single	72	137	147	10000	228	1950	2533	1/0 ACSR
	PD.5026	Recloser 50-L	14	63	41	3000	209	942	1265	1/0 ACSR
	PD.3526	Recloser 35-H	12	33	16	875	185	544	751	1/0 ACSR
	PD.6169	Recloser 25-4H	26	0	0	1000	195	703	0	#8 CWC
	PD.3163	Recloser 50-H	5	19	15	1250	180	516	692	1/0 ACSR
	PD.3158	Recloser 35-H	0	16	0	875	176	480	0	1/0 ACSR
	PD.3157	Recloser 35-H	0	0	38	875	164	399	0	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Mt. Airy

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
40 E.	PD.5121	Recloser 320-140 NOVA STS	54	34	48	10000	35	1988	2310	1/0 ACSR
	PD.65961001	Recloser 50-4H	49	16	28	2000	210	879	1148	1/0 ACSR
	PD.896	Recloser 25-H	11	0	0	625	193	610	0	#8 CWC
	PD.898	Recloser 35-H	38	0	12	875	187	541	0	1/0 ACSR
	PD.889	Recloser 15-H	8	0	0	375	151	328	0	6 ACWC
Renan	PD.5560	Recloser 320-140 NOVA STS	108	98	78	10000	236	2009	2328	336 ACSR
	PD.1286	Recloser 50-L	6	11	9	3000	224	1143	1470	6 ACWC
	PD.991	Recloser 35-L	8	0	0	2100	215	897	0	6 ACSR
	PD.882	Recloser 50-L	30	0	0	3000	187	516	0	2 ACSR
	PD.883	Recloser 50-H	50	54	35	3000	186	510	691	1/0 ACSR
	PD.879	Recloser 35-H	0	0	19	875	181	472	0	6 ACWC
	PD.878	Recloser 35-H	0	9	0	875	177	439	0	6 ACSR
	PD.880	Recloser 35-H	46	0	0	875	171	399	0	6 ACWC
	PD.881	Recloser 35-H	0	39	0	875	171	399	0	6 ACWC
Riceville	PD.3548	Recloser 320-140 NOVA STS	58	67	78	10000	236	2003	2323	1/0 ACSR
	PD.1065	Recloser 70-L	33	35	21	4200	232	1795	2143	1/0 ACSR
	PD.1233	Recloser 35-L	14	0	0	2100	227	1506	0	6 ACSR
	PD.1423	Recloser 15-H	5	0	0	625	158	400	0	6 ACSR
	PD.4155	Recloser 35-H	0	24	0	875	200	748	0	6 ACSR
	PD.4156	Recloser 35-V4E	15	0	11	2100	201	748	1002	6 ACWC
	PD.999	Recloser 25-L	11	0	0	1500	220	1182	0	6 ACSR
	PD.1000	Recloser 50-H	0	18	0	1250	210	908	0	6 ACWC
	PD.973	Recloser 25-4H	8	0	0	1000	201	735	0	6 ACWC
	PD.975	Recloser 35-V4E	0	0	28	2100	199	711	0	6 ACWC
	PD.977	Recloser 35-H	0	0	14	875	194	635	0	6 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Northview

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Rt. 58	PD.3463	Recloser 400-160 VWVE	86	88	121	12000	252	3975	4275	336 ACSR
	PD.1790	Recloser Triple-Single	31	29	28	12000	248	2420	2933	1/0 ACSR
	PD.1126	Recloser 35-L	13	12	12	2100	236	1478	1929	1/0 ACSR
	PD.37595001	Recloser 50-L	0	20	42	3000	238	1358	0	1/0 ACSR
	PD.1781	Recloser 25-H	0	0	26	625	196	604	0	6 ACSR
	PD.2079	Recloser 35-H	0	0	17	875	219	843	0	2 ACSR
	PD.2078	Recloser 35-H	9	0	0	875	225	842	1162	336 ACSR
	PD.2496	Recloser 25-H	15	0	0	625	224	804	0	#8 CWC
	PD.1993	Recloser 50-L	25	28	21	3000	224	805	1114	336 ACSR
	PD.1994	Recloser 35-H	0	21	0	875	221	756	0	2 ACSR
Union Level	PD.3462	Recloser 320-160 VWVE	66	85	56	12000	252	3980	4278	1/0 ACSR
	PD.42670001	Recloser 25-H	0	8	0	625	252	3797	0	6 ACSR
	PD.1569	Recloser 35-H	0	22	0	875	221	1071	0	6 ACSR
	PD.1568	Recloser 50-4H	36	18	18	2000	225	1119	1466	1/0 ACSR
	PD.1567	Recloser 50-H	30	24	35	1250	224	1111	1457	1/0 ACSR
	PD.1718	Recloser 35-H	6	0	0	875	221	806	0	6 ACSR
	PD.1719	Recloser 35-H	8	21	25	875	199	627	841	1/0 ACSR
	PD.1715	Recloser 25-4H	0	17	0	1000	189	515	0	6 ACSR
	PD.1760	Recloser 25-H	2	0	0	625	177	423	0	6 ACSR
	PD.1761	Recloser 25-H	0	0	18	625	177	423	0	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Omega

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarksville	PD.3466	Recloser 400-180 VWVE	91	109	97	12000	475	3634	3772	1/0 ACSR
	PD.5546	Recloser 70-E	3	22	8	2500	461	2865	3183	1/0 ACSR
	ST.49	S.D. Transformer-500 (B)	0	19	0		227	996	0	1/0 ACSR
	PD.2232	Recloser 50-H	0	38	0	1250	227	982	0	1/0 ACSR
	PD.2436	Recloser 25-H	0	15	0	625	192	523	0	#8 CWC
	PD.5000	Recloser 50-4H	21	0	0	2000	454	2552	0	1/0 ACSR
	PD.1899	Recloser 35-E	0	0	2	1500	413	1535	0	6 ACSR
	PD.1898	Recloser 70-E	33	51	39	2500	384	1150	1473	1/0 ACSR
	PD.1901	Recloser 35-E	0	45	0	1500	225	1952	0	1/0 ACSR
	ST.532	S.D. Transformer-250 (B)	0	7	0		207	515	0	#8 CWC
	PD.6207	Recloser 35-H	0	13	0	875	205	512	0	#8 CWC
	ST.45	S.D. Transformer-167 (B)	0	4	0		195	384	0	6 ACSR
	PD.1900	Recloser 35-H	0	8	0	875	195	384	0	6 ACSR
	PD.2448	Recloser 50-E	11	3	14	2500	339	787	1034	1/0 ACSR
	ST.52	S.D. Transformer-250 (C)	0	0	9		199	477	0	6 ACSR
	PD.2299	Recloser 25-H	0	0	18	625	198	472	0	6 ACSR
	ST.51	S.D. Transformer-167 (A)	8	0	0		187	358	0	6 ACSR
	PD.2300	Recloser 25-H	17	0	0	625	186	355	0	6 ACSR
	ST.530	S.D. Transformer-333 (C)	0	0	13		209	604	0	4 ACSR
	PD.2449	Recloser 50-H	0	0	23	1250	208	600	0	4 ACSR
	PD.2450	Recloser 50-E	20	10	4	2500	337	776	1021	1/0 ACSR
	ST.506	S.D. Transformer-333 (B)	0	8	0		205	574	0	2 ACSR
	PD.3623	Recloser 35-H	0	17	0	875	205	570	0	2 ACSR
	ST.55	S.D. Transformer-333 (3)	20	0	0		205	574	639	1/0 ACSR
	PD.2463	Recloser 35-H	31	0	0	875	205	571	0	6 ACWC
	ST.44	S.D. Transformer-500 (3)	27	24	28		222	894	974	1/0 ACSR
	PD.1897	Recloser 70-L	54	49	55	4200	221	891	972	1/0 ACSR
	PD.1923	Recloser 35-H	29	14	9	875	203	631	743	1/0 ACSR
	PD.3841	Recloser 35-L	24	27	36	2100	209	703	811	1/0 ACSR
Lewis Cole	PD.3465	Recloser 400-180 VWVE	122	99	125	12000	475	3636	3774	1/0 ACSR
	ST.47	S.D. Transformer-500 (A)	17	0	0		230	2777	0	6 ACSR
	PD.2017	Recloser 50-L	34	0	0	3000	229	2744	0	6 ACSR
	PD.6593	Recloser 25-H	13	0	0	1000	162	453	0	8A CWC
	TR.26471001	S.D. Transformer-333 (3)	19	16	28		220	708	745	1/0 ACSR
	PD.2016	Recloser 50-L	38	32	57	3000	219	701	740	1/0 ACSR
	PD.26480001	Recloser Triple-Single	43	48	51	12000	398	1317	1666	1/0 ACSR
	PD.1737	Recloser 70-E	8	18	0	2500	314	672	879	1/0 ACSR
	ST.58	S.D. Transformer-500 (3)	21	15	14		211	742	846	1/0 ACSR
	PD.2490	Recloser 50-L	43	30	29	3000	210	737	841	1/0 ACSR
	PD.2479	Recloser 35-H	15	28	11	875	187	494	604	1/0 ACSR
	PD.2015	Recloser 70-E	8	29	29	2500	396	1293	1639	1/0 ACSR
	ST.57	S.D. Transformer-500 (C)	0	0	19		216	792	0	6 ACSR
	PD.2431	Recloser 50-L	0	0	39	3000	214	778	0	1/0 ACSR
	ST.56	S.D. Transformer-500 (B)	0	23	0		216	794	0	6 ACSR
	PD.2470	Recloser 50-L	0	45	0	3000	215	785	0	6 ACSR
S. Boston	PD.3464	Recloser 400-180 VWVE	38	25	28	12000	475	3642	3778	1/0 ACSR
	ST.53	S.D. Transformer-500 (3)	35	16	22		232	1091	1122	1/0 ACSR
	PD.2321	Recloser 70-L	70	32	44	4200	231	1086	1118	1/0 ACSR
	PD.2322	Recloser 50-L	60	22	16	3000	226	977	1039	1/0 ACSR
	PD.2323	Recloser 35-L	27	0	0	2100	217	837	0	6 ACSR

2 EXISTING DEVICES

Sheva

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Sheva N	Feeder North	REC 400-240	27	48	32	12000	188	4265	3857	2 ACSR
	PD.1416	Recloser 35-V4E	14	13	23	2100	183	2380	2561	1/0 ACSR
	PD.1425	Recloser 35-H	12	24	1	875	175	1487	1733	1/0 ACSR
Sheva S	Feeder South	REC 400-240	24	23	24	12000	188	4265	3857	2 ACSR
	PD.1479	Recloser 25-H	9	0	0	625	188	3968	0	2 ACSR
	PD.1480	Recloser 25-H	0	0	6	625	180	1901	0	2 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Shockoe

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
832 East	PD.3469	Recloser 400-140 VWE	100	110	125	12000	252	3075	3410	1/0 ACSR
	PD.5379	Recloser 50-4H	7	26	16	2000	228	1184	1530	1/0 ACSR
	PD.955	Recloser 35-H	0	0	12	875	199	606	0	6 ACWC
	PD.962	Recloser 35-L	13	0	0	2100	209	760	0	6 ACSR
	PD.965	Recloser 35-H	33	0	0	875	198	603	0	6 ACWC
	PD.6161	Recloser 35-L	4	18	8	2100	194	555	745	336 ACSR
	PD.966	Recloser 35-H	0	0	35	875	193	553	0	6 ACSR
	PD.4979	Recloser 25-H	0	0	15	625	154	328	0	6 ACSR
Java	PD.3470	Recloser 280-140 VWE	22	58	44	12000	252	3069	3405	1/0 ACSR
	PD.1470	Recloser 25-L	13	0	0	1500	235	1469	0	4 ACSR
	PD.1469	Recloser 35-H	0	0	6	875	214	829	0	6 ACSR
	PD.974	Recloser 35-H	0	19	0	875	204	664	0	6 ACWC
	PD.3527	Recloser 35-4H	2	15	7	1400	217	885	1166	1/0 ACSR
Spring Garden	PD.3467	Recloser 340-100 VWE	76	136	120	12000	252	3073	3408	1/0 ACSR
	PD.1529	Recloser 35-L	12	0	0	2100	248	2653	0	6 ACWC
	PD.4249	Recloser 70-L	7	21	19	4200	244	2132	2565	1/0 ACSR
	PD.1521	Recloser 50-H	0	16	0	1250	226	1181	0	6 ACWC
	PD.1520	Recloser 50-L	5	18	35	3000	224	1048	1366	1/0 ACSR
	PD.1519	Recloser 50-H	44	53	35	1250	222	1006	1314	1/0 ACSR
	PD.1540	Recloser 35-H	16	32	0	875	190	522	0	1/0 ACSR
	PD.1541	Recloser 35-H	13	8	25	875	190	521	700	1/0 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Staunton River

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Staunton River	FD.500	VFI	21	0	0	16000	195	844	0	1/0 URD

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

2 EXISTING DEVICES

Three Creeks

Model Circuit	Element Name	Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Industry Parkway	PD.5822	Recloser 400-240 VWVE	98	98	98	12000	475	3267	3269	336 ACSR

Fault current exceeds device interrupting rating
Does not coordinate with upstream device
Load current exceeds device continuous current rating
Minimum fault less than minimum trip

PROPOSED DEVICES

3 PROPOSED DEVICES

Beechwood

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Americamps	PD.3474	Recloser 450-170	50	70	59	12000	470	2754	2880	336 ACSR
	TR.17704001	S.D. Transformer-3500 (3)	36	46	47		236	2366	2714	1/0 ALURD
	PD.2377	Recloser 235-125	72	92	93	12000	236	2354	2706	1/0 ACSR
	TR.17758001	S.D. Transformer-167 (B)	0	10	0		200	391	0	6 ACSR
	PD.17758001	Recloser 50-L	0	19	0	3000	200	391	0	4 ACSR
	TR.17769001	S.D. Transformer-167 (A)	6	0	0		200	389	0	4 ACSR
	PD.17769001	Recloser 35-L	12	0	0	2100	199	388	0	4 ACSR
	PD.4501	Recloser 35-V4E	14	15	11	2100	213	532	561	1/0 ACSR
Palmer Springs	PD.3471	Recloser 450-170	199	253	221	10000	239	5369	5605	4/0 ALURD
	PD.5111	Recloser 70-L	18	9	19	4200	230	2053	2611	1/0 ACSR
	PD.2114	Recloser 50-L	13	20	17	3000	230	2070	2631	1/0 ACSR
	PD.4175	Recloser 235-125	72	104	77	12000	219	1194	1596	2/0 ACSR
	PD.5860	Recloser 35-L	12	14	19	2100	208	861	1168	1/0 ACSR
	PD.2350	Recloser 50-H	38	20	19	1250	203	762	1038	1/0 ACSR
	PD.2351	Recloser 50-4H	9	33	25	2000	199	682	932	2/0 ACSR
	PD.2353	Recloser 25-V4L	0	9	0	1500	196	658	0	6 ACSR
	PD.2497	Recloser 25-H	0	0	11	625	186	537	0	6 ACSR
	PD.2411	Recloser 25-V4L	6	19	8	1500	187	540	740	1/0 ACSR
	PD.4885	Recloser 235-125	63	77	67	12000	219	1192	1594	2/0 ACSR
	PD.5542	Recloser 50-4H	0	39	0	2000	208	887	0	#8 CWC
	PD.2388	Recloser 35-H	24	0	0	875	205	843	0	6 ACSR
	PD.4390	Recloser 50-H	0	0	27	1250	200	709	0	1/0 ACSR
	PD.5541	Recloser 35-L	10	10	10	2100	194	637	869	4 ACSR
	PD.3200	Recloser 35-H	12	0	0	875	194	629	0	4 ACSR
South Hill	PD.3472	Recloser 235-125	151	137	105	12000	239	5352	5593	1/0 ACSR
	PD.3250	Recloser 50-L	0	25	0	3000	215	1246	0	6 ACSR
	PD.3313	Recloser 70-L	40	30	48	4200	197	731	978	1/0 ACSR
	PD.2052	Recloser 35-L	0	0	8	2100	178	494	0	#8 CWC
	PD.2053	Recloser 35-4H	18	15	20	1400	178	494	667	1/0 ACSR
	PD.5545	Recloser 180-90	65	51	23	12000	197	727	972	1/0 ACSR
	PD.2061	Recloser 50-H	32	0	0	1250	189	612	821	6 ACWC
Tanglewood	PD.3473	Recloser 450-170	103	94	114	12000	470	2746	2874	336 ACSR
	TR.22793001	S.D. Transformer-500(B), 250(C)	0	4	16		220	984	0	1/0 ACSR
	PD.3574	Recloser 35-L	0	7	33	2100	219	976	0	1/0 ACSR
	PD.5543	Recloser 235-125	72	63	72	12000	437	1551	1870	1/0 ACSR
	PD.4548	Recloser 50-E	16	13	28	2500	415	1292	1607	1/0 ACSR
	TR.22768001	S.D. Transformer-250 (B)	0	6	0		214	540	0	6 ACSR
	TR.22747001	S.D. Transformer-167 (C)	0	0	2		199	386	0	6 ACSR
	PD.22747002	Recloser 25-H	0	0	5	625	198	384	0	6 ACSR
	TR.27798002	S.D. Transformer-167 (A)	2	0	0		196	376	0	6 ACSR
	PD.27798001	Recloser 25-H	5	0	0	625	195	375	0	6 ACSR
	TR.27778001	S.D. Transformer-250 (A)	9	0	0		208	507	0	6 ACSR
	PD.27778002	Recloser 25-V4L	18	0	0	1500	208	506	0	6 ACSR
	TR.27768001	S.D. Transformer-167 (B)	0	3	0		194	370	0	6 ACSR
	PD.5758	Recloser 25-V4L	0	0	16	1500	358	838	0	1/0 ACSR
	TR.27758001	S.D. Transformer-250 (C)	0	0	16		207	501	0	1/0 ACSR
	TR.22890001	S.D. Transformer-333 (A)	13	0	0		221	675	0	1/0 ACSR
	PD.22890001	Recloser 35-H	25	0	0	875	220	668	0	1/0 ACSR

3 PROPOSED DEVICES

Belfield

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
301 N.	PD.3476	Recloser 235-125	147	98	86	12000	474	3580	3695	1/0 ACSR
	PD.185	Recloser 70-4E	0	18	0	4000	469	3224	0	6 ACSR
	PD.207	Recloser 70-E	11	10	9	2500	435	1884	2268	1/0 ACSR
	PD.158	Recloser 100-V4E	36	10	25	6000	417	1552	1923	1/0 ACSR
	PD.59	Recloser 50-V4E	16	4	2	3000	377	1062	1368	1/0 ACSR
	ST.60	S.D. Transformer-250 (A)	5	0	0		215	1282	0	1/0 ACSR
	PD.2656	Recloser 25-V4L	10	0	0	1500	214	1258	0	1/0 ACSR
	PD.226	Recloser 100-V4E	45	9	12	6000	432	1833	2217	1/0 ACSR
	PD.227	Recloser 35-E	0	9	0	2100	428	1761	0	2 ACSR
	PD.64	Recloser 50-V4E	44	0	0	3000	414	1495	0	1/0 ACSR
Adams Grove	PD.3475	Recloser 235-125	79	65	51	12000	474	3575	3692	1/0 ACSR
	PD.12	Recloser 180-90	56	58	43	12000	430	1857	2238	2/0 ACSR
	PD.33908001	Recloser 35-E	26	0	0	2100	409	1426	0	1/0 ACSR
	PD.34063001	Recloser 70-V4E	22	50	32	6000	373	1005	1302	2/0 ACSR
	PD.34064001	Recloser 25-V4E	0	10	0	1500	371	993	0	1/0 ACSR
	PD.380	Remove	20	39	28	3000	350	827	1087	1/0 ACSR
	PD.379	Recloser 25-V4E	8	0	0	1500	338	757	0	1/0 ACSR
	PD.375	Recloser 25-V4E	7	0	0	1500	330	717	0	6 ACSR
	ST.509	S.D. Transformer-333 (B,C)	0	16	14		205	559	0	1/0 ACSR
	PD.3196	Recloser 25-V4L	0	0	5	2500	198	515	0	4 ACSR
	PD.3193	Recloser 35-V4L	0	30	0	2500	200	522	0	1/0 ACSR
	PD.318	Recloser 35-H	0	0	22	875	201	528	0	1/0 ACSR
Airport	PD.3478	Recloser 235-125	66	47	59	12000	475	3595	3706	1/0 ACSR
	ST.4	S.D. Transformer-500 (3)	15	13	16		234	1138	1153	1/0 ACSR
	PD.5094	Recloser 50-L	30	27	31	3000	233	1104	1130	1/0 ACSR
	PD.251	Recloser 180-90	51	34	42	2100	467	3146	3376	1/0 ACSR
	PD.408	Recloser 35-E	0	0	5	2100	415	1604	0	6 ACWC
Shopping Center	PD.3477	Recloser 235-125	70	75	56	12000	475	3587	3700	1/0 ACSR

3 PROPOSED DEVICES

Black Branch

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Chase City	PD.3481	Recloser 235-125	125	132	163	12000	239	5924	6169	1/0 ACSR
	PD.47111001	Recloser 50-L	0	0	23	3000	231	2706	0	1/0 ACSR
	PD.1585	Recloser 70-L	0	0	16	4200	227	1998	2561	1/0 ACSR
	PD.1598	Recloser 180-90	59	91	56	12000	224	1743	2259	1/0 ACSR
	PD.57265001	Recloser 50-4H	0	16	0	2000	182	533	0	6 ACSR
	PD.57257001	Recloser 70-V4L	49	30	31	4200	180	507	686	1/0 ACSR
	PD.1554	Recloser 35-H	0	0	3	875	158	353	0	6 ACSR
	PD.1555	Recloser 35-H	17	0	0	875	158	351	0	6 ACSR
	PD.1553	Recloser 35-H	29	11	18	875	160	361	490	1/0 ACSR
	PD.1656	Recloser 15-H	12	0	0	375	142	274	0	6 ACSR
	PD.1655	Recloser 15-H	0	0	13	375	141	270	0	6 ACSR
Fire Tower	PD.3480	Recloser 235-125	137	100	103	10000	239	6039	6250	1/0 ACSR
	PD.1694	Recloser 50-L	0	18	0	3000	214	1499	0	6 ACSR
	PD.995	Recloser 35-V4L	14	0	0	2100	209	1037	0	1/0 ACSR
	PD.1685	Recloser 100-V4L	93	37	55	4200	205	929	1229	1/0 ACSR
	PD.1686	Recloser 25-H	0	0	39	625	182	539	0	#8 CWC
	PD.1754	Recloser 35-H	0	17	0	875	172	449	0	6 ACSR
	PD.1753	Recloser 50-H	38	0	0	1250	172	448	0	6 ACSR
	PD.1755	Recloser 25-H	16	0	0	625	152	341	0	6 ACSR
	PD.1695	Recloser 180-90	27	35	39	12000	205	932	1233	1/0 ACSR
	PD.1679	Recloser 35-H	0	21	0	875	183	549	0	6 ACWC
	PD.1678	Recloser 70-V4L	15	11	36	4200	183	550	738	1/0 ACSR
	PD.1777	Recloser 25-H	0	9	0	625	171	441	0	1/0 ACSR
	PD.1776	Recloser 25-H	9	0	0	625	167	410	0	6 ACWC
	PD.1775	Recloser 35-H	0	0	33	875	167	413	0	1/0 ACSR
	PD.1774	Recloser 15-H	0	0	15	375	157	351	0	6 ACWC
Wylliesburg	PD.3479	Recloser 235-125	68	52	35	12000	239	6093	6288	1/0 ACSR
	PD.47065001	Recloser 70-L	63	50	31	4200	223	1716	2274	1/0 ACSR
	PD.47078003	Recloser 35-4H	23	0	0	1400	212	1110	0	6 ACSR

3 PROPOSED DEVICES

Boydton

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Prison	PD.5376	Recloser 450-170	120	100	108	12000	254	5012	5117	336 ACSR
	PD.5761	Recloser 70-V4L	0	0	0	4200	241	1757	2235	4/0 ACSR
	PD.5762	Recloser 70-V4L	0	0	0	4200	241	1755	2233	4/0 ACSR
	PD.635	Recloser 235-125	98	97	81	12000	241	1716	2190	4/0 ACSR
	PD.2171	Recloser 70-L	21	51	48	4200	231	1229	1639	1/0 ACSR
	PD.2277	Recloser 25-V4L	0	0	9	1500	224	1001	0	4 ACSR
	PD.2276	Recloser 35-H	0	28	0	875	206	642	0	4 ACSR
	PD.2275	Recloser 35-V4L	6	8	24	2100	206	644	914	1/0 ACSR
	PD.2175	Recloser 70-L	76	32	38	4200	232	1264	1682	1/0 ACSR
	PD.2187	Recloser 25-V4L	22	0	0	1500	204	672	0	#8 CWC
	PD.4515	Recloser 35-4H	25	14	19	1400	204	658	899	1/0 ACSR
	PD.5108	Recloser 35-H	4	3	15	875	200	607	830	1/0 ACSR
Ridge	PD.5375	Recloser 450-170	117	140	132	12000	254	5015	5118	336 ACSR
	PD.5109	Recloser 70-L	33	36	34	4200	251	3558	4040	1/0 ACSR
	PD.1807	Recloser 35-H	0	18	0	875	203	665	0	2 ACSR
	PD.5572	Recloser 35-H	24	0	0	875	203	663	0	6 ACSR
	PD.2090	Recloser 70-L	0	0	20	4200	241	1841	0	6 ACSR
	PD.2092	Recloser 70-L	32	38	46	4200	241	1878	2389	1/0 ACSR
	PD.2091	Recloser 70-L	36	53	29	4200	241	1878	2389	336 ACSR
	PD.2028	Recloser 35-V4L	0	32	0	2100	231	1200	0	6 ACSR
	PD.27498001	Recloser 35-V4L	26	4	12	2100	195	623	808	6 ACWC
	PD.2260	Recloser 15-V4L	0	0	12	900	165	395	0	6 ACSR

3 PROPOSED DEVICES

Brink

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Brink Store	PD.3485	Recloser 450-170	128	121	148	12000	469	1937	2010	336 MCM
	PD.5454	Recloser 100-V4E	17	19	26	6000	456	1619	1773	1/0 ACSR
	PD.346	Recloser 35-E	3	0	0	2100	429	1316	0	6 ACSR
	PD.440	Recloser 35-M	0	18	0	2100	397	1038	0	1/0 ACSR
	TR.23596001	S.D. Transformer 250 (C)	0	0	5		212	522	0	8 CWC
	PD.441	Recloser 25-H	0	0	10	625	211	518	0	8 CWC
	TR.18533001	S.D. Transformer-500 (3)	3	3	13		207	504	269	4 ACSR
	PD.18533001	Recloser 70-L	5	5	27	4200	205	499	537	4 ACSR
	PD.5568	Recloser 50-4H	0	0	26	2000	193	423	0	6A CWC
	PD.23637001	Recloser 70-V4E	0	0	36	4200	233	981	0	1/0 ACSR
	PD.349	Recloser 235-125	50	52	49	12000	453	1545	1715	1/0 ACSR
	PD.6201	Recloser 100-E	1	2	2	2500	456	1577	1739	336MCM
G.B. Ligon	PD.3486	Recloser 450-170	15	18	19	12000	469	1938	2011	336 MCM
	ST.11	S.D. Transformer-333 (3)	13	16	15		226	717	732	1/0 ACSR
	PD.468	Recloser 70-L	26	33	29	4200	225	711	728	1/0 ACSR
	PD.464	Recloser 35-H	10	0	0	875	222	695	0	2 ACSR
	PD.465	Recloser 25-H	12	0	0	625	214	621	0	6 ACWC
	PD.18682001	Recloser 25-L	4	0	0	1500	207	561	0	6 ACWC
	PD.466	Recloser 35-V4L	0	32	27	2100	204	541	0	1/0 ACSR

3 PROPOSED DEVICES

Burlington Drive

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
North #1	PD.6303	Customer Owned	153	153	153	12000	254	9192	9190	2 ALURD
South #2	PD.6304	Customer Owned	91	91	91	12000	254	9067	9081	1/0 ALURD

3 PROPOSED DEVICES

Clarksville

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarksville	PD.3487	Recloser 450-170	142	139	203	12000	240	6780	6898	795 ACSR
	PD.1957	Recloser 100-V4L	34	23	34	6000	239	5319	5823	3/0 ACSR
	PD.22080001	Recloser 235-125	102	99	153	12000	238	4166	4845	3/0 ACSR
	PD.3660	Recloser 70-V4L	38	0	0	4200	235	3150	0	1/0 ACSR
	PD.4235	Recloser 50-4L	7	17	24	2000	212	1185	1563	1/0 ACSR
	PD.3410	Recloser 50-4L	38	49	50	2000	212	1168	1542	1/0 ACSR
Island Creek	PD.3488	Recloser 450-170	44	12	49	12000	240	6784	6899	477 ACSR
	PD.4296	Recloser 70-V4L	39	0	0	4200	234	3903	0	1/0 ACSR
	PD.2556	Recloser 50-H	0	0	32	1250	201	936	0	6 ACWC
Russel Stover	FD.47	Recloser 450-170	27	27	27		240	6784	6900	795 ACSR

3 PROPOSED DEVICES

Climax

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Climax	PD.3497	Recloser 235-125	83	86	94	12000	470	2431	2439	1/0 ACSR
	PD.1502	Recloser 50-E	2	0	0	2500	444	1880	0	2 ACSR
	PD.1415	Recloser 100-V4E	17	13	21	6000	413	1382	1612	1/0 ACSR
	ST.887	S.D. Transformer-333 (B)	0	12	0		219	673	0	2 ACSR
	PD.4914	Recloser 50-L	0	24	0	3000	218	669	0	2 ACSR
	ST.487	S.D. Transformer-250 (A)	6	0	0		210	529	0	6 ACWC
	PD.3414	Recloser 35-H	13	0	0	875	209	523	0	6 ACWC
	ST.484	S.D. Transformer-250 (C)	0	0	8		209	518	0	2 ACSR
	PD.4911	Recloser 35-4H	0	0	16	1400	208	517	0	2 ACSR
	ST.483	S.D. Transformer-250 (C)	0	0	9		208	517	0	6 ACSR
	PD.4910	Recloser 35-4H	0	0	18	1400	208	515	0	6 ACSR
	ST.886	S.D. Transformer-250 (A)	9	0	0		213	548	0	6 ACSR
	PD.1434	Recloser 50-L	18	0	0	3000	213	548	0	6 ACSR
	ST.491	S.D. Transformer-250 (C)	0	0	13		212	539	0	2 ACSR
	PD.1276	Recloser 50-L	0	0	27	3000	211	536	0	2 ACSR
	PD.3619	Recloser 180-90	52	58	51	12000	384	1074	1307	1/0 ACSR
	ST.504	S.D. Transformer-500 (3)	42	14	24		216	769	852	1/0 ACSR
	PD.4931	Recloser 100-V4L	83	27	49	6000	215	766	849	1/0 ACSR
	PD.1320	Recloser 35-V4E	33	0	0	2100	212	714	0	1/0 ACSR
	PD.1334	Recloser 35-V4E	0	0	19	2100	193	546	0	2 ACSR
	PD.1333	Recloser 35-V4E	11	0	0	2100	191	539	0	4 ACSR
	PD.1332	Recloser 35-V4E	30	23	26	2100	191	532	635	1/0 ACSR
	PD.1362	Recloser 15-V4L	0	0	5	900	180	446	0	4 ACSR
	ST.497	S.D. Transformer-500 (3)	10	40	16		216	768	850	1/0 ACSR
	PD.4929	Recloser 100-V4L	21	81	32	6000	216	765	848	1/0 ACSR
	PD.1343	Recloser 35-H	0	34	0	875	185	465	0	6 ACWC
	PD.1366	Recloser 15-V4L	0	6	0	900	145	290	0	6 ACSR
	PD.1344	Recloser 25-H	0	0	5	625	168	363	0	6 ACSR
	PD.1352	Recloser 25-H	0	0	8	625	165	349	0	6 ACSR
	PD.1345	Recloser 35-H	0	26	0	875	164	346	0	6 ACSR
Concord	FD.31	Recloser 450-170	86	85	85	12000	470	2431	2439	500 MCM
	PD.1491	Recloser 70-4E	11	9	7	2500	452	1951	2098	6 ACSR
	TR.982	S.D. Transformer-500 (A)	11	0	0		227	937	0	6 ACSR
	PD.1458	Recloser 25-V4L	21	0	0	1500	225	920	0	6 ACSR
	PD.1447	Recloser 100-V4E	50	47	47	6000	429	1482	1703	2/0 ACSR
	ST.475	S.D. Transformer-500 (A)	8	0	0		224	875	0	6 ACSR
	PD.1446	Recloser 50-H	16	0	0	1250	224	873	0	6 ACSR
	ST.482	S.D. Transformer-167 (B)	0	3	0		198	386	0	6 ACSR
	PD.4189	Recloser 35-H	0	5	0	875	198	385	0	6 ACSR
	ST.473	S.D. Transformer-167 (C)	0	0	2		199	386	0	6 ACSR
	PD.4188	Recloser 35-4H	0	0	4	1400	197	383	0	6 ACSR
	PD.1448	Recloser 100-V4E	25	23	17	6000	428	1478	1700	1/0 ACSR
	PD.3603	Recloser 50-4E	5	9	5	3000	412	1292	1526	1/0 ACSR
	PD.4495	Recloser 25-E	8	0	0	1500	343	775	0	1/0 ACSR
	ST.481	S.D. Transformer-167 (A)	4	0	0		191	365	0	6 ACWC
	PD.4498	Recloser 25-H	7	0	0	625	190	363	0	6 ACWC

3 PROPOSED DEVICES

Climax

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Rondo	PD.3495	Recloser 235-125	31	52	27	12000	470	2428	2437	1/0 ACSR
	ST.478	S.D. Transformer-500 (B)	0	11	0		230	994	0	6 ACSR
	PD.1418	Recloser 50-4H	0	20	0	2000	229	978	0	6 ACSR
	PD.1503	Recloser 180-90	30	28	13	12000	399	1171	1408	1/0 ACSR
	ST.486	S.D. Transformer-250 (C)	0	0	7		212	535	0	6 ACSR
	PD.3614	Recloser 50-H	0	0	14	1250	210	530	0	6 ACSR
	ST.477	S.D. Transformer-500 (B)	0	22	0		222	854	0	6 ACSR
	PD.1464	Recloser 50-V4L	0	44	0	3000	221	843	0	6 ACSR
	ST.476	S.D. Transformer-500 (B)	22	0	0		218	786	0	2 ACSR
	PD.1465	Recloser 100-V4L	43	0	0	6000	217	781	0	2 ACSR
	PD.4490	Recloser 50-V4L	37	0	0	3000	184	516	0	#8 CWC

3 PROPOSED DEVICES

Crystal Hill

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
East	PD.5859	Recloser 450-170	209	201	182	12000	472	2562	2611	336 ACSR
	PD.1102	Recloser 235-125	119	95	77	12000	446	1823	2047	248 ACSR
	ST.38	S.D. Transformer-500 (3)	46	4	18		230	973	1014	1/0 ACSR
	PD.1096	Recloser 180-90	93	8	37	12000	230	972	1013	1/0 ACSR
	PD.1160	Recloser 35-H	32	0	0	875	204	619	0	6 ACWC
	PD.1155	Recloser 70-V4L	56	0	0	4200	197	557	0	6 ACWC
	PD.1097	Recloser 35-E	0	13	0	2100	402	1187	0	1/0 ACSR
	ST.466	S.D. Transformer-167 (A)	7	0	0		198	385	0	1/0 ACSR
	PD.3235	Recloser 35-4H	14	0	0	1400	198	385	0	6 ACWC
	ST.467	S.D. Transformer-333 (C)	0	0	14		217	655	0	6 ACWC
	PD.3236	Recloser 50-H	0	0	29	1250	216	647	0	6 ACWC
	PD.3242	Recloser 35-E	0	27	0	2100	371	936	0	1/0 ACSR
	PD.46432001	Recloser 100-V4E	48	24	28	6000	371	931	1181	2/0 ACSR
	ST.469	S.D. Transformer-250 (A)	19	0	0		203	485	0	6 ACSR
	PD.3245	Recloser 50-V4L	39	0	0	3000	203	483	0	6 ACSR
	ST.470	S.D. Transformer-333 (A)	16	0	0		209	578	0	1/0 ACSR
	PD.3282	Recloser 50-H	33	0	0	1250	208	574	0	1/0 ACSR
	ST.471	S.D. Transformer-167 (C)	0	0	16		190	357	0	1/0 ACSR
	PD.3247	Recloser 35-H	0	0	31	875	189	357	0	#8 CWC
	PD.1103	Recloser 235-125	88	105	100	12000	446	1827	2050	1/0 ACSR
	ST.31	S.D. Transformer-333 (B)	0	6	0		223	713	0	6 ACSR
	PD.1031	Recloser 35-L	0	12	0	2100	222	708	0	6 ACSR
	PD.1030	Recloser 35-E	0	0	5	2100	419	1420	0	6 ACWC
	PD.1032	Recloser 35-E	0	0	0	2100	404	1253	0	4 ACSR
	ST.32	S.D. Transformer-500 (C)	0	0	26		224	881	0	6 ACSR
	PD.1036	Recloser 70-V4L	0	0	51	4200	223	873	0	6 ACSR
	PD.1033	Recloser 25-V4E	0	3	0	1500	370	955	0	4 ACSR
	PD.944	Recloser 70-V4E	25	25	7	4200	374	972	1218	1/0 ACSR
	PD.945	Recloser 35-V4E	18	0	0	2100	359	870	0	1/0 ACSR
	PD.6277	Recloser 15-V4E	3	0	0	900	329	699	0	6 ACWC
	PD.943	Recloser 35-H	3	0	0	875	343	772	0	6 ACSR
	PD.921	Recloser 35-H	0	0	2	875	315	636	0	6 ACWC
	PD.920	Recloser 35-H	0	17	0	875	314	632	0	6 ACWC
	ST.35	S.D. Transformer-167 (B)	0	3	0		193	372	0	6 ACSR
	PD.1043	Recloser 35-H	0	6	0	875	193	372	0	6 ACSR
	PD.3254	Recloser 70-V4E	23	0	0	4200	355	845	0	1/0 ACSR
	ST.472	S.D. Transformer-500 (A)	18	0	0		212	709	0	1/0 ACSR
	PD.4227	Recloser 15-V4L	7	0	0	900	210	694	0	1/0 ACSR
	PD.3258	Recloser 50-H	28	0	0	1250	208	680	0	6 ACWC
	PD.142	Recloser 25-H	19	0	0	625	192	553	0	6 ACWC
	TR.3628	S.D. Transformer-333 (B)	0	15	0		210	594	0	6 ACWC
	PD.1045	Recloser 35-H	0	31	0	875	209	589	0	6 ACWC
	ST.461	S.D. Transformer-333 (C)	0	0	20		206	553	0	1/0 ACSR
	PD.3220	Recloser 50-V4L	0	0	40	3000	206	552	0	6 ACWC

3 PROPOSED DEVICES

Crystal Hill

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
East cont.	ST.462	S.D. Transformer-167 (B)	0	7	0		185	342	0	1/0 ACSR
	PD.3223	Recloser 35-H	0	13	0	875	184	341	0	6 ACSR
	PD.1060	Recloser 50-E	4	14	6	2500	309	590	775	1/0 ACSR
	PD.3225	Recloser 50-E	24	9	11	2500	310	595	780	1/0 ACSR
	ST.463	S.D. Transformer-250 (A)	5	0	0		197	448	0	1/0 ACSR
	PD.3228	Recloser 35-4H	11	0	0	1400	197	446	0	6 ACWC
	ST.464	S.D. Transformer-167 (B)	0	3	0		181	330	0	1/0 ACSR
	PD.3230	Recloser 35-H	0	7	0	875	181	330	0	6 ACSR
	ST.465	S.D. Transformer-167 (A)	13	0	0		180	326	0	1/0 ACSR
	PD.3234	Recloser 35-H	26	0	0	875	179	325	0	6 ACSR
West	PD.3498	Recloser 450-170	172	162	177	12000	472	2593	2642	336 ACSR
	ST.39	S.D. Transformer-333 (3)	20	16	13		229	768	775	248 ACSR
	PD.1119	Recloser 50-L	40	33	27	3000	229	767	775	1/0 ACSR
	PD.1023	Recloser 25-V4L	16	0	0	1500	195	491	0	6 ACSR
	PD.1116	Recloser 70-4E	29	52	16	6000	461	1917	2127	1/0 ACSR
	PD.1171	Recloser 35-E	0	25	0	2100	445	1673	0	1/0 ACSR
	ST.43	S.D. Transformer-333 (A)	22	0	0		220	668	0	1/0 ACSR
	PD.1178	Recloser 50-V4L	43	0	0	3000	219	665	0	6 ACSR
	PD.1131	Recloser 50-E	8	0	0	2500	453	1612	0	1/0 ACSR
	PD.51136001	Recloser 235-125	80	63	94	12000	450	1469	1731	248 ACSR
	PD.1143	Recloser 70-4E	34	33	43	4000	428	1103	1370	248 ACSR
	PD.3202	Recloser 35-V4E	7	23	24	2100	416	958	1216	248 ACSR
	ST.517	S.D. Transformer-100(A), 333(B)	5	22	0		168	603	447	1/0 ACSR
	PD.5487	Recloser 50-V4L	10	45	0	3000	168	599	446	1/0 ACSR
	ST.515	S.D. Transformer-333 (C)	0	0	21		222	617	0	1/0 ACSR
	PD.5483	Recloser 50-H	0	0	42	1250	222	615	0	1/0 ACSR
	PD.1193	Recloser 70-V4E	20	9	15	4200	414	952	1209	1/0 ACSR
	ST.527	S.D. Transformer-250 (A)	16	0	0		210	484	0	1/0 ACSR
	PD.5125	Recloser 35-H	33	0	0	875	209	481	0	1/0 ACSR
	ST.531	S.D. Transformer-250 (3)	35	24	41		236	2213	2749	1/0 ALURD
	PD.6599	Recloser 100-V4L	70	48	83	6000	236	2201	2738	1/0 ACSR
	PD.1219	Recloser 35-V4L	0	0	15	2100	223	1302	0	6 ACSR
	PD.6159	Recloser 50-4H	3	7	12	2000	214	996	1335	336 ACSR
	PD.3529	Recloser 70-V4L	35	24	32	4200	213	983	1319	1/0 ACSR
	PD.1208	Recloser 35-L	32	0	0	2100	190	588	0	6 ACWC
	PD.4180	Recloser 25-V4L	0	0	17	1500	192	601	0	1/0 ACSR
	PD.1139	Recloser 70-V4E	27	31	33	4200	446	1451	1716	6 ACWC
	PD.1011	Recloser 35-E	0	0	13	2100	390	1088	0	6 ACSR
	PD.1012	Recloser 35-E	31	17	15	2100	374	993	1239	6 ACWC
	PD.933	Recloser 15-V4E	0	3	0	900	323	722	0	6 ACWC

3 PROPOSED DEVICES

DC Jackson

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarks Pool	PD.5787	Recloser 450-170	127	60	65	12000	253	4335	4509	336 ACSR
	PD.5044	Recloser 50-L	0	0	13	3000	247	2661	0	6 ACSR
	PD.1736	Recloser 50-L	0	0	21	3000	240	1680	0	6 ACWC
	PD.1733	Recloser 50-H	45	0	0	1250	229	1172	0	6 ACWC
	PD.1734	Recloser 50-H	30	0	0	1250	228	1146	0	6 ACWC
	PD.1735	Recloser 50-V4L	31	36	14	3000	227	1103	1451	1/0 ACSR
	PD.1828	Recloser 25-V4L	0	22	0	1500	208	720	0	6 ACWC
	PD.1866	Recloser 25-H	3	3	0	1250	192	535	723	1/0 ACSR

Morgans Mill	PD.5786	Recloser 450-170	174	175	220	12000	253	4350	4519	336 ACSR
	PD.5064	Recloser 235-125	131	108	116	12000	251	2780	3238	1/0 ACSR
	PD.1844	Recloser 50-L	0	17	0	3000	245	2073	0	1/0 ACSR
	PD.1843	Recloser 50-H	0	0	14	1250	228	1162	0	6 ACWC
	PD.1708	Recloser 35-V4L	18	0	0	2100	223	1025	0	6 ACWC
	PD.4520	Recloser 70-L	29	33	64	4200	249	2529	3014	1/0 ACSR
	PD.1700	Recloser 25-V4L	0	0	12	1500	225	1062	0	1/0 ACSR
	PD.1701	Recloser 25-V4L	15	0	0	1500	213	846	0	6 ACSR
	PD.5023	Recloser 25-4H	0	0	18	1000	213	852	0	#8 CWC
	PD.4519	Recloser 100-V4L	13	33	28	6000	248	2491	2980	2 ACSR
	PD.1619	Recloser 50-H	0	16	0	1250	212	874	0	6 ACSR
	PD.1617	Recloser 50-H	1	9	5	1250	216	958	1244	2 ACSR
	PD.1618	Recloser 50-H	0	0	11	1250	213	902	0	#8 CWC

3 PROPOSED DEVICES

Ebony

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Ebony	PD.3502	Recloser 450-170	92	93	113	12000	463	2093	2258	336 ACSR
	PD.5370	Recloser 35-V4E	15	0	0		443	1718	0	1/0 ACSR
	ST.18	S.D. Transformer-333 (A)	13	0	0		224	718	0	6 ACWC
	PD.673	Recloser 35-V4L	26	0	0	2100	223	709	0	6 ACWC
	ST.19	S.D. Transformer-167 (A)	16	0	0		200	391	0	6 ACSR
	PD.674	Recloser 35-V4L	32	0	0	2100	199	391	0	6 ACSR
	PD.676	Recloser 70-V4E	8	10	39	4200	397	1150	1410	1/0 ACSR
	PD.5392	Recloser 35-V4E	0	0	26	2100	386	1053	0	1/0 ACSR
	PD.675	Recloser 235-125	32	60	60	12000	397	1152	1412	1/0 ACSR
	ST.23	S.D. Transformer-500 (3)	25	59	53		211	750	840	1/0 ACSR
	PD.729	Recloser 35-V4E	0	28	0	2100	209	728	0	4 ACSR
	PD.730	Recloser 180-90	49	89	107	12000	209	717	812	1/0 ACSR
	PD.4313	Recloser 50-V4L	0	0	46	3000	180	443	0	6 ACSR

Tanglewood	PD.3503	Recloser 450-170	196	236	178	12000	463	2098	2261	336 ACSR
	PD.685	Recloser 100-V4E (2A-2C)	18	26	17	6000	455	1935	2134	1/0 ACSR
	ST.20	S.D. Transformer-500 (A)	18	24	17		218	573	586	1/0 ACSR
	PD.686	Recloser 70-V4L	37	48	33	4200	218	569	584	1/0 ACSR
	PD.444	Recloser 35-E	0	16	0	2100	428	1505	0	1/0 ACSR
	PD.760	Recloser 25-E	0	9	0	1500	422	1428	0	2 ACSR
	PD.3592	Recloser 100-4E	27	46	27	4000	401	1190	1452	1/0 ACSR
	PD.5431	Recloser 25-V4E	0	0	9	1500	381	1030	0	1/0 ACSR
	ST.888	S.D. Transformer-333 (A,B)	0	24	13		213	633	0	2 ACSR
	PD.4944	Recloser 50-H	0	48	26	1250	213	633	0	2 ACSR
	PD.824	Recloser 100-V4E	61	45	52	6000	397	1149	1409	1/0 ACSR
	TR.17886001	S.D. Transformer-333 (3)	14	14	11		218	633	694	1/0 ACSR
	PD.799	Recloser 35-L	28	27	22	2100	217	651	692	1/0 ACSR
	TR.17874001	S.D. Transformer-250 (A,B)	0	0	21		209	516	0	1/0 ACSR
	PD.17874001	Recloser 50-V4L	0	0	42	3000	209	515	0	1/0 ACSR
	TR.17874002	S.D. Transformer-250 (A)	17	0	0		209	513	0	2 ACSR
	PD.17884001	Recloser 50-V4L	35	0	0	3000	208	512	0	2 ACSR
	TR.17882001	S.D. Transformer-250 (B,C)	0	11	9		207	507	0	1/0 ACSR
	TR.17859001	S.D. Transformer-3500 (3)	32	18	32		232	1985	2310	4/0 ALURD
	PD.807	Recloser Triple-Single	47	68	37	12000	405	1227	1490	4/0 ACSR
	PD.6089	Recloser 25-V4E	11	0	0	1500	392	1078	0	2 ACSR
	PD.790	Recloser 35-4H	0	11	0	1400	389	1040	0	2 ACSR
	PD.789	Recloser 50-V4E	22	12	14	3000	387	1022	1278	1/0 ACSR
	PD.785	Recloser 25-V4E	13	0	0	1500	383	992	0	2 ACSR
	PD.6278	Recloser 25-V4E	8	0	0	1500	377	953	0	2 ACSR
	TR.22897001	S.D. Transformer-167 (C)	0	0	9		198	383	0	#8 CWC
	PD.22897001	Recloser 25-4H	0	0	17	1000	197	380	0	#8 CWC
	TR.22896002	S.D. Transformer-333 (B)	0	27	0		218	648	0	2 ACSR
	PD.3365	Recloser 70-V4L	0	55	0	4200	218	647	0	2 ACSR

3 PROPOSED DEVICES

Emporia

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
301 South	PD.3504	Recloser 235-125	40	52	45	12000	473	2868	2920	3/0 ACSR
	PD.5135	Recloser 100-V4E	14	22	16	6000	438	1749	2026	2/0 ACSR
	PD.433	Recloser 25-E	0	0	5	1500	420	1452	0	1/0 ACSR
	PD.28787001	Recloser 25-E	1	0	0	1500	400	1195	0	2 ACSR
58 West	PD.3505	Recloser 235-125	11	44	59	12000	473	2863	2916	1/0 ACSR
	ST.2	S.D. Transformer 333 (B)	0	17	0		435	1818	0	1/0 ACSR
	PD.198	Recloser 50-V4L	0	35	0	3000	434	1795	0	1/0 ACSR
	ST.3	S.D. Transformer 500 (3)	10	24	49		434	1804	2081	1/0 ACSR
	PD.199	Recloser 100-V4L	19	48	98	6000	434	1800	2077	1/0 ACSR
	TR.38787001	S.D. Transformer 250 (C)	0	0	21		412	1439	0	1/0 ACSR
	PD.3427	Recloser 50-V4L	0	0	42	3000	411	1427	0	1/0 ACSR
	PD.5134	Recloser 50-V4L	2	18	48	3000	406	1360	1650	1/0 ACSR
	PD.145	Recloser 25-V4L	0	11	13	1500	370	983	0	1/0 ACSR
Low Ground Rd	PD.3506	Recloser 235-125	53	58	64	12000	473	2866	2918	3/0 ACSR
	ST.9	S.D. Transformer 333 (3)	7	13	27		419	1459	1754	2 ACSR
	PD.435	Recloser 70-V4L	14	26	54	4200	419	1455	1750	2 ACSR
	ST.10	S.D. Transformer 500 (3)	11	12	16		414	1379	1673	2/0 ACSR
	PD.434	Recloser 100-V4L	23	23	31	6000	413	1371	1665	2/0 ACSR
	PD.323	Recloser 50-V4L	18	20	27	3000	373	955	1216	2/0 ACSR
	PD.459	Recloser 25-H	15	0	0	1250	322	650	0	1/0 ACSR

3 PROPOSED DEVICES

Freeman

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Pleasant Shade	FD.1	Recloser 450-170	77	85	90	12000	253	5175	5392	336 ACSR
	PD.107	Recloser 70-V4L	46	24	11	6000	241	2158	2695	1/0 ACSR
	PD.151	Recloser 35-L	17	0	0	2100	234	1666	0	6 ACWC
	PD.136	Recloser 35-V4L	10	0	0	2100	220	1022	0	6 ACSR
	PD.3654	Recloser 35-V4L	8	0	0	2100	221	1044	0	1/0 ACSR
	PD.43694001	Recloser 35-V4L	0	16	0	2100	215	972	0	#8 CWC
	PD.92	Recloser 50-4H	23	25	46	2000	217	998	1291	1/0 ACSR
	PD.72	Recloser 25-V4L	0	0	20	1500	203	716	0	1/0 ACSR
	PD.4163	Recloser 25-V4L	12	0	0	1500	186	515	0	6 ACSR
Rocky Quarry	PD.3437	Recloser 450-170	72	231	39	12000	253	5213	5418	336 ACSR
	PD.514	Recloser 50-V4L	8	17	13	3000	240	1798	2341	1/0 ACSR
	PD.524	Recloser 35-V4L	0	0	16	1500	232	1334	0	6 ACWC
	PD.523	Recloser 35-V4L	0	22	0	1500	231	1304	0	6 ACWC
Smokey Ordinary	PD.3438	Recloser 235-125	103	80	79	12000	253	5197	5406	1/0 ACSR
	PD.108	Recloser 100-V4L	42	4	2	6000	237	1814	2312	1/0 ACSR
	PD.48569001	Recloser 50-V4L	37	0	0	3000	206	791	0	4 ACSR
	PD.493	Recloser 100-V4L	55	54	72	6000	221	1052	1387	1/0 ACSR
	PD.6300	Recloser 35-H	0	33	0	875	207	768	0	1/0 ACSR
	PD.4299	Recloser 50-V4L	0	0	43	3000	202	676	0	4 ACSR
	PD.53429001	Recloser 25-H	0	0	11	625	163	387	0	6 ACWC
	PD.500	Recloser 50-V4L	36	0	0	3000	192	564	0	2 ACSR

3 PROPOSED DEVICES

Gasburg

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
46 North	PD.3439	Recloser 235-125	98	104	121	12000	441	1643	1873	1/0 ACSR
	PD.632	Recloser 50-E	0	0	6	2500	429	1474	0	6 ACSR
	ST.22	S.D Transformer-500 (3)	16	24	22		225	884	946	1/0 ACSR
	PD.707	Recloser 70-L	33	45	44	4200	222	834	901	1/0 ACSR
	PD.5397	Recloser 35-H	0	24	0	875	213	713	0	1/0 ACSR
	PD.706	Recloser 35-E	9	23	8	2100	399	1148	1398	1/0 ACSR
	PD.704	Recloser 180-90 VWVE	70	45	76	12000	400	1162	1413	1/0 ACSR
	PD.705	Recloser 25-E	0	0	8	1500	381	1007	0	6 ACSR
	PD.697	Recloser 25-E	0	4	0	1500	365	896	0	6 ACSR
	PD.698	Recloser 35-H	0	3	0	875	341	765	0	4 ACSR
	PD.616	Recloser 50-H	32	0	0	1250	292	571	0	1/0 ACSR
	PD.615	Recloser 50-V4L	0	0	47	3000	282	536	0	1/0 ACSR
	ST.511	S.D Transformer-500 (3)	19	24	3		202	640	740	1/0 ACSR
	PD.5389	Recloser 70-L	38	48	6	4200	202	640	739	1/0 ACSR
	PD.614	Recloser 25-V4L	0	22	0	1500	193	554	0	4 ACSR
	PD.611	Recloser 25-4H	19	0	0	1000	179	446	0	6 ACSR
Gasburg	PD.3441	Recloser 235-125	81	76	86	12000	441	1642	1872	1/0 ACSR
	PD.634	Recloser 50-E	22	0	0	2500	421	1380	0	2 ACSR
	PD.585	Recloser 35-E	14	14	16	2100	385	1030	1274	1/0 ACSR
	PD.652	Recloser 70-V4L	1	3	13	4200	377	969	1207	1/0 ACSR
	PD.651	Recloser 25-E	0	0	10	1500	374	953	0	6 ACSR
	PD.586	Electronic 180-90	35	46	36	12000	376	970	1208	2 ACSR
	PD.587	Recloser 35-V4L	7	19	1	2100	373	948	1184	1/0 ACSR
	PD.578	Recloser 50-L	15	17	21	3000	350	819	1036	2 ACSR
	ST.507	S.D. Transformer-500 (3)	5	4	6		215	762	849	2 ACSR
	PD.4990	Recloser 25-V4L	11	8	11	1500	215	762	849	2 ACSR
Valentines	PD.3440	Recloser 235-125	17	44	47	12000	441	1642	1872	1/0 ACSR
	TR.18311001	S.D. Transformer-333 (3)	10	23	17		217	647	688	1/0 ACSR
	PD.775	Recloser 50-H	19	45	34	1250	217	642	685	1/0 ACSR
	ST.24	S.D. Transformer-250 (B)	0	7	0		211	524	0	6 ACSR
	PD.776	Recloser 35-H	0	15	0	875	210	522	0	6 ACSR
	ST.25	S.D. Transformer-500 (3)	6	10	23		221	827	901	1/0 ACSR
	PD.777	Recloser 50-L	11	20	46	3000	221	819	895	1/0 ACSR
	PD.772	Recloser 25-V4L	1	6	17	1500	193	515	621	1/0 ACSR
	PD.773	Recloser 25-H	3	0	0	625	192	514	0	6 ACSR

3 PROPOSED DEVICES

Gretna

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
40 East	PD.3447	Recloser 235-125	57	106	55	12000	252	3662	4107	2/0 ACSR
	PD.1250	Recloser 50-L	0	5	0	3000	232	1423	0	6 ACSR
	PD.1249	Recloser 50-L	32	39	11	3000	234	1441	1876	2/0 ACSR
	PD.1255	Recloser 70-L	25	42	31	4200	229	1200	1585	2/0 ACSR
	PD.1238	Recloser 25-L	12	0	0	1500	221	956	0	6 ACWC
	PD.1237	Recloser 35-V4L	1	15	7	2100	210	733	993	1/0 ACSR
	PD.1239	Recloser 15-V4L	0	13	0	900	199	601	0	6 ACSR
40 West	PD.3448	Recloser 450-170	290	256	195	12000	252	3669	4113	336 ACSR
	PD.1292	Recloser 100-V4L	52	45	19	6000	249	2555	3106	2/0 ACSR
	PD.1266	Recloser 50-V4L	36	0	0	3000	219	896	0	6 ACSR
	PD.733	Recloser 35-L	0	12	0	2100	218	881	0	6 ACSR
	PD.1296	Recloser 50-L	0	7	0	3000	244	1903	0	6 ACWC
	PD.1299	Recloser 50-L	0	29	0	3000	245	1963	0	2 ACSR
	PD.1309	Recloser 50-L	26	0	0	3000	237	1372	0	6 ACWC
	PD.5324	Recloser 50-L	11	15	11	3000	238	1217	1817	1/0 ACSR
	PD.4293	Recloser 50-L	29	8	30	3000	235	1063	1615	1/0 ACSR
	PD.1313	Recloser 50-L	0	10	15	3000	234	1055	1602	1/0 ACSR
	PD.1314	Recloser 70-V4L	49	33	9	4200	228	970	1459	6 ACWC
	PD.1275	Recloser 35-V4L	33	0	0	2100	179	469	0	6 ACSR
Transco Test	PD.3446	Recloser 235-125	54	84	109	12000	252	3676	4119	2 ACSR
	PD.1246	Recloser 35-L	0	0	16	2100	222	1171	0	6 ACSR
	PD.1432	Recloser 100-V4L	50	73	82	6000	207	818	1061	2 ACSR
	PD.1431	Recloser 35-H	16	0	0	875	207	807	0	6 ACSR
	PD.1430	Recloser 35-H	7	0	0	875	193	622	0	6 ACSR

3 PROPOSED DEVICES

Grit

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Grit	PD.3449	Recloser 450-170	103	149	168	12000	253	5492	5694	336 ACSR
	PD.1381	Recloser 50-V4L	10	0	0	3000	249	2984	0	6 ACWC
	PD.6236	Recloser 50-V4L	13	18	9	3000	246	2107	2757	1/0 ACSR
	PD.4190	Recloser 50-L	14	31	39	3000	246	2096	2742	1/0 ACSR
	PD.1603	Recloser 35-V4L	32	0	0	2100	239	1274	0	2 ACSR
	PD.1405	Recloser 35-V4L	0	15	31	2100	236	1160	0	1/0 ACSR
Level Run	PD.3450	Recloser 235-125	29	34	50	12000	253	5488	5691	2/0 ACSR
	PD.981	Recloser 50-H	0	18	0	1250	218	920	0	6 ACWC
	PD.979	Recloser 50-H	0	0	28	1250	214	853	0	4 ACSR
Renan	PD.3451	Recloser 235-125	50	33	20	12000	253	5488	5692	2/0 ACSR
	PD.1369	Recloser 35-L	15	0	0	2100	217	1150	0	6 ACWC
	PD.1355	Recloser 35-H	0	0	5	875	192	670	0	6 ACSR
	PD.1356	Recloser 35-H	26	0	0	875	181	545	0	6 ACSR

3 PROPOSED DEVICES

Hickory Grove

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Republican Grove	PD. 3453	Solid	129	165	137	12000	251	2228	2317	4/0 ALURD
	PD.926	Recloser 50-L	21	19	16	3000	250	2166	0	6 ACSR
	PD.924	Recloser 70-L	41	43	48	4200	247	1924	2092	1/0 ACSR
	PD.5493	Recloser 50-V4L	0	38	0	2000	216	814	0	6 ACSR
	PD.930	Recloser 50-V4L	0	1	29	2000	215	795	0	6 ACWC
	PD.5816	Recloser 235-125	74	106	80	12000	246	1874	2052	1/0 ACSR
	PD.907	Recloser 50-L	0	49	13	2000	219	883	0	6 ACWC
	PD.905	Recloser 25-H	0	20	0	625	189	552	0	6 ACSR
	PD.906	Recloser 70-V4L	54	53	55	4200	221	912	1142	1/0 ACSR
	PD.908	Recloser 35-L	18	17	18	2100	219	872	1099	1/0 ACSR
	PD.888	Recloser 35-V4L	0	26	0	2100	202	618	0	6 ACSR
	PD.5377	Recloser 35-H	25	3	16	1400	187	480	632	1/0 ACSR
	PD.887	Recloser 25-4H	13	0	0	1000	186	477	0	6 ACSR

3 PROPOSED DEVICES

Island Creek

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Ceder Grove	PD.3456	Recloser 450-170	45	22	21	6000	252	2124	2144	336 ACSR
	PD.2514	Recloser 35-L	0	9	9	2100	248	1722	0	2 ACSR
	PD.2547	Recloser 100-V4L	43	0	0	6000	225	1018	1229	4 ACWC
	PD.2555	Recloser 50-V4L	41	0	0	3000	199	630	0	2 ACSR
Ponderosa	PD.3455	Recloser 450-170	106	46	99	12000	252	2129	2147	336 ACSR
	PD.2513	Recloser 50-4H	2	3	15	2000	245	1554	1720	1/0 ACSR
	PD.2546	Recloser 35-L	0	0	6	2100	241	1392	0	6 ACSR
	PD.5825	Recloser 35-L	14	15	13	1500	225	922	1133	1/0 ACSR
	PD.2528	Recloser 70-V4L	61	11	40	4200	225	933	1144	1/0 ACSR
	PD.2523	Recloser 35-V4L	27	5	25	2100	201	589	759	1/0 ACSR
	PD.3184	Recloser 35-H	32	6	8	2100	201	591	761	1/0 ACSR

3 PROPOSED DEVICES

Jones Store

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Chase City	PD.3457	Recloser 450-170	93	71	133	12000	240	5732	6179	336 ACSR
	PD.4136	Recloser 100-V4L	27	33	35	6000	236	3073	3824	1/0 ACSR
	PD.4195	Recloser 50-V4L	0	29	35	3000	205	858	0	1/0 ACSR
	PD.1814	Recloser 50-L	12	0	0	3000	229	2052	0	6 ACWC
	PD.1636	Recloser 50-L	0	0	10	3000	221	1437	0	6 ACWC
	PD.1635	Recloser 50-L	12	25	22	3000	222	1482	1971	6 ACWC
	PD.1726	Recloser 25-V4L	5	0	0	1500	187	664	0	6 ACWC
	PD.1634	Recloser 70-V4L	40	2	59	4200	222	1509	2008	4 ACWC
	PD.1632	Recloser 35-H	0	0	30	875	193	703	0	6 ACSR

Finchley	PD.3458	Recloser 450-170	156	215	207	12000	240	5733	6179	246 ACSR
	PD.5012	Recloser 70-V4L	0	12	0	4200	239	3998	0	1/0 ACSR
	PD.5817	Recloser 50-L	0	9	0	3000	229	2098	0	6 ACSR
	PD.2154	Recloser 100-V4L	57	51	39	6000	230	2148	2767	1/0 ACSR
	PD.1943	Recloser 35-V4L	17	4	32	2100	213	1081	1447	1/0 ACSR
	PD.1944	Recloser 50-V4L	0	44	0	3000	205	860	0	6 ACSR
	PD.1824	Recloser 35-H	27	0	0	875	198	739	0	#8 CWC
	PD.2155	Recloser 235-125	72	137	147	12000	228	1950	2533	1/0 ACSR
	PD.5026	Recloser 70-V4L	14	63	41	4200	209	942	1265	1/0 ACSR
	PD.3526	Recloser 35-H	12	33	16	875	185	544	751	1/0 ACSR
	PD.6169	Recloser 35-V4L	26	0	0	2100	195	703	0	#8 CWC
	PD.3163	Recloser 50-H	5	19	15	1250	180	516	692	1/0 ACSR
	PD.3158	Recloser 35-H	0	16	0	875	176	480	0	1/0 ACSR
	PD.3157	Recloser 50-V4L	0	0	38	3000	164	399	0	1/0 ACSR

3 PROPOSED DEVICES

Mt. Airy

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
40 E.	PD.5121	Recloser 235-125	54	34	48	10000	235	1988	2310	1/0 ACSR
	PD.65961001	Recloser 100-V4L	49	16	28	6000	210	879	1148	1/0 ACSR
	PD.896	Recloser 25-H	11	0	0	625	193	610	0	#8 CWC
	PD.898	Recloser 50-V4L	38	0	12	3000	187	541	0	1/0 ACSR
	PD.889	Recloser 15-H	8	0	0	375	151	328	0	6 ACWC
Renan	PD.5560	Recloser 450-170	108	98	78	10000	236	2009	2328	336 ACSR
	PD.1286	Recloser 50-L	6	11	9	3000	224	1143	1470	6 ACWC
	PD.991	Recloser 35-L	8	0	0	2100	215	897	0	6 ACSR
	PD.882	Recloser 50-L	30	0	0	3000	187	516	0	2 ACSR
	PD.883	Recloser 100-V4L	50	54	35	6000	186	510	691	1/0 ACSR
	PD.879	Recloser 35-H	0	0	19	875	181	472	0	6 ACWC
	PD.878	Recloser 35-H	0	9	0	875	177	439	0	6 ACSR
	PD.880	Recloser 50-V4L	46	0	0	3000	171	399	0	6 ACWC
	PD.881	Recloser 50-V4L	0	39	0	3000	171	399	0	6 ACWC
Riceville	PD.3548	Recloser 235-125	58	67	78	10000	236	2003	2323	1/0 ACSR
	PD.1065	Recloser 70-L	33	35	21	4200	232	1795	2143	1/0 ACSR
	PD.1233	Recloser 35-L	14	0	0	2100	227	1506	0	6 ACSR
	PD.1423	Recloser 15-H	0	24	0	875	200	748	0	6 ACSR
	PD.4155	Recloser 35-H	0	24	0	875	200	748	0	6 ACSR
	PD.4156	Recloser 35-V4E	15	0	11	2100	201	748	1002	6 ACWC
	PD.999	Recloser 25-L	11	0	0	1500	220	1182	0	6 ACSR
	PD.1000	Recloser 50-H	0	18	0	1250	210	908	0	6 ACWC
	PD.973	Recloser 25-4H	8	0	0	1000	201	735	0	6 ACWC
	PD.975	Recloser 35-V4E	0	0	28	2100	199	711	0	6 ACWC
	PD.977	Recloser 35-H	0	0	14	875	194	635	0	6 ACSR

3 PROPOSED DEVICES

Northview

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Rt. 58	PD.3463	Recloser 450-170	86	88	121	12000	252	3975	4275	336 ACSR
	PD.1790	Recloser 235-125	31	29	28	12000	248	2420	2933	1/0 ACSR
	PD.1126	Recloser 35-L	13	12	12	2100	236	1478	1929	1/0 ACSR
	PD.37595001	Recloser 70-V4L	0	20	42	4200	238	1358	0	1/0 ACSR
	PD.1781	Recloser 35-V4L	0	0	26	2100	196	604	0	6 ACSR
	PD.2079	Recloser 35-H	0	0	17	875	219	843	0	2 ACSR
	PD.2078	Recloser 35-V4L	9	0	0	2100	225	842	1162	336 ACSR
	PD.2496	Recloser 25-V4L	15	0	0	1500	224	804	0	#8 CWC
	PD.1993	Recloser 50-L	25	28	21	3000	224	805	1114	336 ACSR
	PD.1994	Recloser 35-H	0	21	0	875	221	756	0	2 ACSR

Union Level	PD.3462	Recloser 235-125	66	85	56	12000	252	3980	4278	1/0 ACSR
	PD.42670001	Recloser 70-V4L	0	8	0	4200	252	3797	0	6 ACSR
	PD.1569	Recloser 35-V4L	0	22	0	2100	221	1071	0	6 ACSR
	PD.1568	Recloser 50-4H	36	18	18	2000	225	1119	1466	1/0 ACSR
	PD.1567	Recloser 100-V4L	30	24	35	6000	224	1111	1457	1/0 ACSR
	PD.1718	Recloser 35-H	6	0	0	875	221	806	0	6 ACSR
	PD.1719	Recloser 50-V4L	8	21	25	875	199	627	841	1/0 ACSR
	PD.1715	Recloser 25-4H	0	17	0	1000	189	515	0	6 ACSR
	PD.1760	Recloser 25-H	2	0	0	625	177	423	0	6 ACSR
	PD.1761	Recloser 25-H	0	0	18	625	177	423	0	1/0 ACSR

3 PROPOSED DEVICES

Omega

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Clarksville	PD.3466	Recloser 235-125	91	109	97	12000	475	3634	3772	1/0 ACSR
	PD.5546	Recloser 100-V4L	3	22	8	6000	461	2865	3183	1/0 ACSR
	ST.49	S.D. Transformer-500 (B)	0	19	0		227	996	0	1/0 ACSR
	PD.2232	Recloser 50-H	0	38	0	1250	227	982	0	1/0 ACSR
	PD.2436	Recloser 25-H	0	15	0	625	192	523	0	#8 CWC
	PD.5000	Recloser 50-V4L	21	0	0	3000	454	2552	0	1/0 ACSR
	PD.1899	Recloser 35-V4L	0	0	2	2100	413	1535	0	6 ACSR
	PD.1898	Recloser 180-90	33	51	39	12000	384	1150	1473	1/0 ACSR
	PD.1901	Recloser 50-V4L	0	45	0	3000	225	1952	0	1/0 ACSR
	ST.532	S.D. Transformer-250 (B)	0	7	0		207	515	0	#8 CWC
	PD.6207	Recloser 35-H	0	13	0	875	205	512	0	#8 CWC
	ST.45	S.D. Transformer-167 (B)	0	4	0		195	384	0	6 ACSR
	PD.1900	Recloser 35-H	0	8	0	875	195	384	0	6 ACSR
	PD.2448	Recloser 50-E	11	3	14	2500	339	787	1034	1/0 ACSR
	ST.52	S.D. Transformer-250 (C)	0	0	9		199	477	0	6 ACSR
	PD.2299	Recloser 25-H	0	0	18	625	198	472	0	6 ACSR
	ST.51	S.D. Transformer-167 (A)	8	0	0		187	358	0	6 ACSR
	PD.2300	Recloser 25-H	17	0	0	625	186	355	0	6 ACSR
	ST.530	S.D. Transformer-333 (C)	0	0	13		209	604	0	4 ACSR
	PD.2449	Recloser 50-H	0	0	23	1250	208	600	0	4 ACSR
	PD.2450	Recloser 50-E	20	10	4	2500	337	776	1021	1/0 ACSR
	ST.506	S.D. Transformer-333 (B)	0	8	0		205	574	0	2 ACSR
	PD.3623	Recloser 35-H	0	17	0	875	205	570	0	2 ACSR
	ST.55	S.D. Transformer-333 (3)	20	0	0		205	574	639	1/0 ACSR
	PD.2463	Recloser 35-H	31	0	0	875	205	571	0	6 ACWC
	ST.44	S.D. Transformer-500 (3)	27	24	28		222	894	974	1/0 ACSR
	PD.1897	Recloser 100-V4L	54	49	55	6000	221	891	972	1/0 ACSR
	PD.1923	Recloser 35-H	29	14	9	875	203	631	743	1/0 ACSR
	PD.3841	Recloser 50-V4L	24	27	36	3000	209	703	811	1/0 ACSR
Lewis Cole	PD.3465	Recloser 235-125	122	99	125	12000	475	3636	3774	1/0 ACSR
	ST.47	S.D. Transformer-500 (A)	17	0	0		230	2777	0	6 ACSR
	PD.2017	Recloser 50-L	34	0	0	3000	229	2744	0	6 ACSR
	PD.6593	Recloser 25-H	13	0	0	1000	162	453	0	8A CWC
	TR.26471001	S.D. Transformer-333 (3)	19	16	28		220	708	745	1/0 ACSR
	PD.2016	Electronic 180-90	38	32	57	12000	219	701	740	1/0 ACSR
	PD.26480001	Recloser 180-90	43	48	51	12000	398	1317	1666	1/0 ACSR
	PD.1737	Recloser 70-E	8	18	0	2500	314	672	879	1/0 ACSR
	ST.58	S.D. Transformer-500 (3)	21	15	14		211	742	846	1/0 ACSR
	PD.2490	Recloser 50-L	43	30	29	3000	210	737	841	1/0 ACSR
	PD.2479	Recloser 35-H	15	28	11	875	187	494	604	1/0 ACSR
	PD.2015	Electronic 180-90	8	29	29	12000	396	1293	1639	1/0 ACSR
	ST.57	S.D. Transformer-500 (C)	0	0	19		216	792	0	6 ACSR
	PD.2431	Recloser 50-L	0	0	39	3000	214	778	0	1/0 ACSR
	ST.56	S.D. Transformer-500 (B)	0	23	0		216	794	0	6 ACSR
	PD.2470	Recloser 50-L	0	45	0	3000	215	785	0	6 ACSR
S. Boston	PD.3464	Recloser 235-125	38	25	28	12000	475	3642	3778	1/0 ACSR
	ST.53	S.D. Transformer-500 (3)	35	16	22		232	1091	1122	1/0 ACSR
	PD.2321	Recloser 180-90	70	32	44	12000	231	1086	1118	1/0 ACSR
	PD.2322	Recloser 70-V4L	60	22	16	4200	226	977	1039	1/0 ACSR
	PD.2323	Recloser 35-L	27	0	0	2100	217	837	0	6 ACSR

3 PROPOSED DEVICES

Sheva

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Sheva N	Feeder North	Recloser 235-125	27	48	32	12000	188	4265	3857	2 ACSR
	PD.1416	Recloser 50-V4L	14	13	23	3000	183	2380	2561	1/0 ACSR
	PD.1425	Recloser 50-V4L	12	24	1	3000	175	1487	1733	1/0 ACSR
Sheva S	Feeder South	Recloser 235-125	24	23	24	12000	188	4265	3857	2 ACSR
	PD.1479	Recloser 70-V4L	9	0	0	4200	188	3968	0	2 ACSR
	PD.1480	Recloser 35-V4L	0	0	6	2100	180	1901	0	2 ACSR

3 PROPOSED DEVICES

Shockoe

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
832 East	PD.3469	Recloser 235-125	100	110	125	12000	252	3075	3410	1/0 ACSR
	PD.5379	Recloser 50-4H	7	26	16	2000	228	1184	1530	1/0 ACSR
	PD.955	Recloser 25-V4L	0	0	12	1500	199	606	0	6 ACWC
	PD.962	Recloser 35-L	13	0	0	2100	209	760	0	6 ACSR
	PD.965	Recloser 35-H	33	0	0	875	198	603	0	6 ACWC
	PD.6161	Recloser 35-L	4	18	8	2100	194	555	745	336 ACSR
	PD.966	Recloser 50-V4L	0	0	35	3000	193	553	0	6 ACSR
	PD.4979	Recloser 25-H	0	0	15	1500	154	328	0	6 ACSR
Java	PD.3470	Recloser 235-125	22	58	44	12000	252	3069	3405	1/0 ACSR
	PD.1470	Recloser 25-L	13	0	0	1500	235	1469	0	4 ACSR
	PD.1469	Recloser 35-H	0	0	6	875	214	829	0	6 ACSR
	PD.974	Recloser 35-H	0	19	0	875	204	664	0	6 ACWC
	PD.3527	Recloser 35-4H	2	15	7	1400	217	885	1166	1/0 ACSR
Spring Garden	PD.3467	Recloser 235-125	76	136	120	12000	252	3073	3408	1/0 ACSR
	PD.1529	Recloser 50-V4L	12	0	0	3000	248	2653	0	6 ACWC
	PD.4249	Recloser 70-L	7	21	19	4200	244	2132	2565	1/0 ACSR
	PD.1521	Recloser 50-H	0	16	0	1250	226	1181	0	6 ACWC
	PD.1520	Recloser 50-L	5	18	35	3000	224	1048	1366	1/0 ACSR
	PD.1519	Recloser 70-V4L	44	53	35	4200	222	1006	1314	1/0 ACSR
	PD.1540	Recloser 35-H	16	32	0	875	190	522	0	1/0 ACSR
	PD.1541	Recloser 35-H	13	8	25	875	190	521	700	1/0 ACSR

3 PROPOSED DEVICES

Staunton River

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Staunton River	FD.500	VFI	21	0	0	16000	195	844	0	1/0 URD

3 PROPOSED DEVICES

Three Creeks

Model Circuit	Element Name	Proposed Device Equipment	Thru Amps A	Thru Amps B	Thru Amps C	Interrupting Rating	Min PhGd Amps	Max PhGd Amps	Three Phase Amps	Dowline Conductor
Industry Parkway	PD.5822	Recloser 450-170	98	98	98	12000	475	3267	3269	336 ACSR

SUMMARY OF DEVICE CHANGES

4 SUMMARY OF DEVICE CHANGES

Beechwood

Model Circuit	Element Name	Device Equipment	Proposed Changes
Americamps	PD.3474	Recloser 400-160 VWVE	450-170
	TR.17704001	S.D. Transformer-3500 (3)	
	PD.2377	Recloser Triple-Single	235-125
	PD.4095	Recloser 50-L	
	TR.17758001	S.D. Transformer-167 (B)	
	PD.17758001	Recloser 50-L	
	TR.17769001	S.D. Transformer-167 (A)	
	PD.17769001	Recloser 35-L	
	TR.17870001	S.D. Transformer-250 (3)	
	PD.4501	Recloser 50-H	
Palmer Springs	PD.3471	Recloser 400-140 RKE	450-170
	PD.5111	Recloser 70-L	
	PD.2114	Recloser 50-L	
	PD.4175	Recloser 200-V4E	Electronic 235-125
	PD.5860	Recloser 35-L	
	PD.2350	Recloser 50-H	
	PD.2351	Recloser 50-4H	
	PD.2353	Recloser 25-H	Recloser 25-V4L
	PD.2497	Recloser 25-H	
	PD.2411	Recloser 25-H	Recloser 25-V4L
	PD.4885	Recloser Triple-Single	235-125
	PD.5542	Recloser 50-4H	
	PD.2388	Recloser 35-H	
	PD.4390	Recloser 50-H	
	PD.5541	Recloser 35-L	
	PD.3200	Recloser 35-H	
South Hill	PD.3472	Recloser 400-140 VWE	235-125
	PD.3250	Recloser 50-L	
	PD.3313	Recloser 70-L	
	PD.2052	Recloser 35-L	
	PD.2053	Recloser 35-4H	
	PD.5545	Recloser Triple-Single	180-90
	PD.2061	Recloser 50-H	

4 SUMMARY OF DEVICE CHANGES

Beechwood

Model Circuit	Element Name	Device Equipment	Proposed Changes
Tanglewood	PD.3473	Recloser 400-160 VWVE	450-170
	TR.22793001	S.D. Transformer-500(B), 250(C)	
	PD.3574	Recloser 35-L	
	PD.5543	Recloser 280-VWE	235-125
	PD.4548	Recloser 50-E	
	TR.22768001	S.D. Transformer-250 (B)	
	TR.22747001	S.D. Transformer-167 (C)	
	PD.22747002	Recloser 25-H	
	TR.27798002	S.D. Transformer-167 (A)	
	PD.27798001	Recloser 25-H	
	TR.27778001	S.D. Transformer-250 (A)	
	PD.27778002	Recloser 35-H	Recloser 25-V4L
	TR.27768001	S.D. Transformer-167 (B)	
	PD.5758	Recloser 25-H	Recloser 25-V4L
	TR.27758001	S.D. Transformer-250 (C)	
	TR.22890001	S.D. Transformer-333 (A)	
	PD.22890001	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Belfield

Model Circuit	Element Name	Device Equipment	Proposed Changes
301 N.	PD.3476	Recloser 280-140 VWVE	235-125
	PD.185	Recloser 70-4E	
	PD.207	Recloser 70-E	
	PD.158	Recloser 70-M	Recloser 100-V4E
	PD.59	Recloser 35-EF-2	Recloser 50-V4E
	ST.60	S.D. Transformer-250 (A)	
	PD.2656	Recloser 25-H	Recloser 25-V4L
	PD.226	Recloser 70-M	Recloser 100-V4E
	PD.227	Recloser 35-E	
	PD.64	Recloser 35-E	Recloser 50-V4E
Adams Grove	PD.3475	Recloser 280-140 VWVE	235-125
	PD.12	Recloser TS	180-90
	PD.33908001	Recloser 35-E	
	PD.34063001	Recloser 100-V4E	Recloser 70-V4E
	PD.34064001	Recloser 50-M	Recloser 25-V4E
	PD.380	Recloser 50-V4E	Remove
	PD.379	Recloser 35-E	Recloser 25-V4E
	PD.375	Recloser 35-E	Recloser 25-V4E
	ST.509	S.D. Transformer-333 (B,C)	
	PD.3196	Recloser 200-H	Recloser 25-V4L
	PD.3193	Recloser 200-H	Recloser 35-V4L
	PD.318	Recloser 35-H	
Airport	PD.3478	Recloser 280-140 VWVE	235-125
	ST.4	S.D. Transformer-500 (3)	
	PD.5094	Recloser 50-L	
	PD.251	Recloser 180 VWVE	180-90
	PD.408	Recloser 35-E	
Shopping Center	PD.3477	Recloser 360-200 VWVE	235-125

4 SUMMARY OF DEVICE CHANGES

Black Branch

Model Circuit	Element Name	Device Equipment	Proposed Changes
Chase City	PD.3481	Recloser 320-140 RXE	235-125
	PD.47111001	Recloser 50-L	
	PD.1585	Recloser 70-L	
	PD.1598	Recloser 70-L	180-90
	PD.57265001	Recloser 50-4H	
	PD.57257001	Recloser 50-4H	Recloser 70-V4L
	PD.1554	Recloser 35-H	
	PD.1555	Recloser 35-H	
	PD.1553	Recloser 35-H	
	PD.1656	Recloser 15-H	
	PD.1655	Recloser 15-H	

Fire Tower	PD.3480	Recloser 340-140 WE	235-125
	PD.1694	Recloser 50-L	
	PD.995	Recloser 35-H	Recloser 35-V4L
	PD.1685	Recloser 70-L	Recloser 100-V4L
	PD.1686	Recloser 25-H	
	PD.1754	Recloser 35-H	
	PD.1753	Recloser 50-H	
	PD.1755	Recloser 25-H	
	PD.1695	Recloser 100-V4L	Electronic 180-90
	PD.1679	Recloser 35-H	
	PD.1678	Recloser 50-H	Recloser 70-V4L
	PD.1777	Recloser 25-H	
	PD.1776	Recloser 25-H	
	PD.1775	Recloser 35-H	
	PD.1774	Recloser 15-H	

Wylliesburg	PD.3479	Recloser 320-140 RXE	235-125
	PD.47065001	Recloser 70-L	
	PD.47078003	Recloser 35-4H	

4 SUMMARY OF DEVICE CHANGES

Boydton

Model Circuit	Element Name	Device Equipment	Proposed Changes
Prison	PD.5376	Recloser 400-160 VWE	450-170
	PD.5761	Recloser 140-6H	Recloser 70-V4L
	PD.5762	Recloser 140-6H	Recloser 70-V4L
	PD.635	Triple Single	235-125
	PD.2171	Recloser 70-L	
	PD.2277	Recloser 25-4H	Recloser 25-V4L
	PD.2276	Recloser 35-H	
	PD.2275	Recloser 35-H	Recloser 35-V4L
	PD.2175	Recloser 70-L	
	PD.2187	Recloser 25-H	Recloser 25-V4L
	PD.4515	Recloser 35-4H	
	PD.5108	Recloser 35-H	

Ridge	PD.5375	Recloser 400-160 VWE	450-170
	PD.5109	Recloser 70-L	
	PD.1807	Recloser 35-H	
	PD.5572	Recloser 35-H	
	PD.2090	Recloser 70-L	
	PD.2092	Recloser 70-L	
	PD.2091	Recloser 70-L	
	PD.2028	Recloser 35-H	Recloser 35-V4L
	PD.27498001	Recloser 50-H	Recloser 35-V4L
	PD.2260	Recloser 35-H	Recloser 15-V4L

4 SUMMARY OF DEVICE CHANGES

Brink

Model Circuit	Element Name	Device Equipment	Proposed Changes
Brink Store	PD.3485	Recloser 280-140 VWVE	450-170
	PD.5454	Recloser 100-V4E	
	PD.346	Recloser 35-E	
	PD.440	Recloser 35-M	
	TR.23596001	S.D. Transformer 250 (C)	
	PD.441	Recloser 25-H	
	TR.18533001	S.D. Transformer-500 (3)	
	PD.18533001	Recloser 70-L	
	PD.5568	Recloser 50-4H	
	PD.23637001	Recloser 70-V4E	
	PD.349	Recloser VWVE	235-125
	PD.6201	Recloser 100-E	

G.B. Ligon	PD.3486	Recloser 280-140 VWVE	450-170
	ST.11	S.D. Transformer-333 (3)	
	PD.468	Recloser 70-L	
	PD.464	Recloser 35-H	
	PD.465	Recloser 25-H	
	PD.18682001	Recloser 25-L	
	PD.466	Recloser 25-4H	Recloser 35-V4L

4 SUMMARY OF DEVICE CHANGES

Burlington Drive

Model Circuit	Element Name	Device Equipment	Proposed Changes
North #1	PD.6303	Customer Owned	
South #2	PD.6304	Customer Owned	

4 SUMMARY OF DEVICE CHANGES

Clarksville

Model Circuit	Element Name	Device Equipment	Proposed Changes
Clarksville	PD.3487	Recloser 280-100 VWE	450-170
	PD.1957	Recloser 50-L	Recloser 100-V4L
	PD.22080001	Recloser Triple-Single	235-125
	PD.3660	Recloser 50-L	Recloser 70-V4L
	PD.2039	Recloser 70-L	Electronic 180-90
	PD.4235	Recloser 200-H	Recloser 35-V4L
	PD.3410	Recloser 200-H	Recloser 70-V4L
Island Creek	PD.3488	Recloser 280-100 VWE	450-170
	PD.4296	Recloser 200-L	Recloser 70-V4L
	PD.2556	Recloser 50-H	
Russel Stover	FD.47	Recloser 520-160 VWE	450-170

4 SUMMARY OF DEVICE CHANGES

Climax

Model Circuit	Element Name	Device Equipment	Proposed Changes
Climax	PD.3497	Recloser 400-240 VWVE	235-125
	PD.1502	Recloser 50-E	
	PD.1415	Recloser 50-M	Recloser 100-V4E
	ST.887	S.D. Transformer-333 (B)	
	PD.4914	Recloser 50-L	
	ST.487	S.D. Transformer-250 (A)	
	PD.3414	Recloser 35-H	
	ST.484	S.D. Transformer-250 (C)	
	PD.4911	Recloser 35-4H	Recloser 25-V4L
	ST.483	S.D. Transformer-250 (C)	
	PD.4910	Recloser 35-4H	
	ST.886	S.D. Transformer-250 (A)	
	PD.1434	Recloser 50-L	
	ST.491	S.D. Transformer-250 (C)	
	PD.1276	Recloser 50-L	
	PD.3619	Recloser 70-4E	Electronic 180-90
	ST.504	S.D. Transformer-500 (3)	
	PD.4931	Recloser 70-L	Recloser 100-V4L
	PD.1320	Recloser 35-V4E	
	PD.1334	Recloser 35-V4E	
	PD.1333	Recloser 35-V4E	
	PD.1332	Recloser 35-V4E	
	PD.1362	Recloser 25-H	Recloser 15-V4L
	ST.497	S.D. Transformer-500 (3)	
	PD.4929	Recloser 70-L	Recloser 100-V4L
	PD.1343	Recloser 35-H	
	PD.1366	Recloser 25-H	Recloser 15-V4L
	PD.1344	Recloser 25-H	
	PD.1352	Recloser 25-H	
	PD.1345	Recloser 35-H	

Concord	FD.31	Recloser 400-240 VWVE	450-170
	PD.1491	Recloser 70-4E	
	TR.982	S.D. Transformer-500 (A)	
	PD.1458	Recloser 50-4H	Recloser 25-V4L
	PD.1447	Recloser 100-V4E	
	ST.475	S.D. Transformer-500 (A)	
	PD.1446	Recloser 50-H	
	ST.482	S.D. Transformer-167 (B)	
	PD.4189	Recloser 35-H	
	ST.473	S.D. Transformer-167 (C)	
	PD.4188	Recloser 35-4H	
	PD.1448	Recloser 100-V4E	
	PD.3603	Recloser 50-4E	
	PD.4495	Recloser 25-E	
	ST.481	S.D. Transformer-167 (A)	
	PD.4498	Recloser 25-H	

4 SUMMARY OF DEVICE CHANGES

Climax

Model Circuit	Element Name	Device Equipment	Proposed Changes
Rondo	PD.3495	Recloser 400-240 VWVE	235-125
	ST.478	S.D. Transformer-500 (B)	
	PD.1418	Recloser 50-4H	
	PD.1503	Recloser 70-E	Electronic 180-90
	ST.486	S.D. Transformer-250 (C)	
	PD.3614	Recloser 50-H	
	ST.477	S.D. Transformer-500 (B)	
	PD.1464	Recloser 50-4H	Recloser 50-V4L
	ST.476	S.D. Transformer-500 (B)	
	PD.1465	Recloser 50-4H	Recloser 100-V4L
	PD.4490	Recloser 25-H	Recloser 50-V4L

4 SUMMARY OF DEVICE CHANGES

Crystal Hill

Model Circuit	Element Name	Device Equipment	Proposed Changes
East	PD.5859	Recloser 400-180 VWVE	450-170
	PD.1102	Recloser 140-V4E	Electronic 235-125
	ST.38	S.D. Transformer-500 (3)	
	PD.1096	Recloser 70-L	Electronic 180-90
	PD.1160	Recloser 35-H	
	PD.1155	Recloser 25-H	Recloser 70-V4L
	PD.1097	Recloser 35-E	
	ST.466	S.D. Transformer-167 (A)	
	PD.3235	Recloser 35-4H	
	ST.467	S.D. Transformer-333 (C)	
	PD.3236	Recloser 50-H	
	PD.3242	Recloser 35-E	
	PD.46432001	Recloser 50-E	Recloser 100-V4E
	ST.469	S.D. Transformer-250 (A)	
	PD.3245	Recloser 35-H	Recloser 50-V4L
	ST.470	S.D. Transformer-333 (A)	
	PD.3282	Recloser 50-H	
	ST.471	S.D. Transformer-167 (C)	
	PD.3247	Recloser 35-H	
	PD.1103	Recloser 140-V4E	Electronic 235-125
	ST.31	S.D. Transformer-333 (B)	
	PD.1031	Recloser 35-L	
	PD.1030	Recloser 35-E	
	PD.1032	Recloser 35-E	
	ST.32	S.D. Transformer-500 (C)	
	PD.1036	Recloser 35-V4E	Recloser 70-V4L
	PD.1033	Recloser 35-EF-2	Recloser 25-V4E
	PD.944	Recloser 50-H	Recloser 70-V4E
	PD.945	Recloser 35-V4E	
	PD.6277	Recloser 25-H	Recloser 15-V4E
	PD.943	Recloser 35-H	
	PD.921	Recloser 35-H	
	PD.920	Recloser 35-H	
	ST.35	S.D. Transformer-167 (B)	
	PD.1043	Recloser 35-H	
	PD.3254	Recloser 35-E	Recloser 70-V4E
	ST.472	S.D. Transformer-500 (A)	
	PD.4227	Recloser 50-H	Recloser 15-V4L
	PD.3258	Recloser 50-H	
	PD.142	Recloser 25-H	

4 SUMMARY OF DEVICE CHANGES

Crystal Hill

Model Circuit	Element Name	Device Equipment	Proposed Changes
East cont.	TR.3628	S.D. Transformer-333 (B)	
	PD.1045	Recloser 35-H	
	ST.461	S.D. Transformer-333 (C)	
	PD.3220	Recloser 25-H	Recloser 50-V4L
	ST.462	S.D. Transformer-167 (B)	
	PD.3223	Recloser 35-H	
	PD.1060	Recloser 50-E	
	PD.3225	Recloser 50-E	
	ST.463	S.D. Transformer-250 (A)	
	PD.3228	Recloser 35-4H	
	ST.464	S.D. Transformer-167 (B)	
	PD.3230	Recloser 35-H	
	ST.465	S.D. Transformer-167 (A)	
	PD.3234	Recloser 35-H	

West	PD.3498	Recloser 400-180 VWVE	450-170
	ST.39	S.D. Transformer-333 (3)	
	PD.1119	Recloser 50-L	
	PD.1023	Recloser 35-V4E	Recloser 25-V4L
	PD.1116	Recloser 70-4E	
	PD.1171	Recloser 35-E	
	ST.43	S.D. Transformer-333 (A)	
	PD.1178	Recloser 35-V4E	Recloser 50-V4L
	PD.1131	Recloser 50-E	
	PD.51136001	Recloser 100-V4E	Electronic 235-125
	PD.1143	Recloser 70-4E	
	PD.3202	Recloser 35-V4E	
	ST.517	S.D. Transformer-100(A), 333(B)	
	PD.5487	Recloser 25-H	Recloser 50-V4L
	ST.515	S.D. Transformer-333 (C)	
	PD.5483	Recloser 50-H	
	PD.1193	Recloser 35-V4E	Recloser 70-V4E
	ST.527	S.D. Transformer-250 (A)	
	PD.5125	Recloser 35-H	
	ST.531	S.D. Transformer-250 (3)	
	PD.6599	Recloser 70-L	Recloser 100 - V4L
	PD.1219	Recloser 35-H	Recloser 35-V4L
	PD.6159	Recloser 50-4H	
	PD.3529	Recloser 50-4H	Recloser 70-V4L
	PD.1208	Recloser 35-L	
	PD.4180	Recloser 200-H	Recloser 25-V4L
	PD.1139	Recloser 70-L	Electronic 235-125
	PD.1011	Recloser 35-E	
	PD.1012	Recloser 35-E	
	PD.933	Recloser 25-E	Recloser 15-V4E

4 SUMMARY OF DEVICE CHANGES

DC Jackson

Model Circuit	Element Name	Device Equipment	Proposed Changes
Clarks Pool	PD.5787	Recloser 280-140 WE	450-170
	PD.5044	Recloser 50-L	
	PD.1736	Recloser 50-L	
	PD.1733	Recloser 50-H	
	PD.1734	Recloser 50-H	
	PD.1735	Recloser 35-H	Recloser 50-V4L
	PD.1828	Recloser 25-H	Recloser 25-V4L
	PD.1866	Recloser 25-H	

Morgans Mill	PD.5786	Recloser 400-140 VWE	450-170
	PD.5064	Recloser 200-VWVE	235-125
	PD.1844	Recloser 50-L	
	PD.1843	Recloser 50-H	
	PD.1708	Recloser 35-H	Recloser 35-V4L
	PD.4520	Recloser 70-L	
	PD.1700	Recloser 25-H	Recloser 25-V4L
	PD.1701	Recloser 25-H	Recloser 25-V4L
	PD.5023	Recloser 25-4H	Recloser 25-V4L
	PD.4519	Recloser 70-V4L	Recloser 100-V4L
	PD.1619	Recloser 50-H	
	PD.1617	Recloser 50-H	
	PD.1618	Recloser 50-H	

4 SUMMARY OF DEVICE CHANGES

Ebony

Model Circuit	Element Name	Device Equipment	Proposed Changes
Ebony	PD.3502	Recloser 280-180 VWVE	450-170
	PD.5370	25	Recloser 35-V4E
	ST.18	S.D. Transformer-333 (A)	
	PD.673	Recloser 25-L	Recloser 35-V4L
	ST.19	S.D. Transformer-167 (A)	
	PD.674	Recloser 25-L	Recloser 35-V4L
	PD.676	Recloser 50-4E	Recloser 70-V4E
	PD.5392	Recloser 25-E	Recloser 35-V4E
	PD.675	Recloser 70-4E	Electronic 235-125
	ST.23	S.D. Transformer-500 (3)	
	PD.729	Recloser 35-V4E	
	PD.730	Recloser 50-4H	Electronic 180-90
	PD.4313	Recloser 25-4H	Recloser 50-V4L

Tanglewood	PD.3503	Recloser 280-180 VWVE	450-170
	PD.685	Recloser 50-E	Recloser 100-V4E (2A-2C)
	ST.20	S.D. Transformer-250 (A)	S.D. Transformer-500 (A)
	PD.686	Recloser 25-L	Recloser 70-V4L
	PD.444	Recloser 35-E	
	PD.760	Recloser 25-E	
	PD.3592	Recloser 100-4E	
	PD.5431	Recloser 35-H	Recloser 25-V4E
	ST.888	S.D. Transformer-333 (A,B)	
	PD.4944	Recloser 50-H	
	PD.824	Recloser 70-L	Recloser 100-V4E
	TR.17886001	S.D. Transformer-333 (3)	
	PD.799	Recloser 35-L	
	TR.17874001	S.D. Transformer-250 (A,B)	
	PD.17874001	Recloser 35-H	Recloser 50-V4L
	TR.17874002	S.D. Transformer-250 (A)	
	PD.17884001	Recloser 35-HR	Recloser 50-V4L
	TR.17882001	S.D. Transformer-250 (B,C)	
	TR.17859001	S.D. Transformer-3500 (3)	
	PD.807	Recloser Triple-Single	
	PD.6089	Recloser 25-H	Recloser 25-V4E
	PD.790	Recloser 35-4H	
	PD.789	Recloser 35-H	Recloser 50-V4E
	PD.785	Recloser 35-H	Recloser 25-V4E
	PD.6278	Recloser 35-H	Recloser 25-V4E
	TR.22897001	S.D. Transformer-167 (C)	
	PD.22897001	Recloser 25-4H	
	TR.22896002	S.D. Transformer-333 (B)	
	PD.3365	Recloser 35-H	Recloser 70-V4L

4 SUMMARY OF DEVICE CHANGES

Emporia

Model Circuit	Element Name	Device Equipment	Proposed Changes
301 South	PD.3504	Recloser 400-180 VWVE	235-125
	PD.5135	Recloser 100-V4E	
	PD.433	Recloser 25-E	
	PD.28787001	Recloser 25-E	
58 West	PD.3505	Recloser 420-240 VWVE	235-125
	ST.2	S.D. Transformer 333 (B)	
	PD.198	Recloser 35-L	Recloser 50-V4L
	ST.3	S.D. Transformer 500 (3)	
	PD.199	Recloser 70-4E	Recloser 100-V4L
	TR.38787001	S.D. Transformer 250 (C)	
	PD.3427	Recloser 200-L	Recloser 50-V4L
	PD.5134	Recloser 70-L	Recloser 50-V4L
	PD.145	Recloser 25-H	Recloser 25-V4L
Low Ground Rd	PD.3506	Recloser 280-140 VWVE	235-125
	ST.9	S.D. Transformer 333 (3)	
	PD.435	Recloser 50-L	Recloser 70-V4L
	ST.10	S.D. Transformer 500 (3)	
	PD.434	Recloser 70-L	Recloser 100-V4L
	PD.323	Recloser 35-H	Recloser 50-V4L
	PD.459	Recloser 25-H	

4 SUMMARY OF DEVICE CHANGES

Freeman

Model Circuit	Element Name	Device Equipment	Proposed Changes
Pleasant Shade	FD.1	Recloser 400-140 VWE	450-170
	PD.107	Recloser 50-L	Recloser 70-V4L
	PD.151	Recloser 35-L	
	PD.136	Recloser 35-H	Recloser 35-V4L
	PD.3654	Recloser 35-H	Recloser 35-V4L
	PD.43694001	Recloser 35-H	Recloser 35-V4L
	PD.92	Recloser 50-4H	
	PD.72	Recloser 25-H	Recloser 25-V4L
	PD.4163	Recloser 35-H	Recloser 25-V4L
Rocky Quarry	PD.3437	Recloser 400-140 VWE	450-170
	PD.514	Recloser 50-4H	Recloser 50-V4L
	PD.524	Recloser 35-H	Recloser 35-V4L
	PD.523	Recloser 35-H	Recloser 35-V4L
Smokey Ordinary	PD.3438	Recloser 400-140 VWE	235-125
	PD.108	Recloser 70-L	Recloser 100-V4L
	PD.48569001	Recloser 35-H	Recloser 50-V4L
	PD.493	Recloser 70-L	Recloser 100-V4L
	PD.6300	Recloser 35-H	
	PD.4299	Recloser 35-H	Recloser 50-V4L
	PD.53429001	Recloser 25-H	
	PD.500	Recloser 35-H	Recloser 50-V4L

4 SUMMARY OF DEVICE CHANGES

Gasburg

Model Circuit	Element Name	Device Equipment	Proposed Changes
46 North	PD.3439	Recloser 280-140 VWVE	235-125
	PD.632	Recloser 50-E	
	ST.22	S.D Transformer-500 (3)	
	PD.707	Recloser 70-L	
	PD.5397	Recloser 35-H	
	PD.706	Recloser 35-E	
	PD.704	Recloser Hyd. 3 Ø	Recloser 180-90 VWVE
	PD.705	Recloser 25-E	
	PD.697	Recloser 25-E	
	PD.698	Recloser 35-H	
	PD.616	Recloser 50-H	
	PD.615	Recloser 35-E	Recloser 50-V4L
	ST.511	S.D Transformer-500 (3)	
	PD.5389	Recloser 70-L	
	PD.614	Recloser 15-H	Recloser 25-V4L
	PD.611	Recloser 25-4H	
Gasburg	PD.3441	Recloser 280-140 VWVE	235-125
	PD.634	Recloser 50-E	
	PD.585	Recloser 35-E	
	PD.652	Recloser 70-M	Recloser 70-V4L
	PD.651	Recloser 25-E	
	PD.586	Recloser 70-E	Electronic 180-90
	PD.587	Recloser 35-M	Recloser 35-V4L
	PD.578	Recloser 50-L	
	ST.507	S.D. Transformer-500 (3)	
	PD.4990	Recloser 50-4H	Recloser 25-V4L
Valentines	PD.3440	Recloser 280-140 VWVE	235-125
	TR.18311001	S.D. Transformer-333 (3)	
	PD.775	Recloser 50-H	
	ST.24	S.D. Transformer-250 (B)	
	PD.776	Recloser 35-H	
	ST.25	S.D. Transformer-500 (3)	
	PD.777	Recloser 50-L	
	PD.772	Recloser 35-4H	Recloser 25-V4L
	PD.773	Recloser 25-H	

4 SUMMARY OF DEVICE CHANGES

Gretna

Model Circuit	Element Name	Device Equipment	Proposed Changes
40 East	PD.3447	Recloser 340-140 VWVE	235-125
	PD.1250	Recloser 50-L	
	PD.1249	Recloser 50-L	
	PD.1255	Recloser 70-L	
	PD.1238	Recloser 25-L	
	PD.1237	Recloser 50-L	Recloser 35-V4L
	PD.1239	Recloser 35-V4E	Recloser 15-V4L
40 West	PD.3448	Recloser 400-160 VWVE	450-170
	PD.1292	Recloser 50-L	Recloser 100-V4L
	PD.1266	Recloser 35-L	Recloser 50-V4L
	PD.733	Recloser 35-L	
	PD.1296	Recloser 50-L	
	PD.1299	Recloser 50-L	
	PD.1309	Recloser 50-L	
	PD.5324	Recloser 50-L	
	PD.4293	Recloser 50-L	
	PD.1313	Recloser 50-L	
	PD.1314	Recloser 50-L	Recloser 70-V4L
	PD.1275	Recloser 25-H	Recloser 35-V4L
Transco Test	PD.3446	Recloser 340-140 VWVE	235-125
	PD.1246	Recloser 35-L	
	PD.1432	Recloser 100-PR	Recloser 100-V4L
	PD.1431	Recloser 35-H	
	PD.1430	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Grit

Model Circuit	Element Name	Device Equipment	Proposed Changes
Grit	PD.3449	Recloser 320-140 VWE	450-170
	PD.1381	Recloser 35-L	Recloser 50-V4L
	PD.6236	Recloser 35-4H	Recloser 50-V4L
	PD.4190	Recloser 50-L	
	PD.1603	Recloser 35-H	Recloser 35-V4L
	PD.1405	Recloser 35-H	Recloser 35-V4L
Level Run	PD.3450	Recloser 320-140 VWE	235-125
	PD.981	Recloser 50-H	
	PD.979	Recloser 50-H	
Renan	PD.3451	Recloser 320-140 VWE	235-125
	PD.1369	Recloser 35-L	
	PD.1355	Recloser 35-H	
	PD.1356	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Hickory Grove

Model Circuit	Element Name	Device Equipment	Proposed Changes
Republican Grove	PD. 3453	Fuse_125	Solid
	PD.926	Recloser 50-L	
	PD.924	Recloser 70-L	
	PD.5493	Recloser 35-4H	Recloser 50-V4L
	PD.930	Recloser 15-H	Recloser 50-V4L
	PD.5816	Recloser Triple-Single	235-125
	PD.907	Recloser 50-L	
	PD.905	Recloser 25-H	
	PD.906	Recloser 50-L	Recloser 70-V4L
	PD.908	Recloser 35-L	
	PD.888	Recloser 25-4H	Recloser 35-V4L
	PD.5377	Recloser 35-H	
	PD.887	Recloser 25-4H	

4 SUMMARY OF DEVICE CHANGES

Island Creek

Model Circuit	Element Name	Device Equipment	Proposed Changes
Ceder Grove	PD.3456	Recloser 340-140 RXE	450-170
	PD.2514	Recloser 35-L	
	PD.2547	Recloser 50-L	Recloser 100-V4L
	PD.2555	Recloser 35-H	Recloser 50-V4L
Ponderosa	PD.3455	Recloser 340-140 VWVE	450-170
	PD.2513	Recloser 50-4H	
	PD.2546	Recloser 35-L	
	PD.5825	Recloser 35-L	
	PD.2528	Recloser 50-4H	Recloser 70-V4L
	PD.2523	Recloser 25-H	Recloser 35-V4L
	PD.3184	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Jones Store

Model Circuit	Element Name	Device Equipment	Proposed Changes
Chase City	PD.3457	Recloser 280-140 VWVE	450-170
	PD.4136	Recloser 70-L	Recloser 100-V4L
	PD.4195	Recloser 35-H	Recloser 50-V4L
	PD.1814	Recloser 50-L	
	PD.1636	Recloser 50-L	
	PD.1635	Recloser 50-L	
	PD.1726	Recloser 35-H	Recloser 25-V4L
	PD.1634	Recloser 50-L	Recloser 70-V4L
	PD.1632	Recloser 35-H	

Finchley	PD.3458	Recloser 340-140 VWVE	450-170
	PD.5012	Recloser 25-H	Recloser 70-V4L
	PD.5817	Recloser 50-L	
	PD.2154	Recloser 70-L	Recloser 100-V4L
	PD.1943	Recloser 35-H	Recloser 35-V4L
	PD.1944	Recloser 35-H	Recloser 50-V4L
	PD.1824	Recloser 35-H	
	PD.2155	Recloser Triple-Single	235-125
	PD.5026	Recloser 50-L	Recloser 70-V4L
	PD.3526	Recloser 35-H	
	PD.6169	Recloser 25-4H	Recloser 35-V4L
	PD.3163	Recloser 50-H	
	PD.3158	Recloser 35-H	
	PD.3157	Recloser 35-H	Recloser 50-V4L

4 SUMMARY OF DEVICE CHANGES

Mt. Airy

Model Circuit	Element Name	Device Equipment	Proposed Changes
40 E.	PD.5121	Recloser 320-140 NOVA STS	235-125
	PD.65961001	Recloser 50-4H	Recloser 100-V4L
	PD.896	Recloser 25-H	
	PD.898	Recloser 35-H	Recloser 50-V4L
	PD.889	Recloser 15-H	

Renan	PD.5560	Recloser 320-140 NOVA STS	450-170
	PD.1286	Recloser 50-L	
	PD.991	Recloser 35-L	
	PD.882	Recloser 50-L	
	PD.883	Recloser 50-H	Recloser 100-V4L
	PD.879	Recloser 35-H	
	PD.878	Recloser 35-H	
	PD.880	Recloser 35-H	Recloser 50-V4L
	PD.881	Recloser 35-H	Recloser 50-V4L

Riceville	PD.3548	Recloser 320-140 NOVA STS	235-125
	PD.1065	Recloser 70-L	
	PD.1233	Recloser 35-L	
	PD.1423	Recloser 15-H	
	PD.4155	Recloser 35-H	
	PD.4156	Recloser 35-V4E	
	PD.999	Recloser 25-L	
	PD.1000	Recloser 50-H	
	PD.973	Recloser 25-4H	
	PD.975	Recloser 35-V4E	
	PD.977	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Northview

Model Circuit	Element Name	Device Equipment	Proposed Changes
Rt. 58	PD.3463	Recloser 400-160 VWVE	450-170
	PD.1790	Recloser Triple-Single	235-125
	PD.1126	Recloser 35-L	
	PD.37595001	Recloser 50-L	Recloser 70-V4L
	PD.1781	Recloser 25-H	Recloser 35-V4L
	PD.2079	Recloser 35-H	
	PD.2078	Recloser 35-H	Recloser 35-V4L
	PD.2496	Recloser 25-H	Recloser 25-V4L
	PD.1993	Recloser 50-L	
	PD.1994	Recloser 35-H	

Union Level	PD.3462	Recloser 320-160 VWVE	235-125
	PD.42670001	Recloser 25-H	Recloser 70-V4L
	PD.1569	Recloser 35-H	Recloser 35-V4L
	PD.1568	Recloser 50-4H	
	PD.1567	Recloser 50-H	Recloser 100-V4L
	PD.1718	Recloser 35-H	
	PD.1719	Recloser 35-H	Recloser 50-V4L
	PD.1715	Recloser 25-4H	
	PD.1760	Recloser 25-H	
	PD.1761	Recloser 25-H	

4 SUMMARY OF DEVICE CHANGES

Omega

Model Circuit	Element Name	Device Equipment	Proposed Changes
Clarksville	PD.3466	Recloser 400-180 VWVE	235-125
	PD.5546	Recloser 70-E	Recloser 100-V4L
	ST.49	S.D. Transformer-500 (B)	
	PD.2232	Recloser 50-H	
	PD.2436	Recloser 25-H	
	PD.5000	Recloser 50-4H	Recloser 50-V4L
	PD.1899	Recloser 35-E	Recloser 35-V4L
	PD.1898	Recloser 70-E	Electronic 180-90
	PD.1901	Recloser 35-E	Recloser 50-V4L
	ST.532	S.D. Transformer-250 (B)	
	PD.6207	Recloser 35-H	
	ST.45	S.D. Transformer-167 (B)	
	PD.1900	Recloser 35-H	
	PD.2448	Recloser 50-E	
	ST.52	S.D. Transformer-250 (C)	
	PD.2299	Recloser 25-H	
	ST.51	S.D. Transformer-167 (A)	
	PD.2300	Recloser 25-H	
	ST.530	S.D. Transformer-333 (C)	
	PD.2449	Recloser 50-H	
	PD.2450	Recloser 50-E	
	ST.506	S.D. Transformer-333 (B)	
	PD.3623	Recloser 35-H	
	ST.55	S.D. Transformer-333 (3)	
	PD.2463	Recloser 35-H	
	ST.44	S.D. Transformer-500 (3)	
	PD.1897	Recloser 70-L	Recloser 100-V4L
	PD.1923	Recloser 35-H	
	PD.3841	Recloser 35-L	Recloser 50-V4L

Lewis Cole	PD.3465	Recloser 400-180 VWVE	235-125
	ST.47	S.D. Transformer-500 (A)	
	PD.2017	Recloser 50-L	
	PD.6593	Recloser 25-H	
	TR.26471001	S.D. Transformer-333 (3)	
	PD.2016	Recloser 50-L	Electronic 180-90
	PD.26480001	Recloser Triple-Single	180-90
	PD.1737	Recloser 70-E	
	ST.58	S.D. Transformer-500 (3)	
	PD.2490	Recloser 50-L	
	PD.2479	Recloser 35-H	
	PD.2015	Recloser 70-E	Electronic 180-90
	ST.57	S.D. Transformer-500 (C)	
	PD.2431	Recloser 50-L	
	ST.56	S.D. Transformer-500 (B)	
	PD.2470	Recloser 50-L	

S. Boston	PD.3464	Recloser 400-180 VWVE	235-125
	ST.53	S.D. Transformer-500 (3)	
	PD.2321	Recloser 70-L	Electronic 180-90
	PD.2322	Recloser 50-L	Recloser 70-V4L
	PD.2323	Recloser 35-L	

4 SUMMARY OF DEVICE CHANGES

Sheva

Model Circuit	Element Name	Device Equipment	Proposed Changes
Sheva N	Feeder North	Recloser 400-240	235-125
	PD.1416	Recloser 35-V4E	Recloser 50-V4L
	PD.1425	Recloser 35-H	Recloser 50-V4L
Sheva S	Feeder South	Recloser 400-240	235-125
	PD.1479	Recloser 25-H	Recloser 70 V4L
	PD.1480	Recloser 25-H	Recloser 35-V4L

4 SUMMARY OF DEVICE CHANGES

Shockoe

Model Circuit	Element Name	Device Equipment	Proposed Changes
832 East	PD.3469	Recloser 400-140 VWE	235-125
	PD.5379	Recloser 50-4H	
	PD.955	Recloser 35-H	Recloser 25-V4L
	PD.962	Recloser 35-L	
	PD.965	Recloser 35-H	
	PD.6161	Recloser 35-L	
	PD.966	Recloser 35-H	Recloser 50-V4L
	PD.4979	Recloser 25-H	
Java	PD.3470	Recloser 280-140 VWE	235-125
	PD.1470	Recloser 25-L	
	PD.1469	Recloser 35-H	
	PD.974	Recloser 35-H	
	PD.3527	Recloser 35-4H	
Spring Garden	PD.3467	Recloser 340-100 VWE	235-125
	PD.1529	Recloser 35-L	Recloser 50-V4L
	PD.4249	Recloser 70-L	
	PD.1521	Recloser 50-H	
	PD.1520	Recloser 50-L	
	PD.1519	Recloser 50-H	Recloser 70-V4L
	PD.1540	Recloser 35-H	
	PD.1541	Recloser 35-H	

4 SUMMARY OF DEVICE CHANGES

Staunton River

Model Circuit	Element Name	Device Equipment	Proposed Changes
Staunton River	FD.500	VFI	

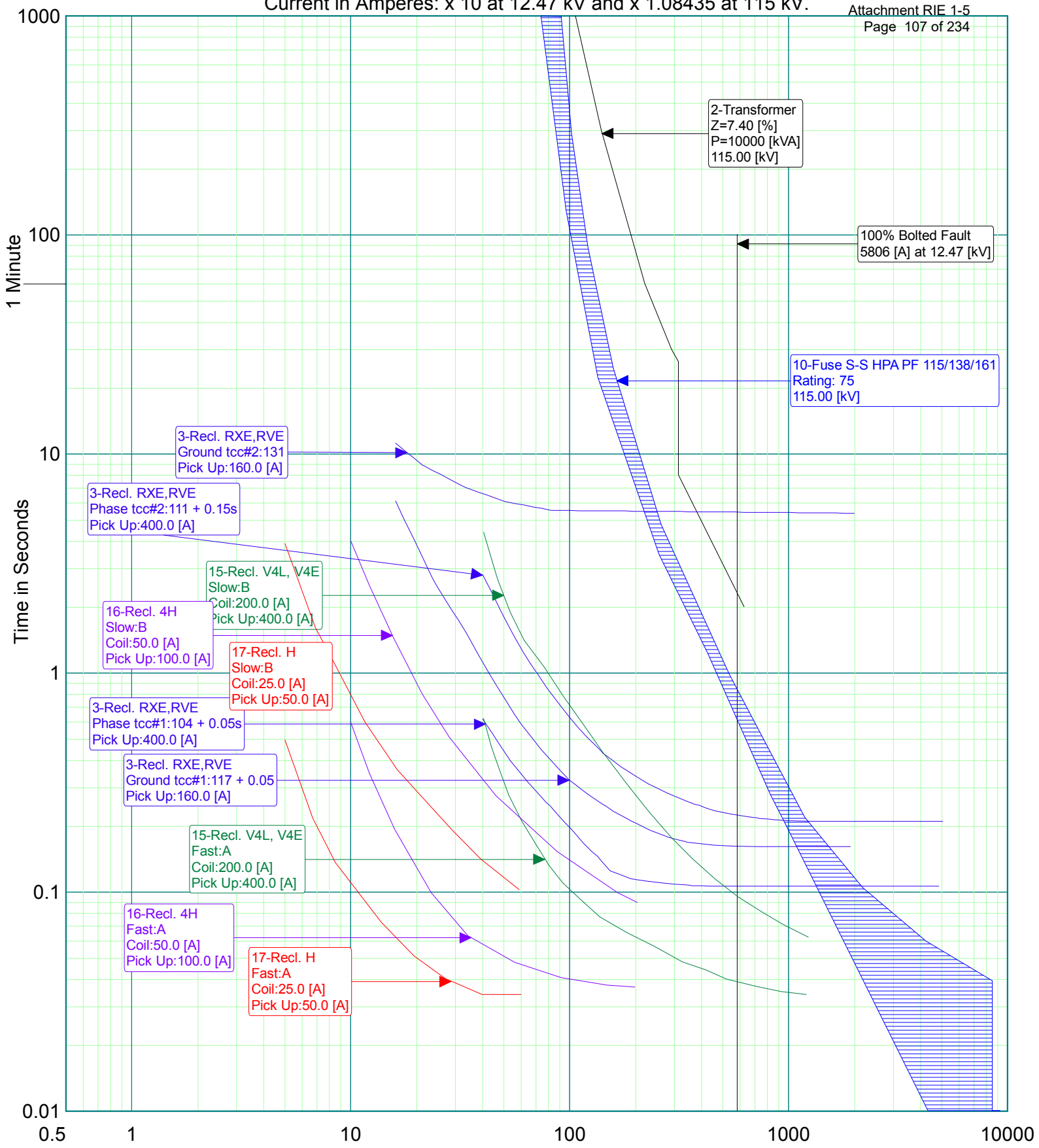
4 SUMMARY OF DEVICE CHANGES

Three Creeks

Model Circuit	Element Name	Device Equipment	Proposed Changes
Industry Parkway	PD.5822	Recloser 400-240 VWVE	450-170

TCC CURVES

EXISTING



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Sectionalizing Study - Existing

Beechwood Substation

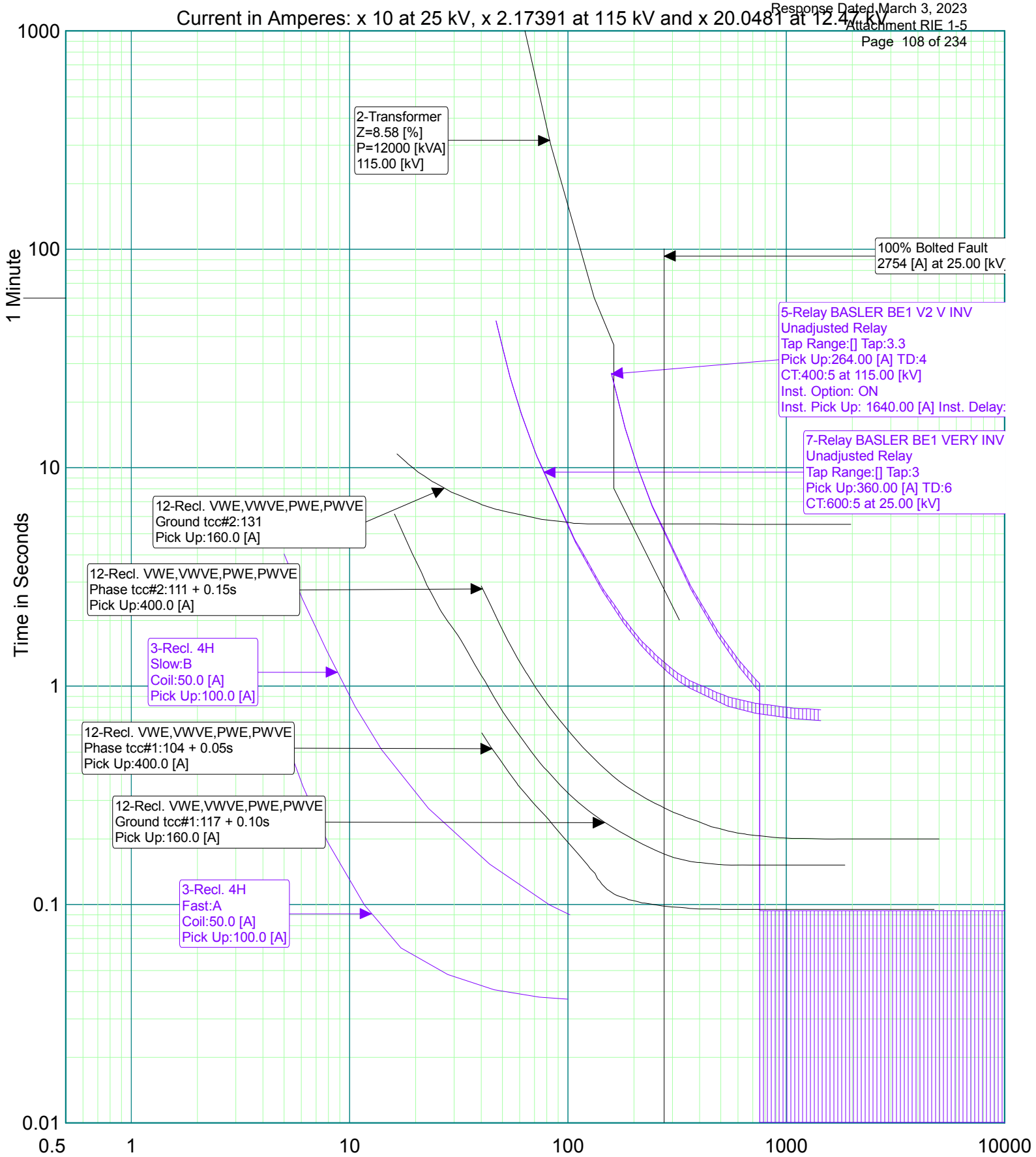
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Beechwood 25 Substation

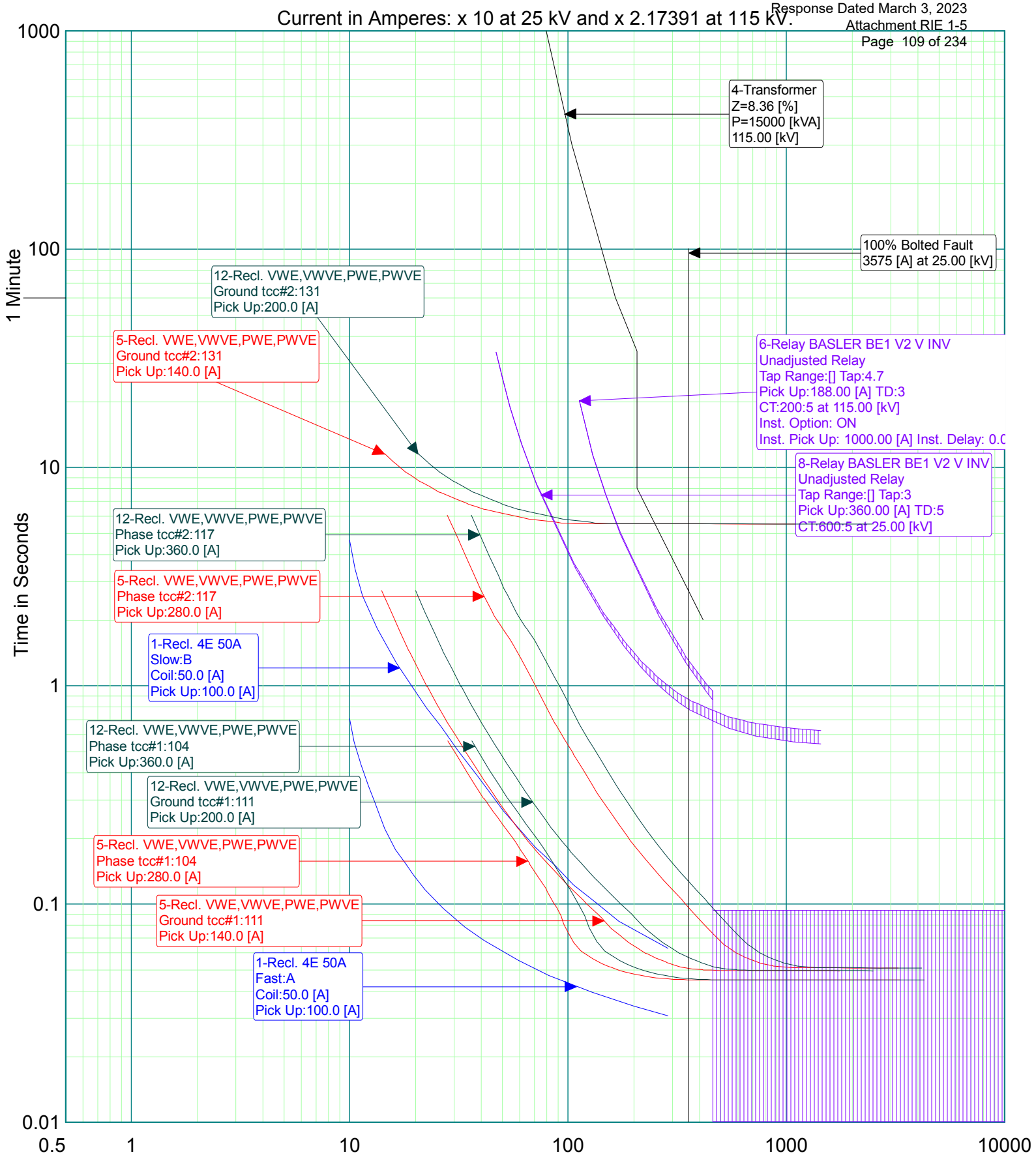
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Belfield Substation

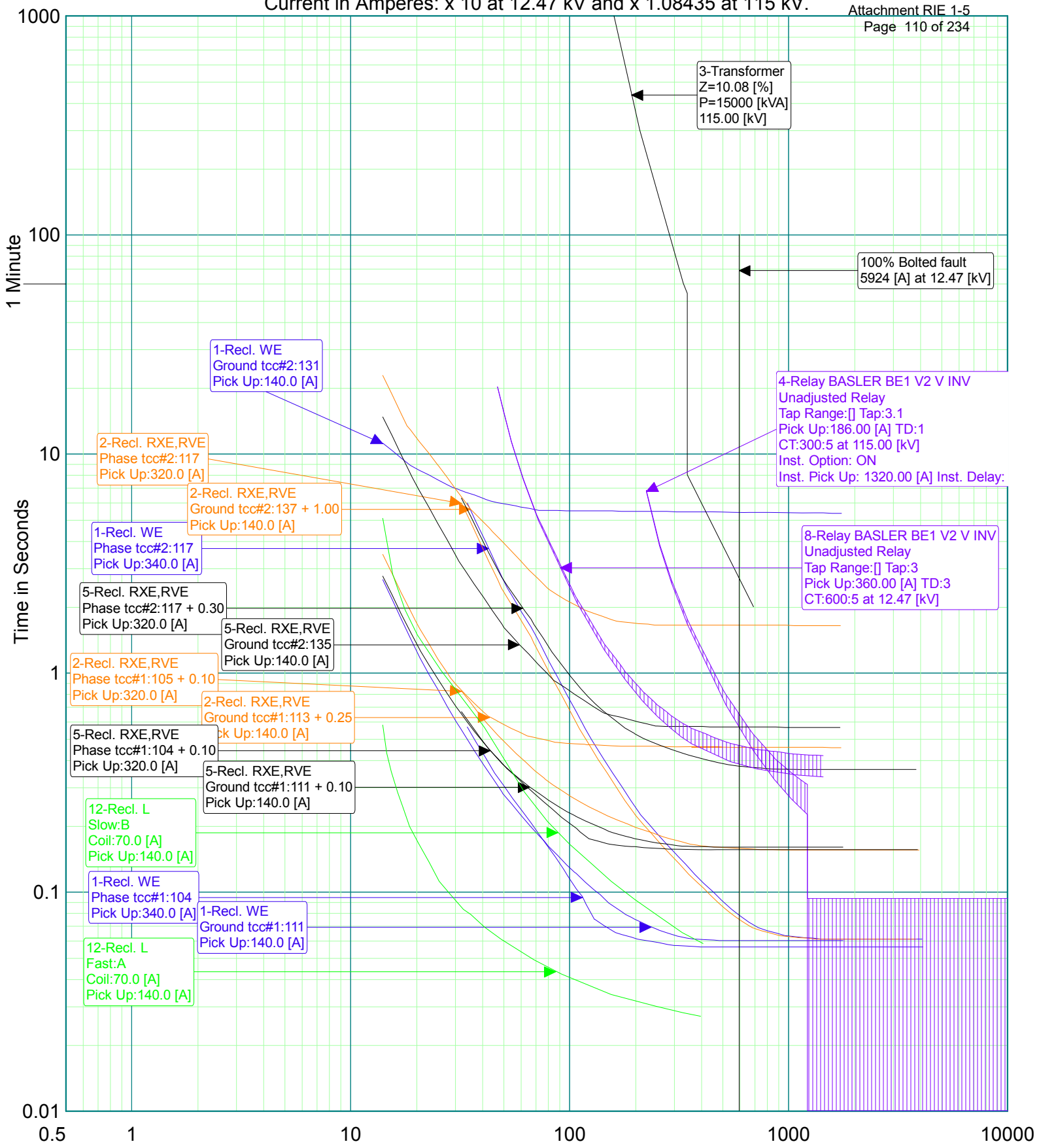
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Black Branch Substation

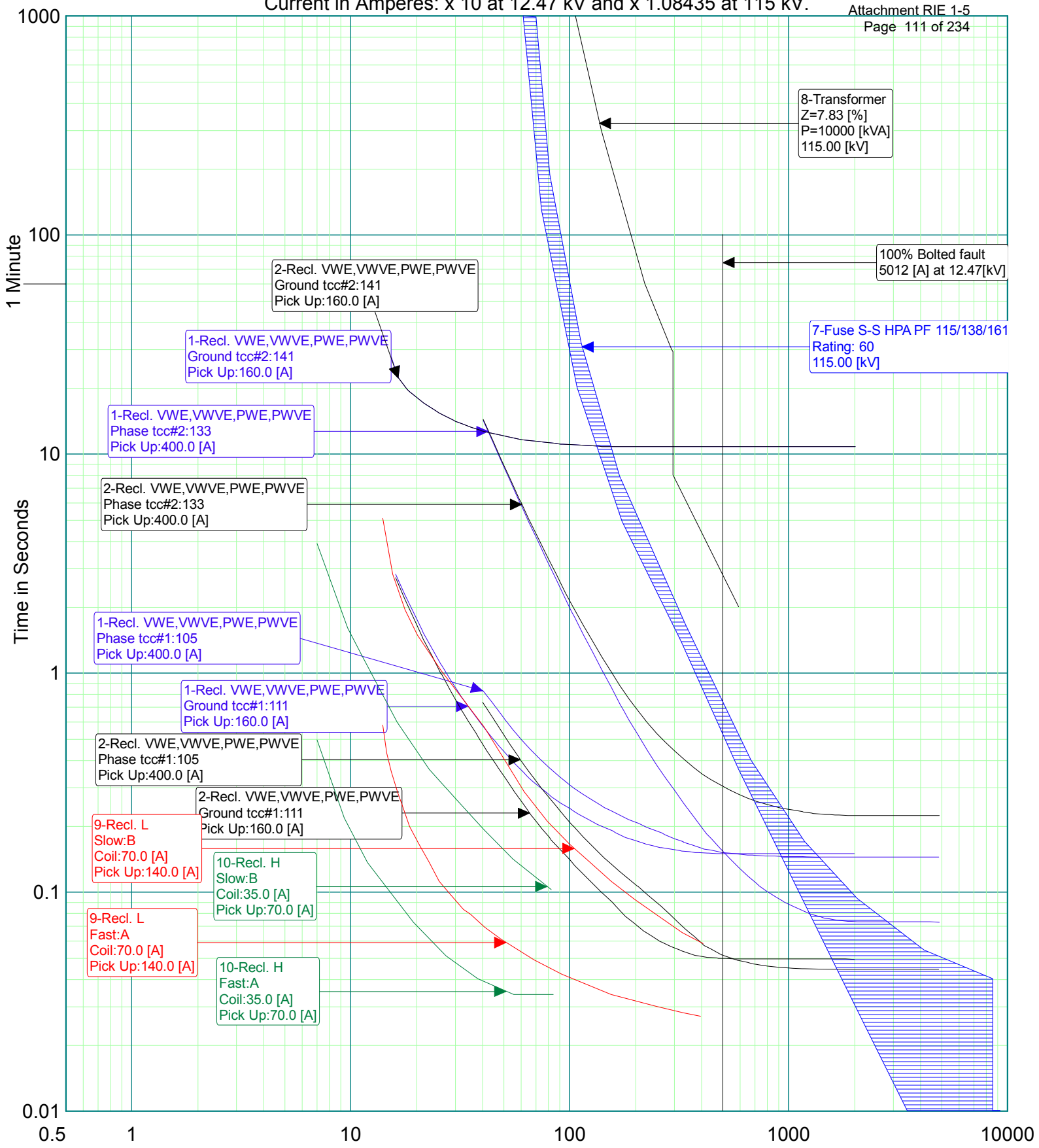
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Boydton Substation

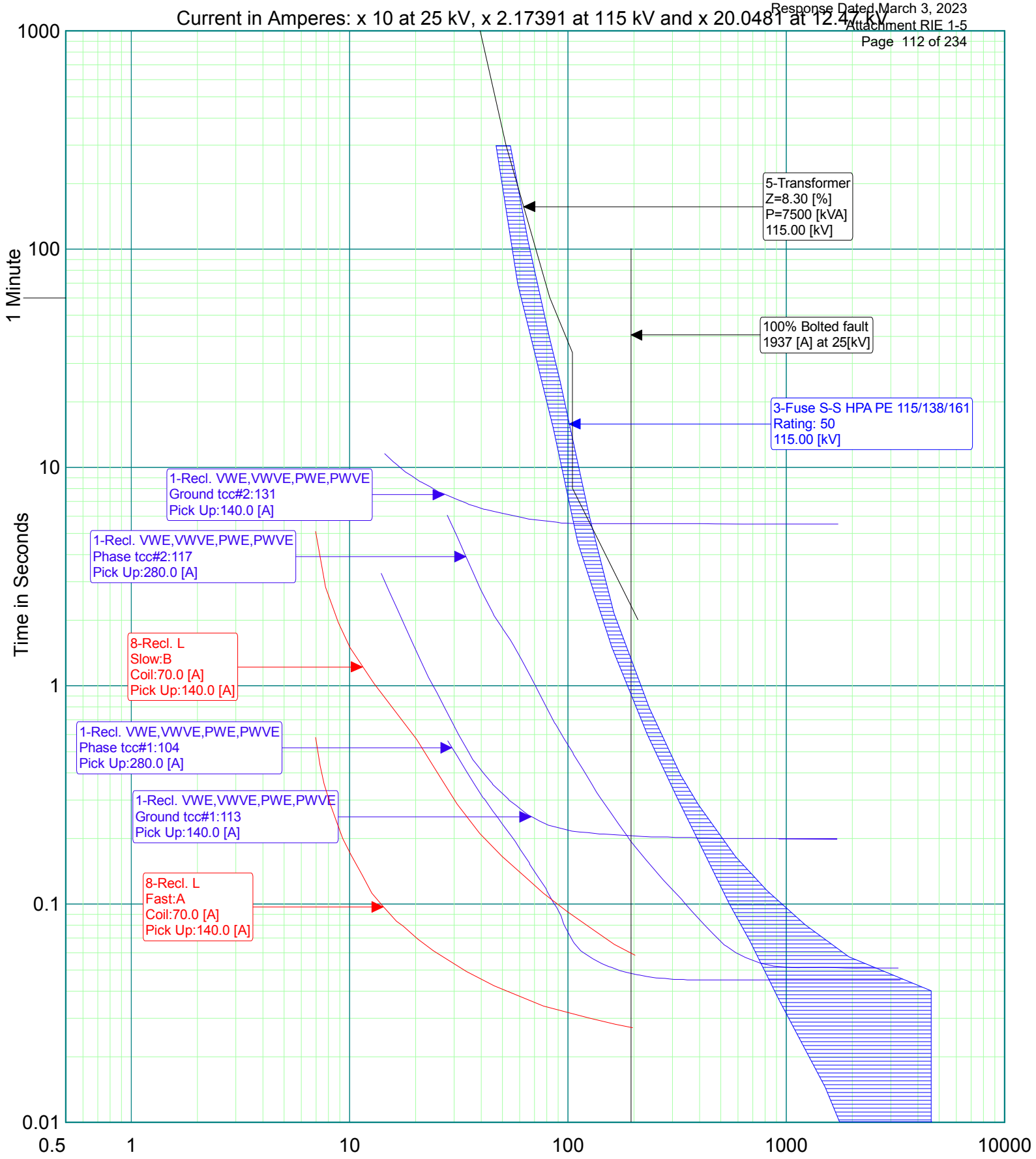
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Brink Substation

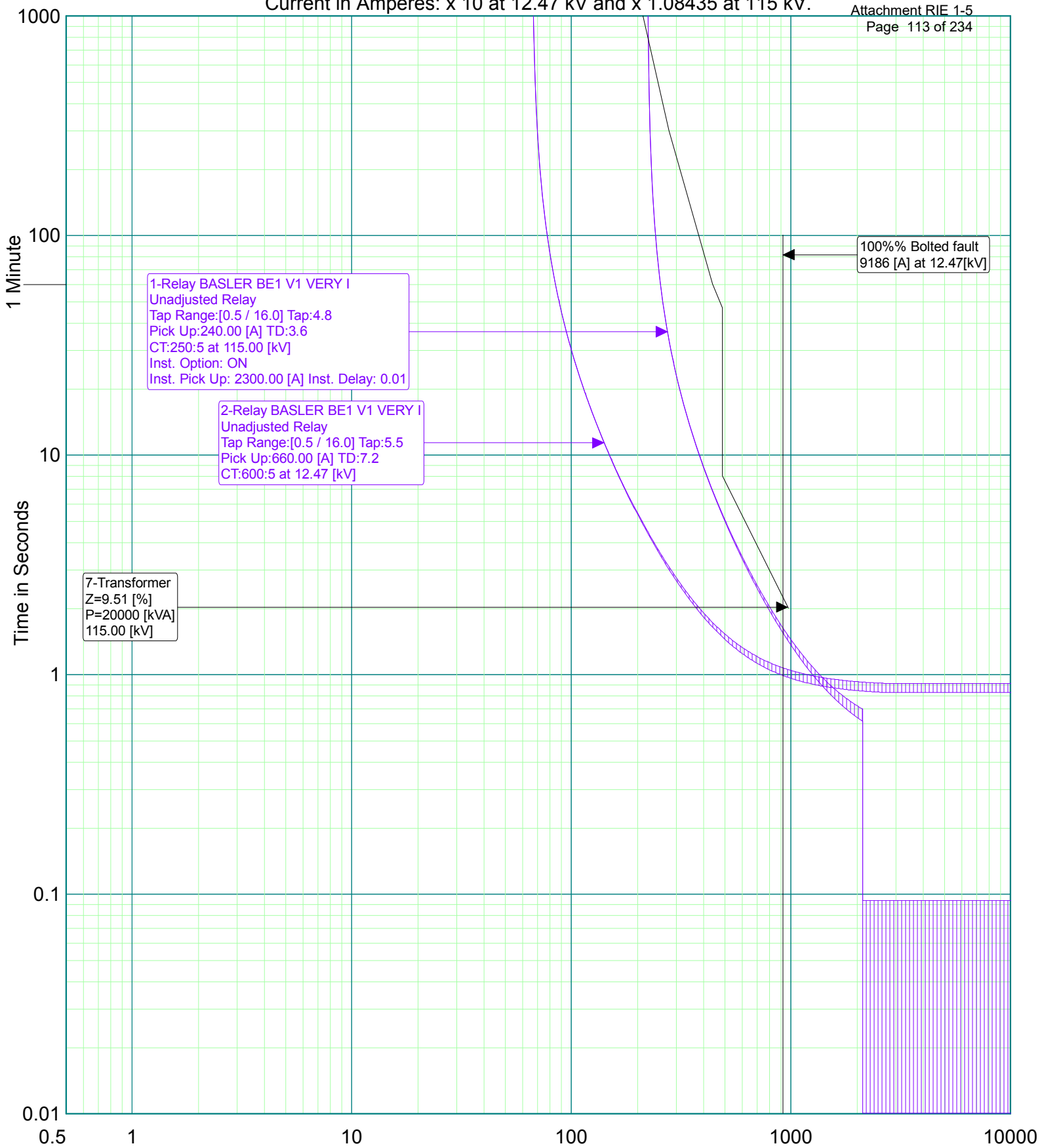
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Burlington Drive

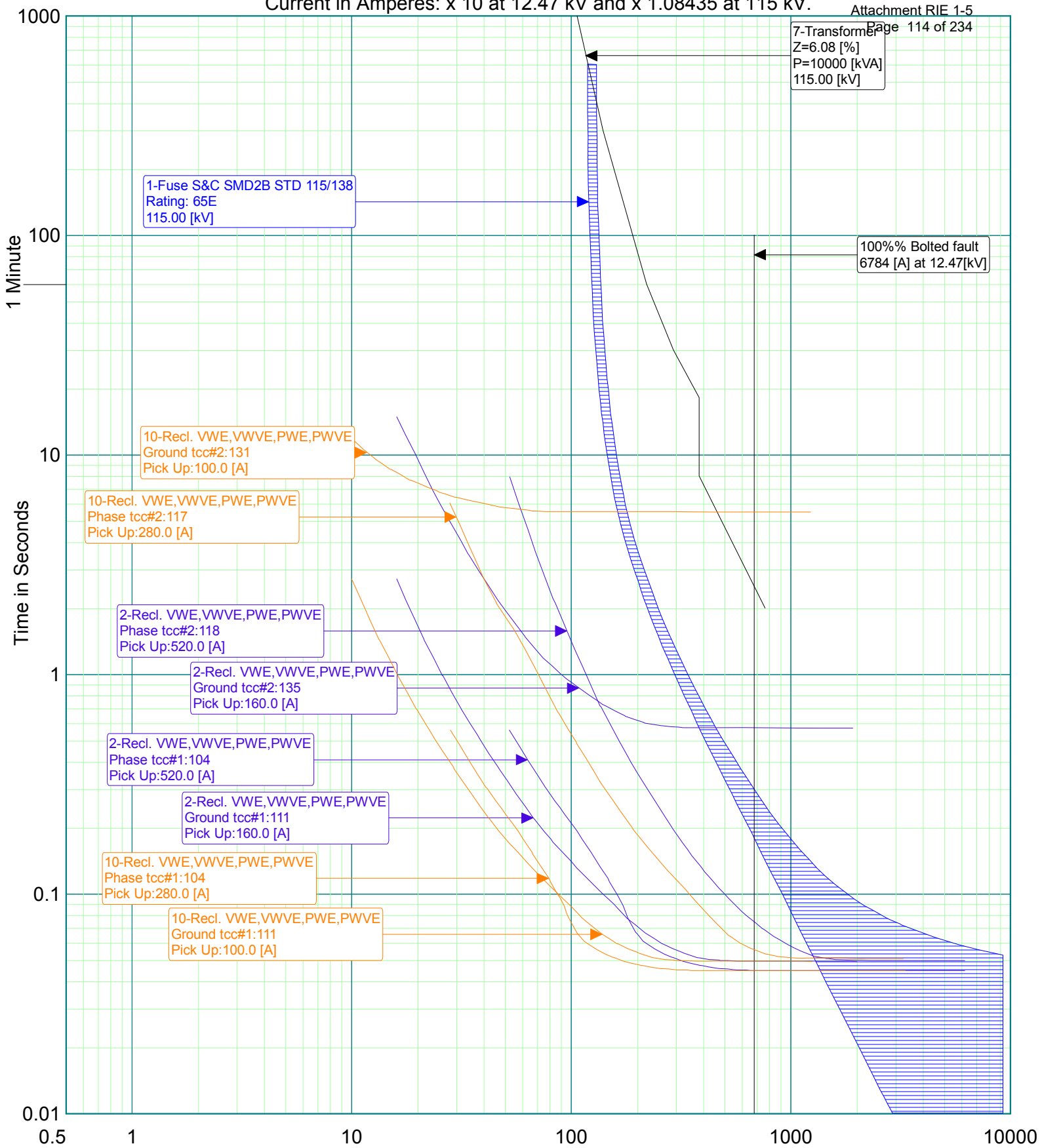
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Clarksville Substation

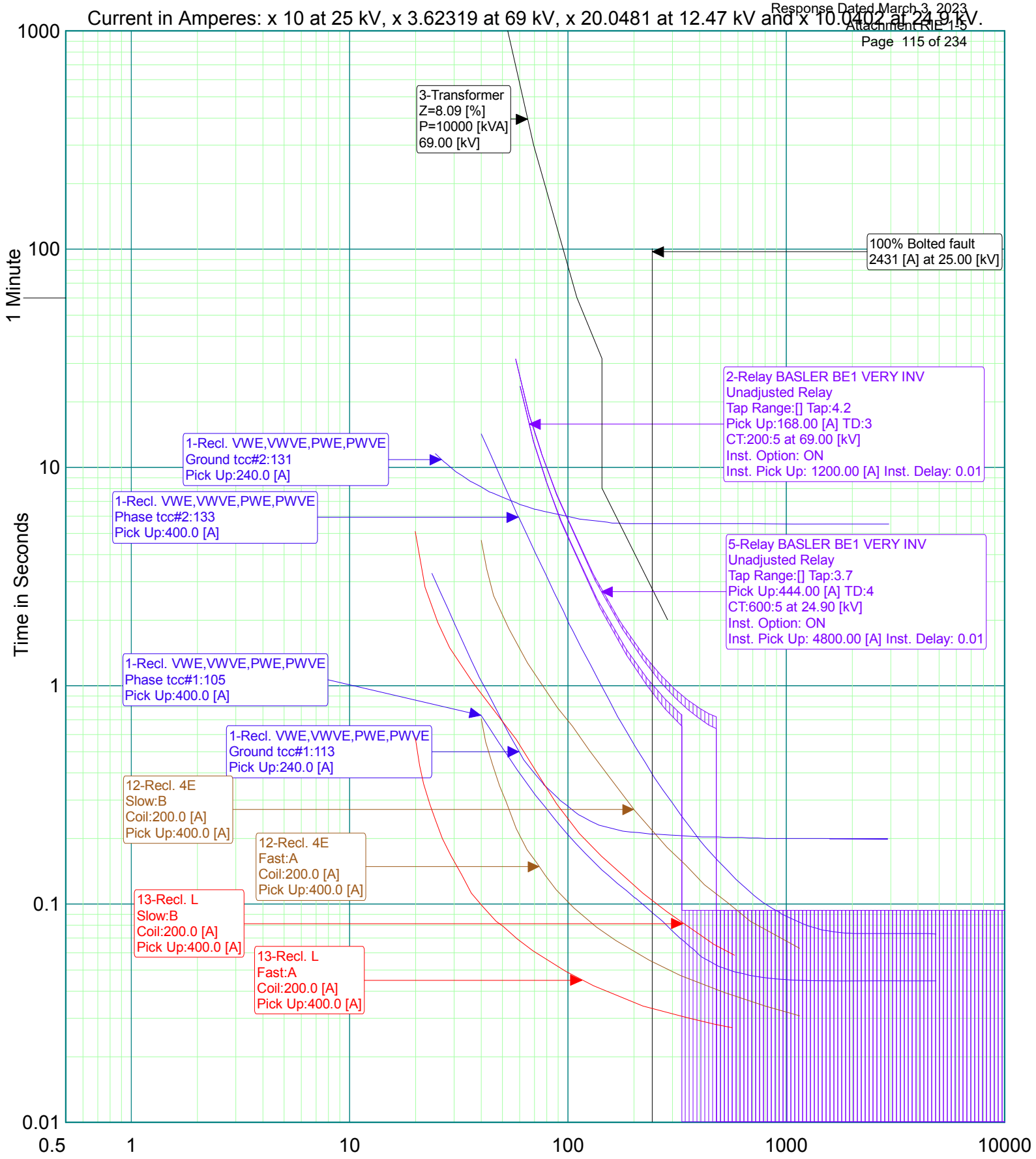
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16

Power Services
Engineering and Management Services



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Sectionalizing Study - Existing

Climax Substation

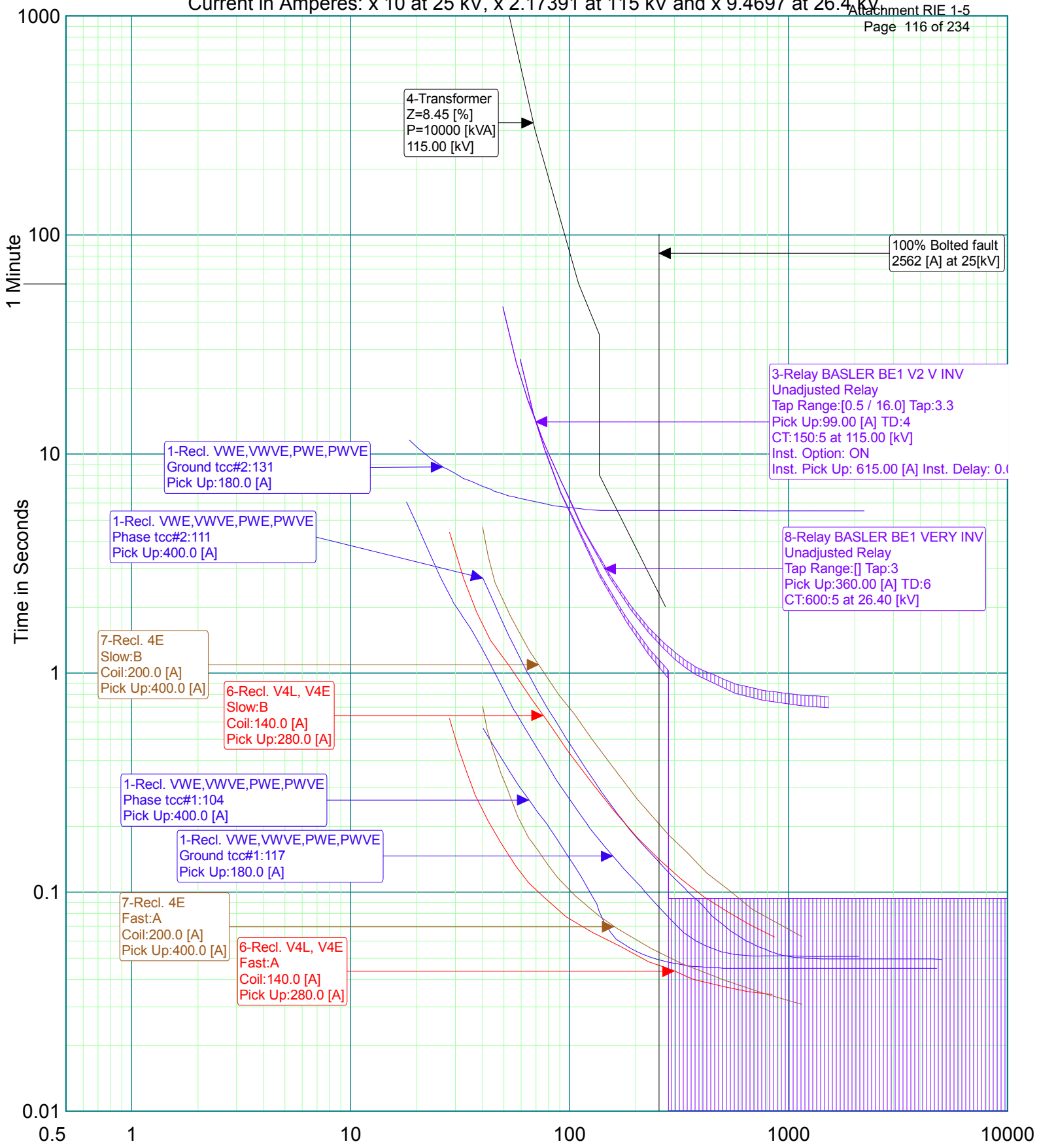
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Crystal Hill East Substation

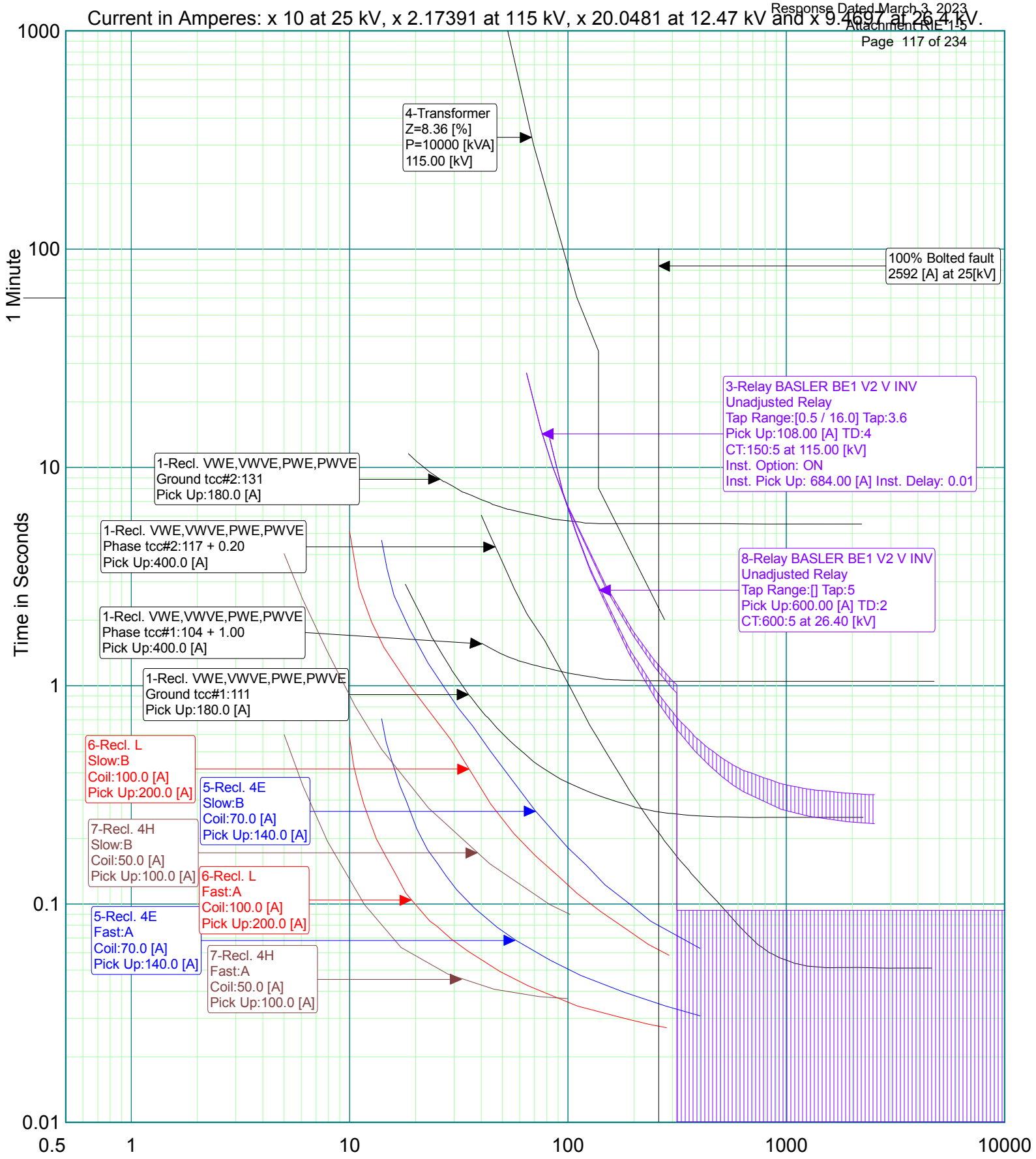
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Crystal Hill West Substation

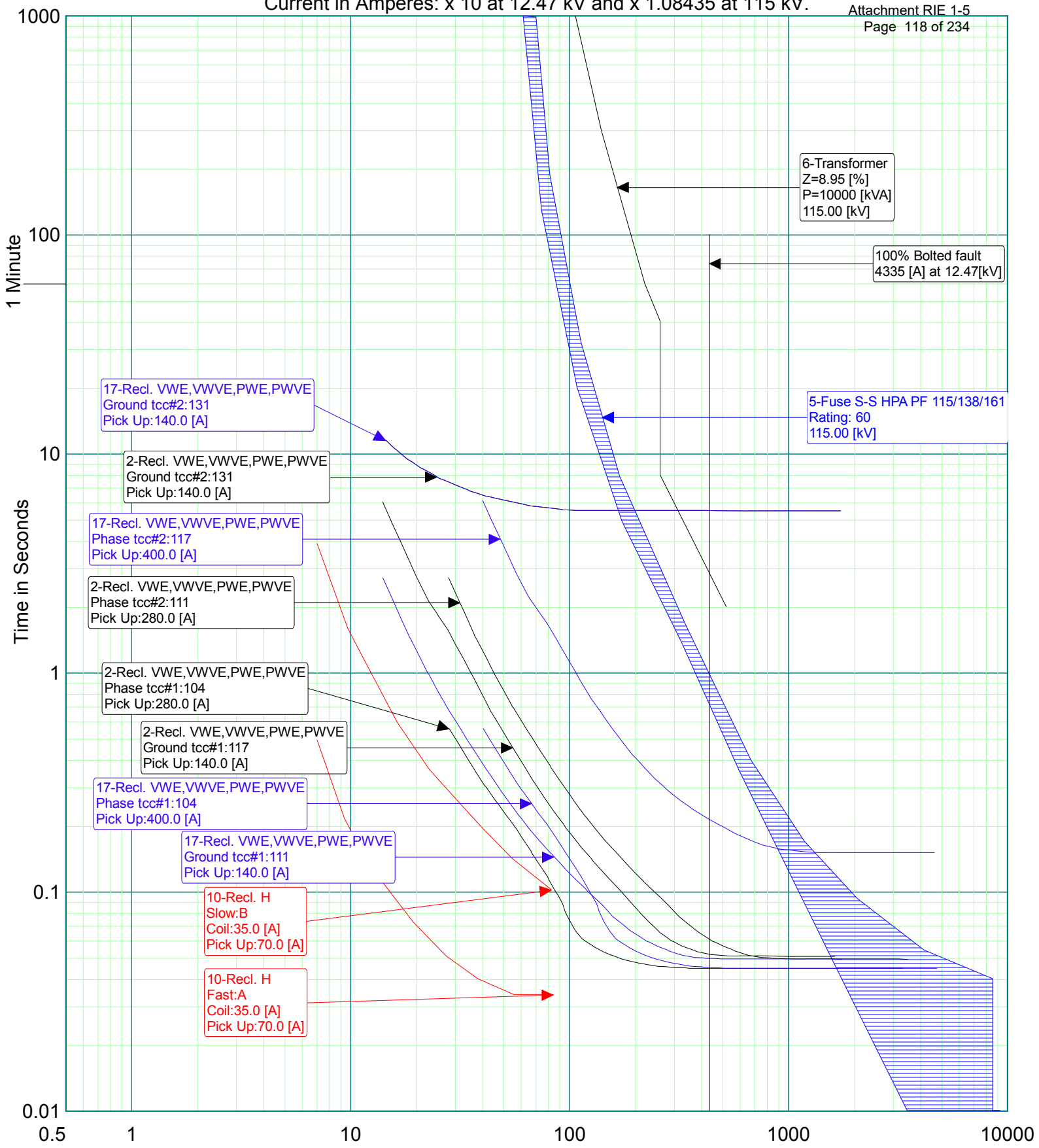
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

DC Jackson Substation

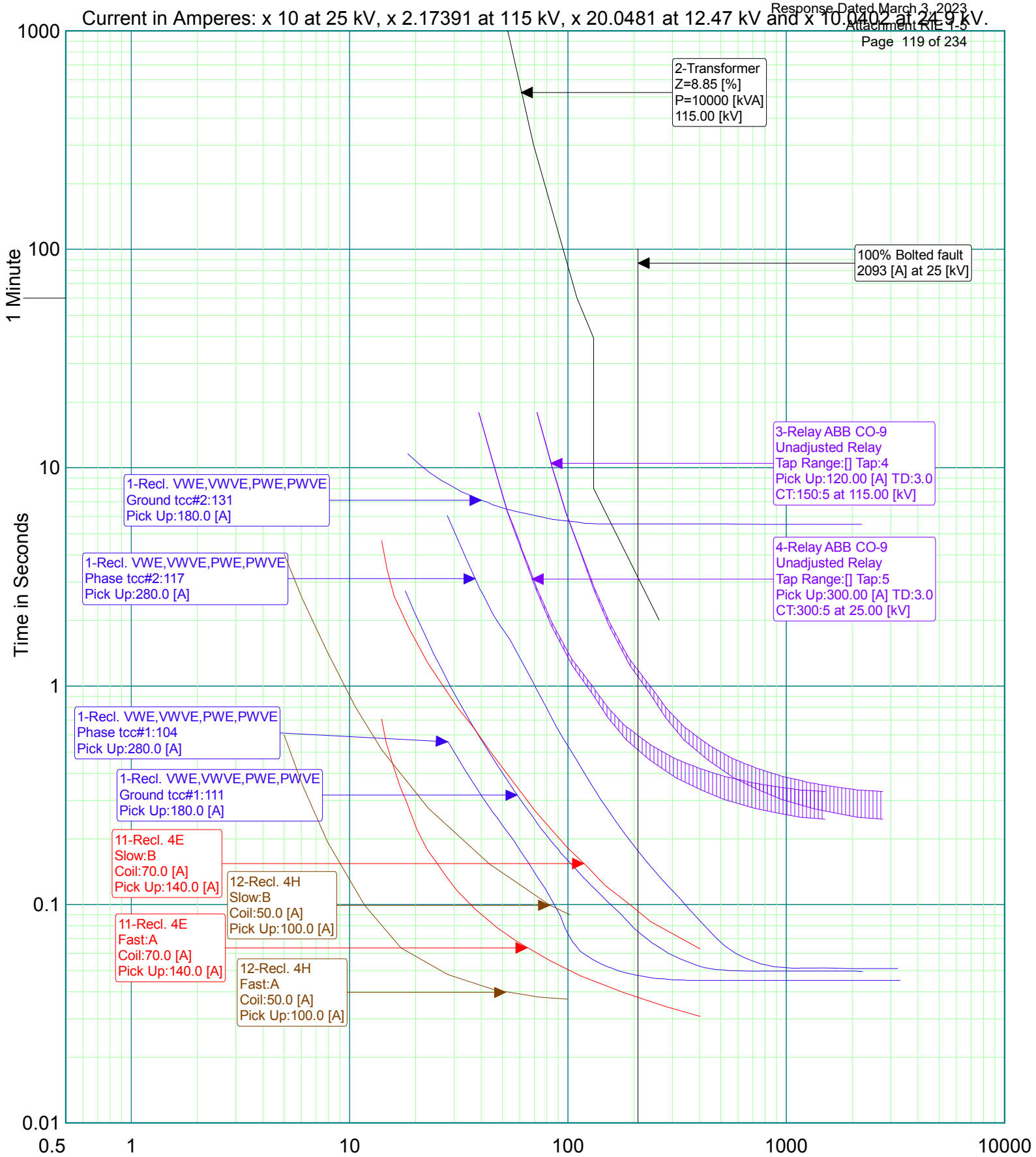
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Ebony Substation

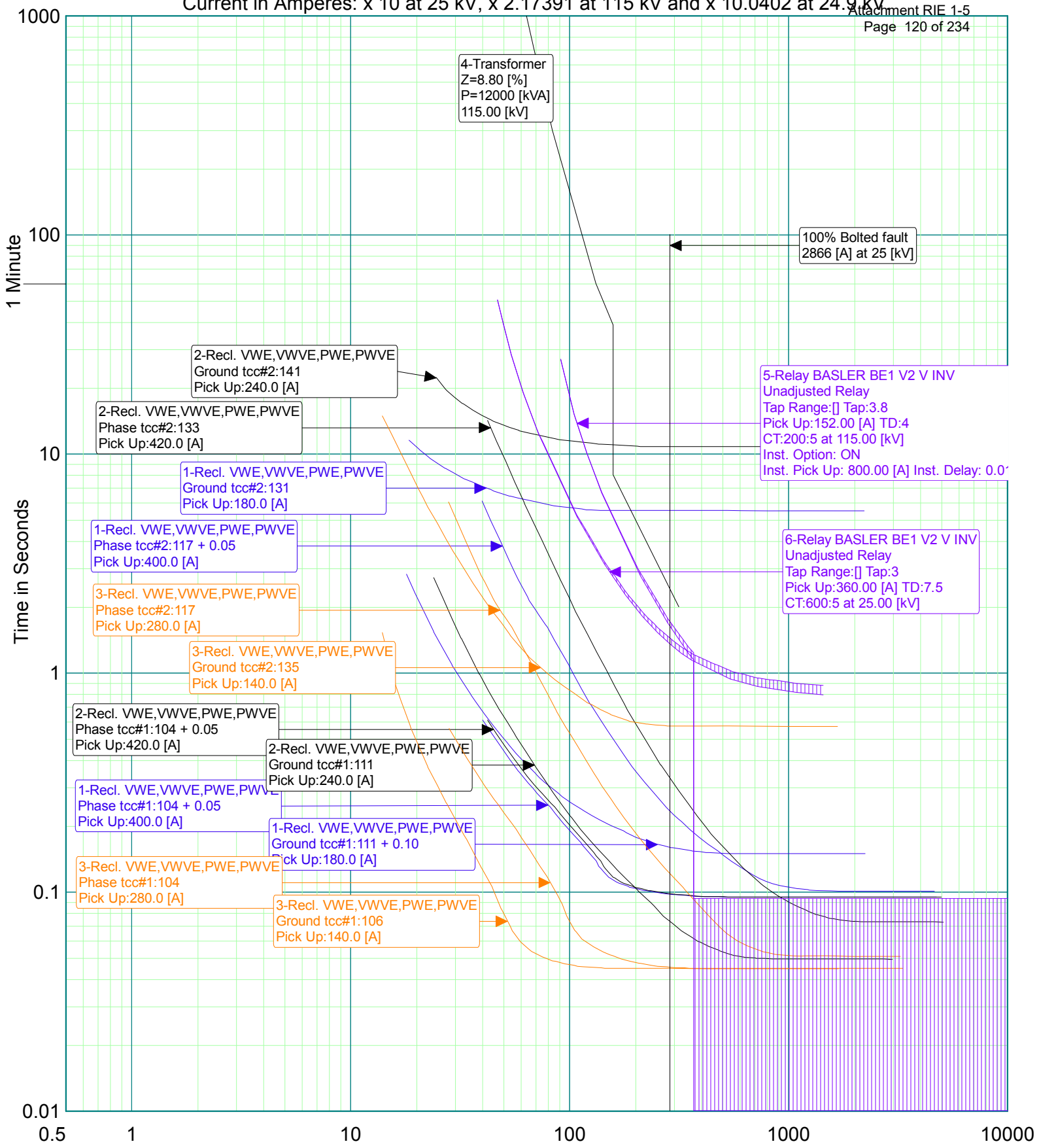
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Emporia Substation

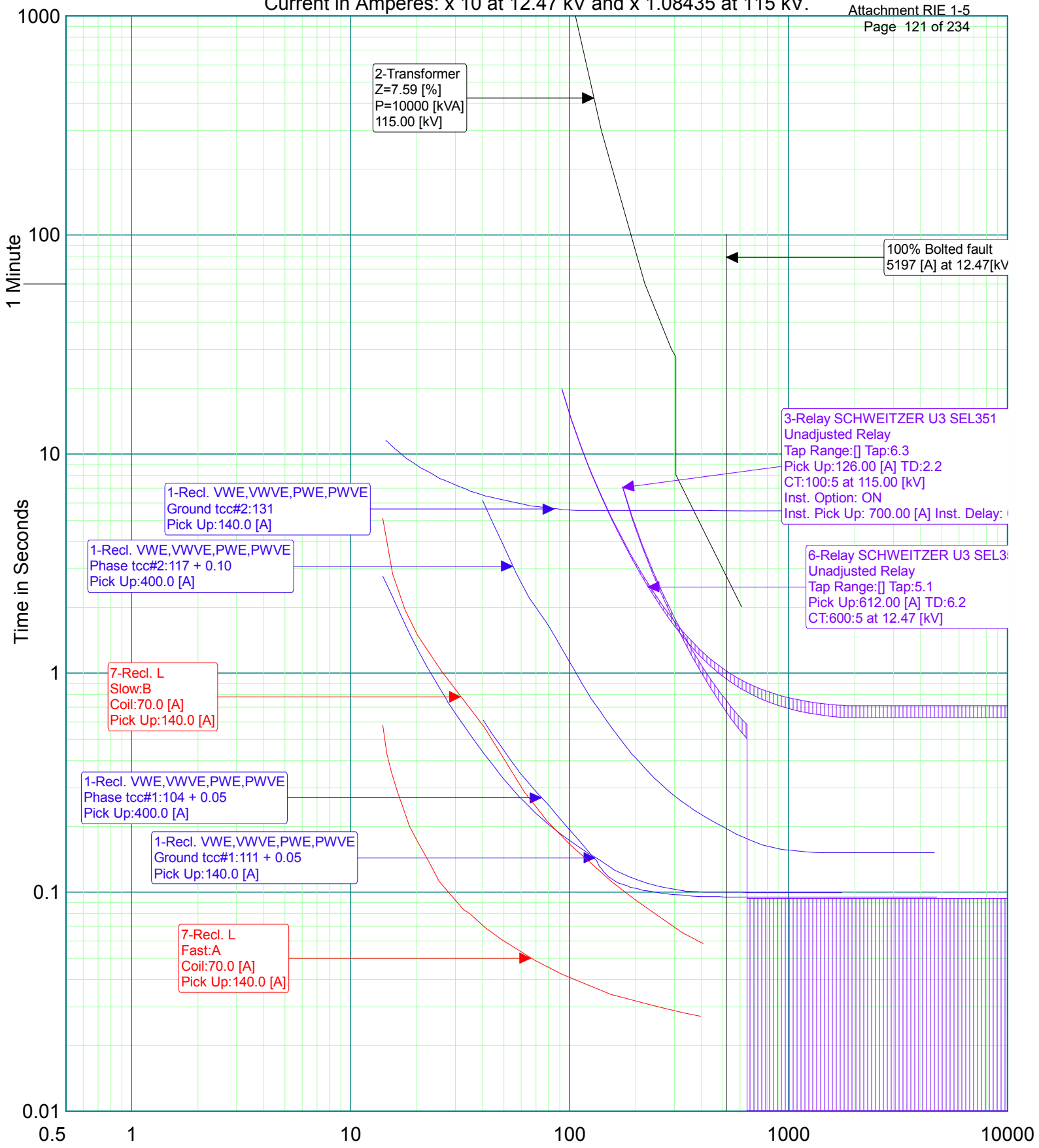
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Freeman Substation

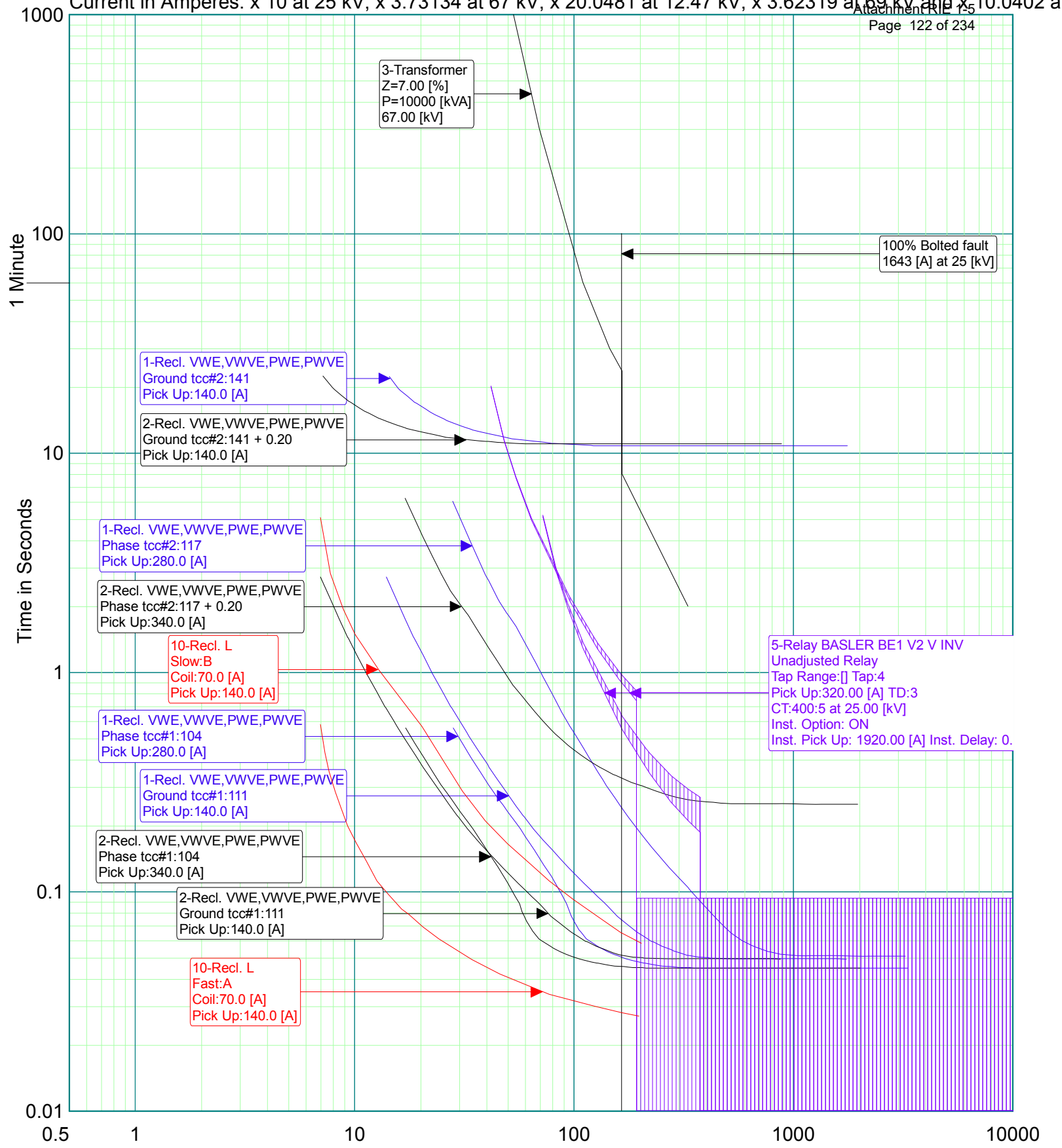
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Gasburg Substation

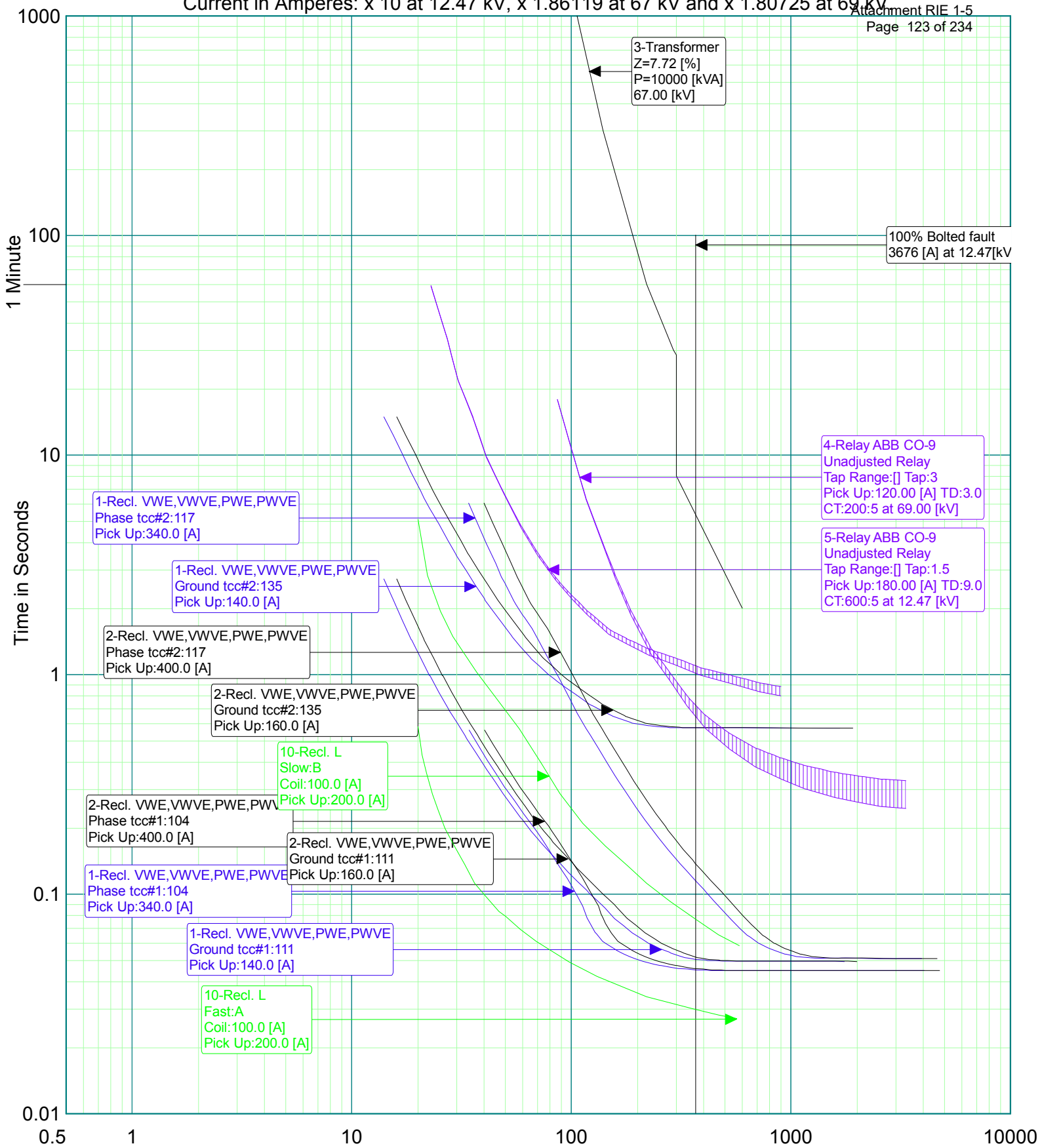
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Gretna Substation

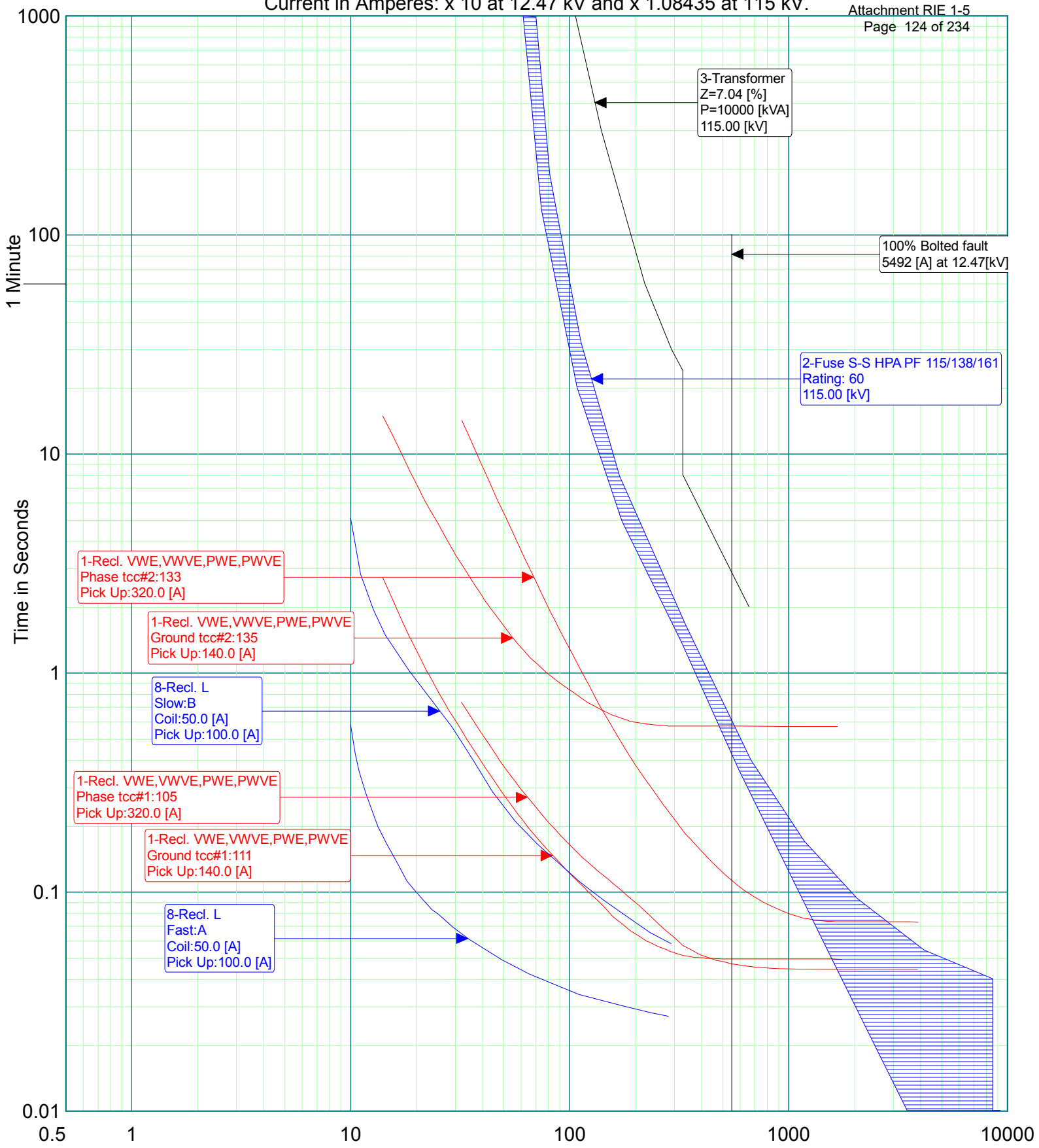
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Grit Substation

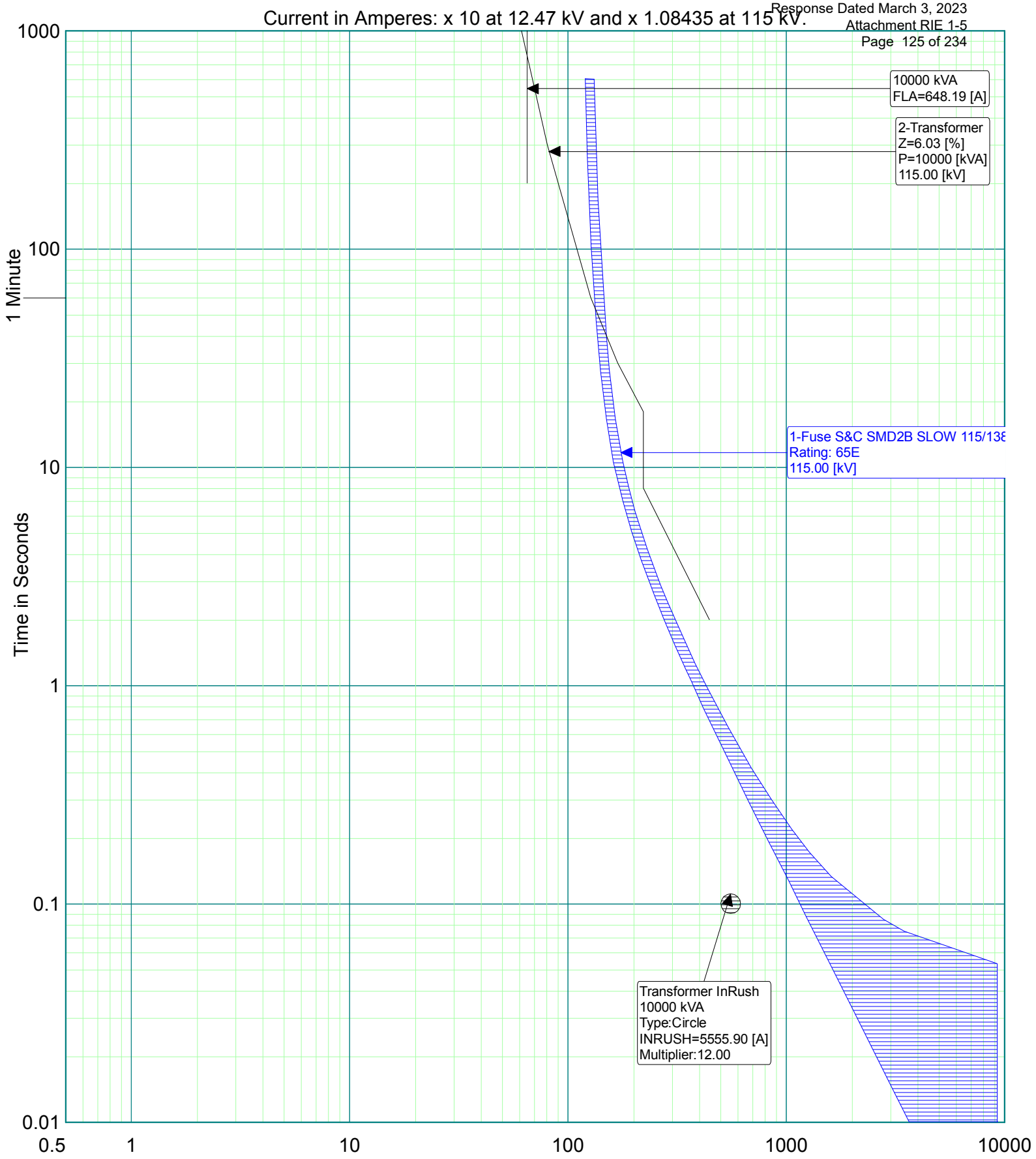
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

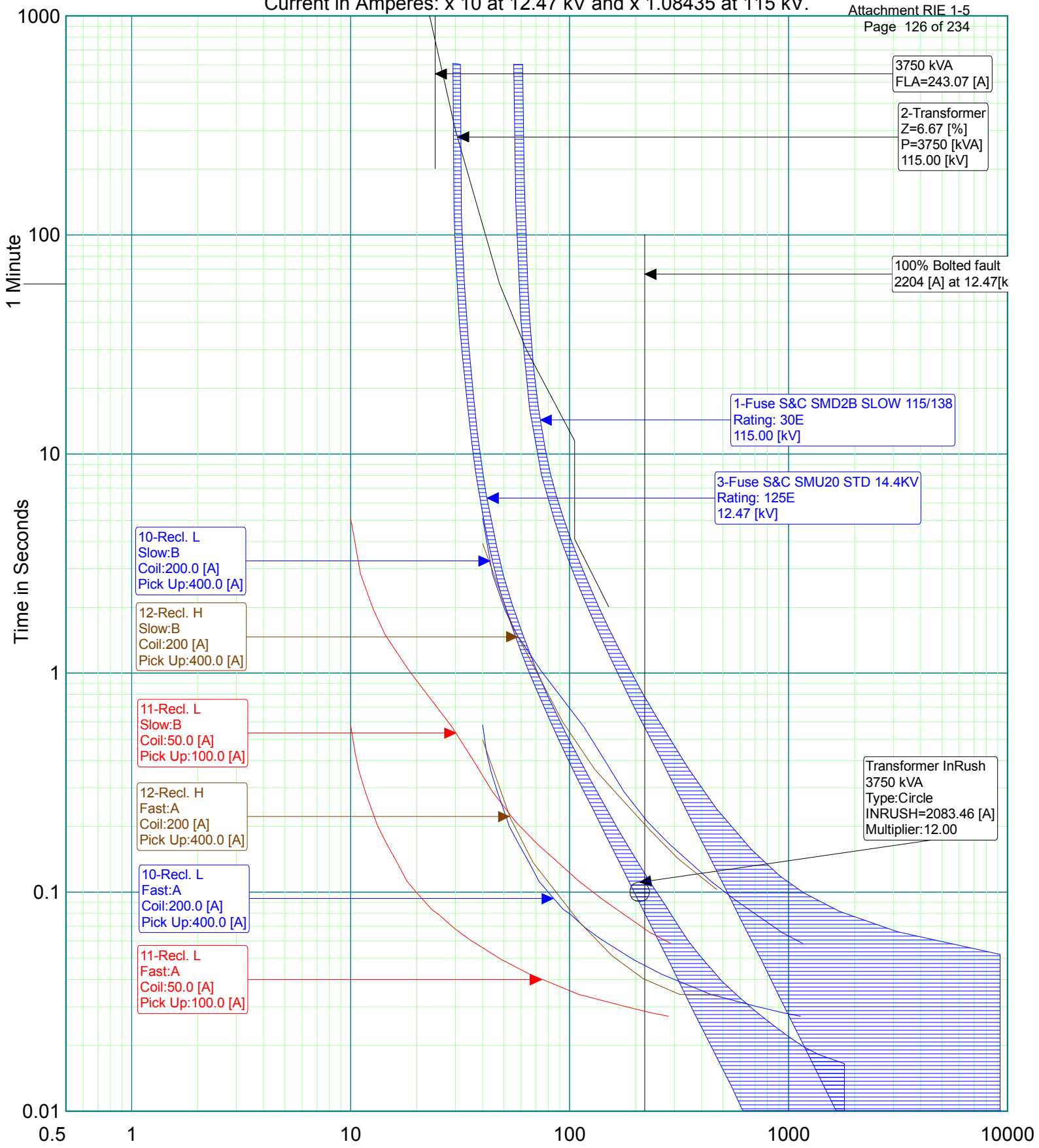
Hickory Grove CP Substation

PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

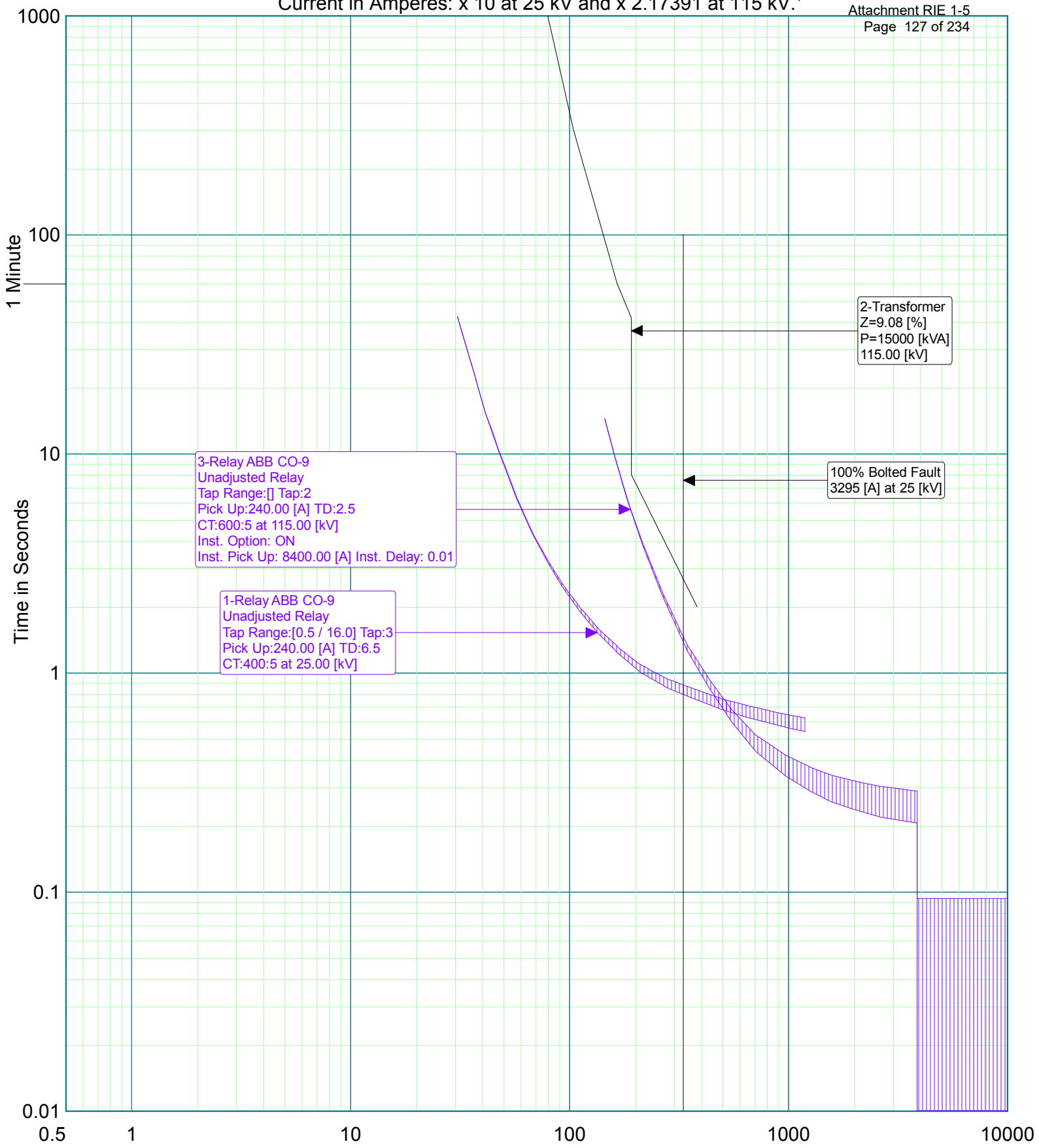
Hickory Grove Distribution Substation

PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Huber Substation

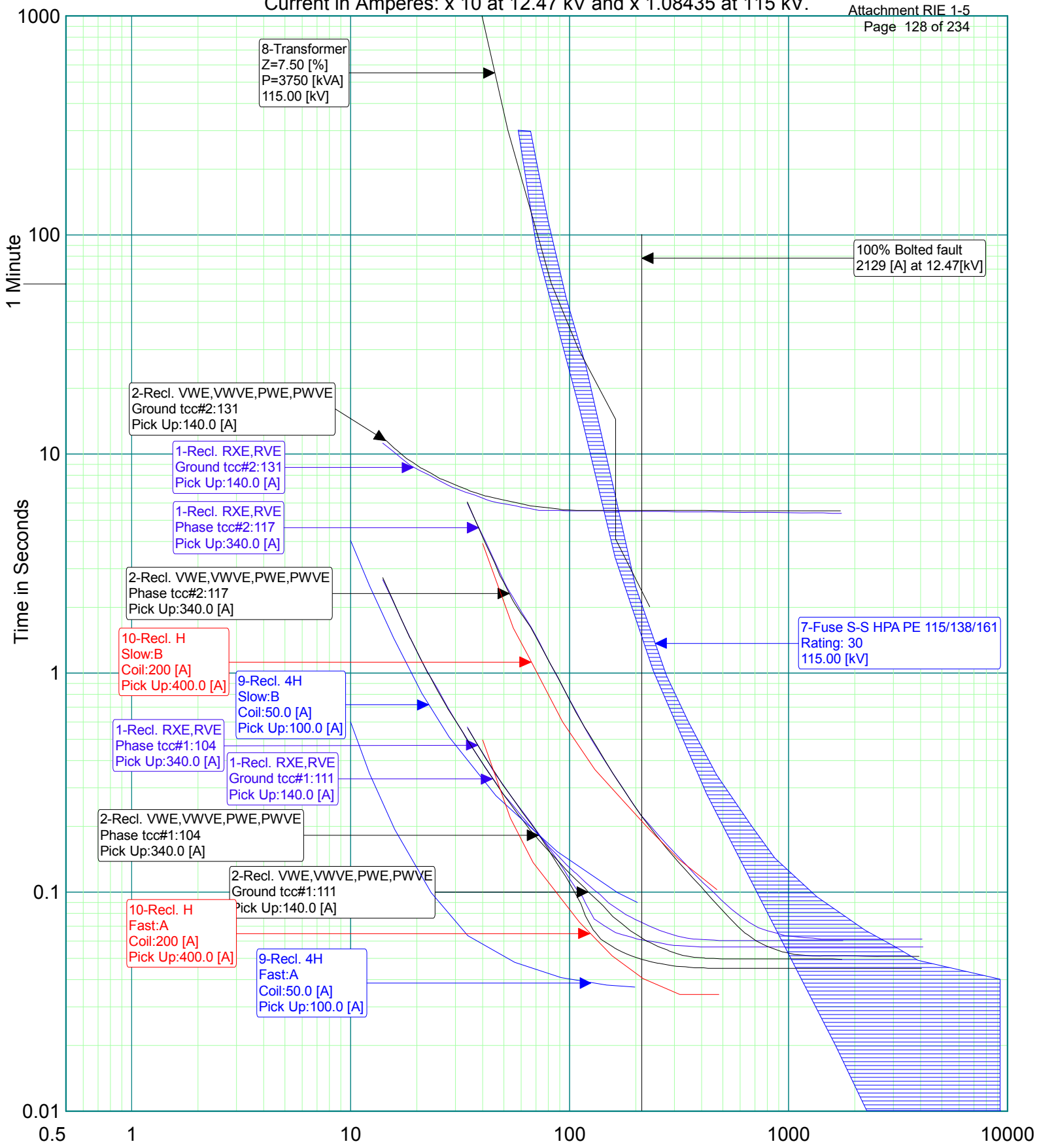
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Island Creek Substation

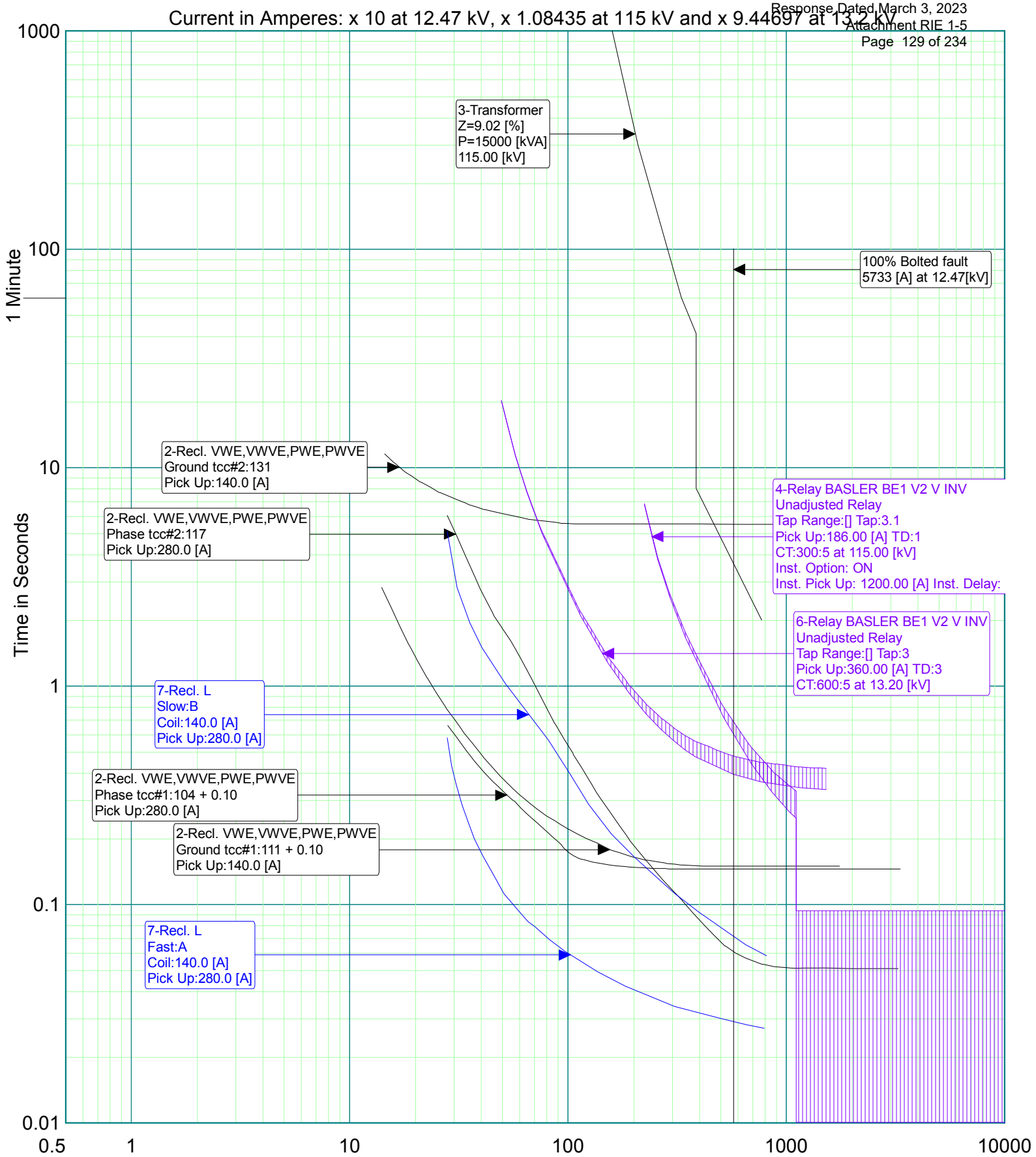
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Jones Store Substation

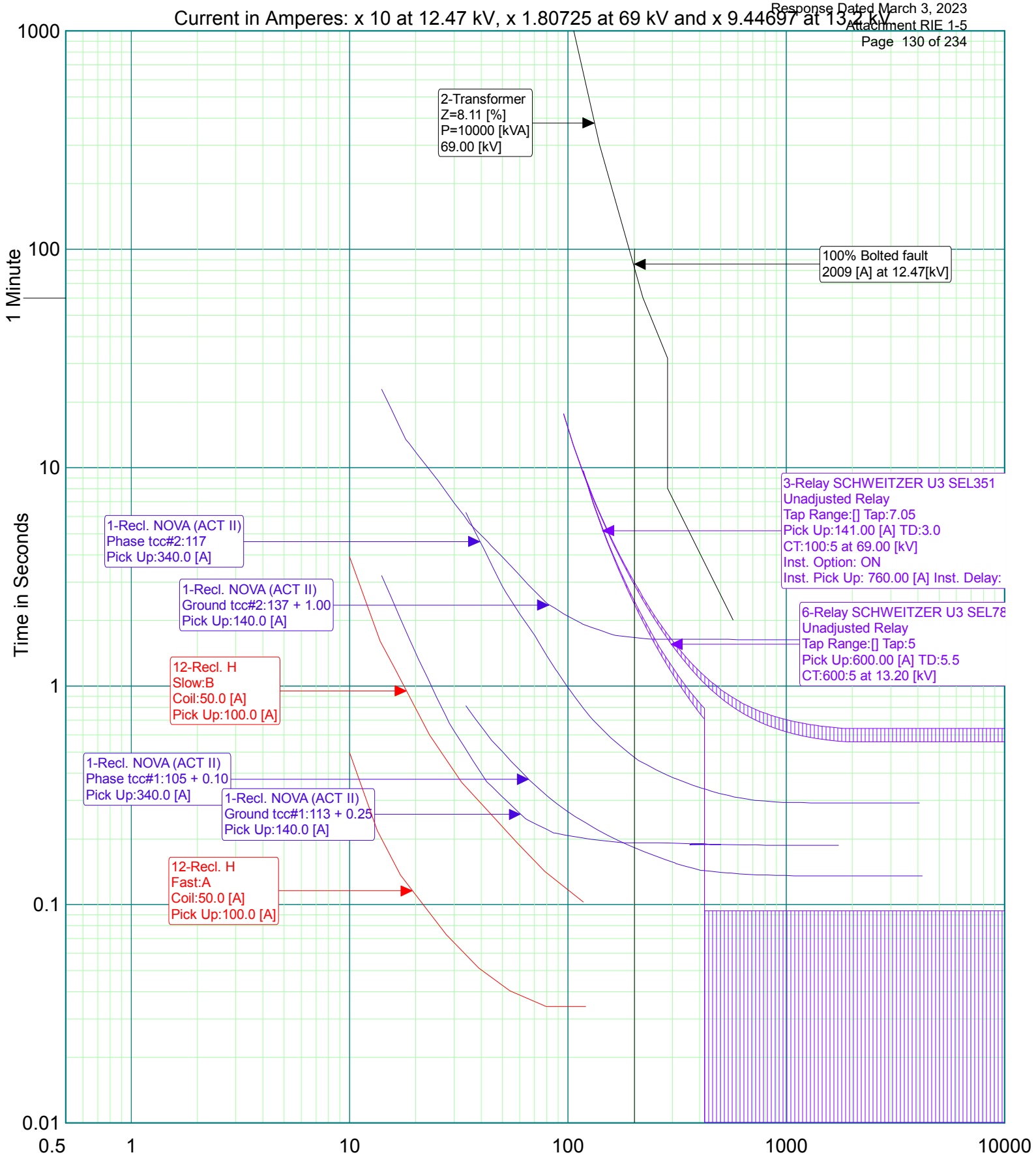
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Mt. Airy Substation

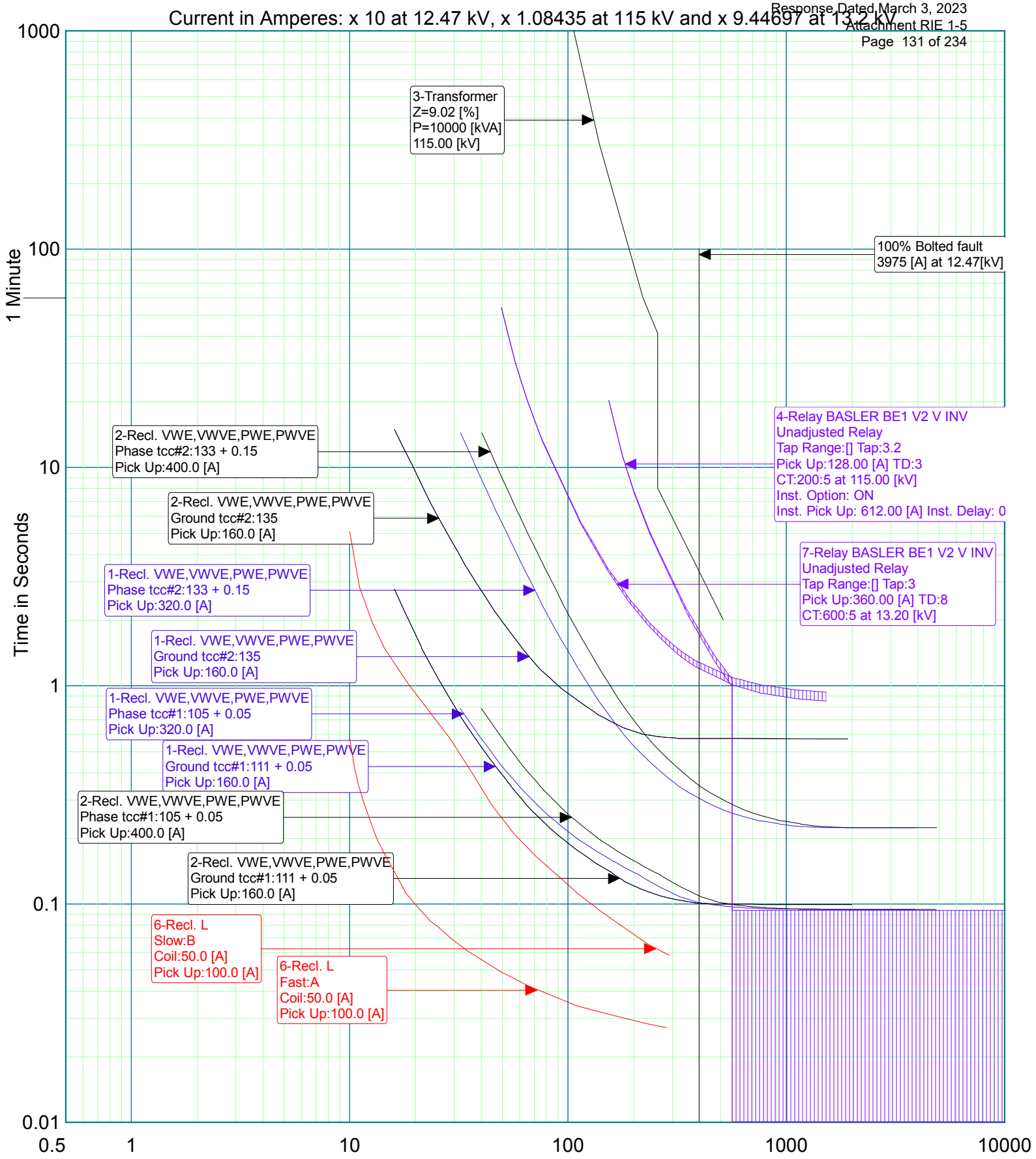
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Northview Substation

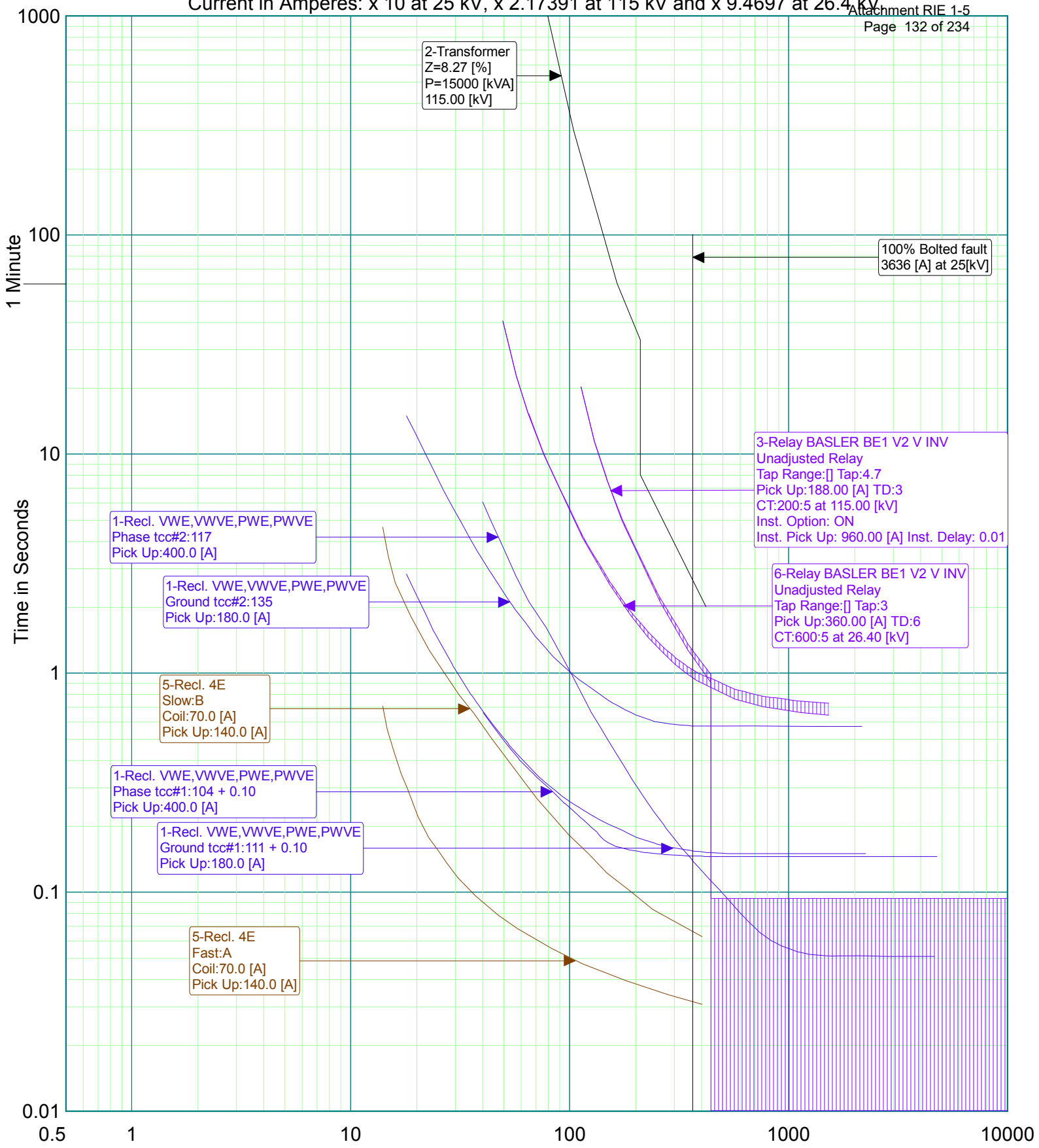
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Omega Substation

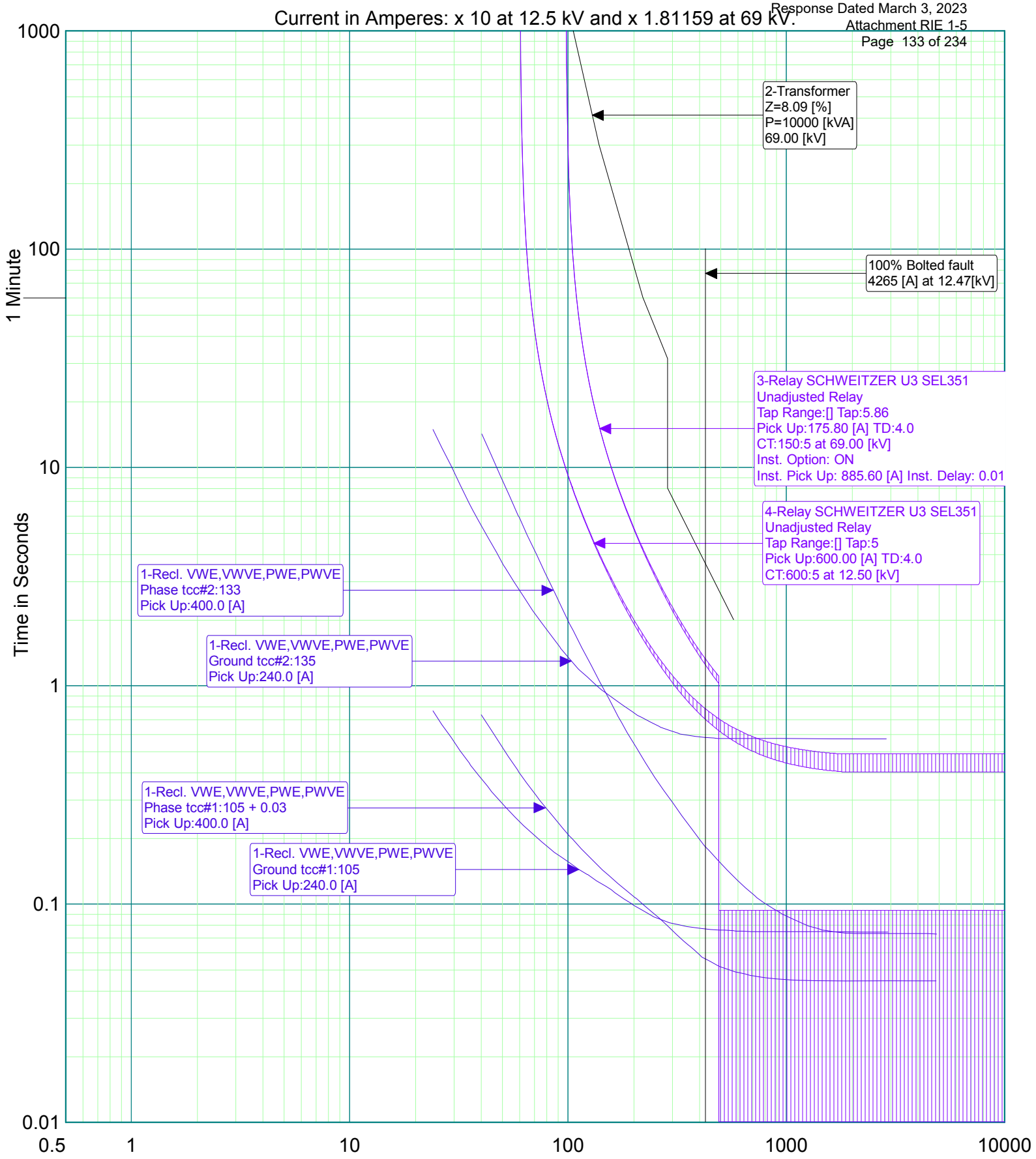
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Sheva Substation

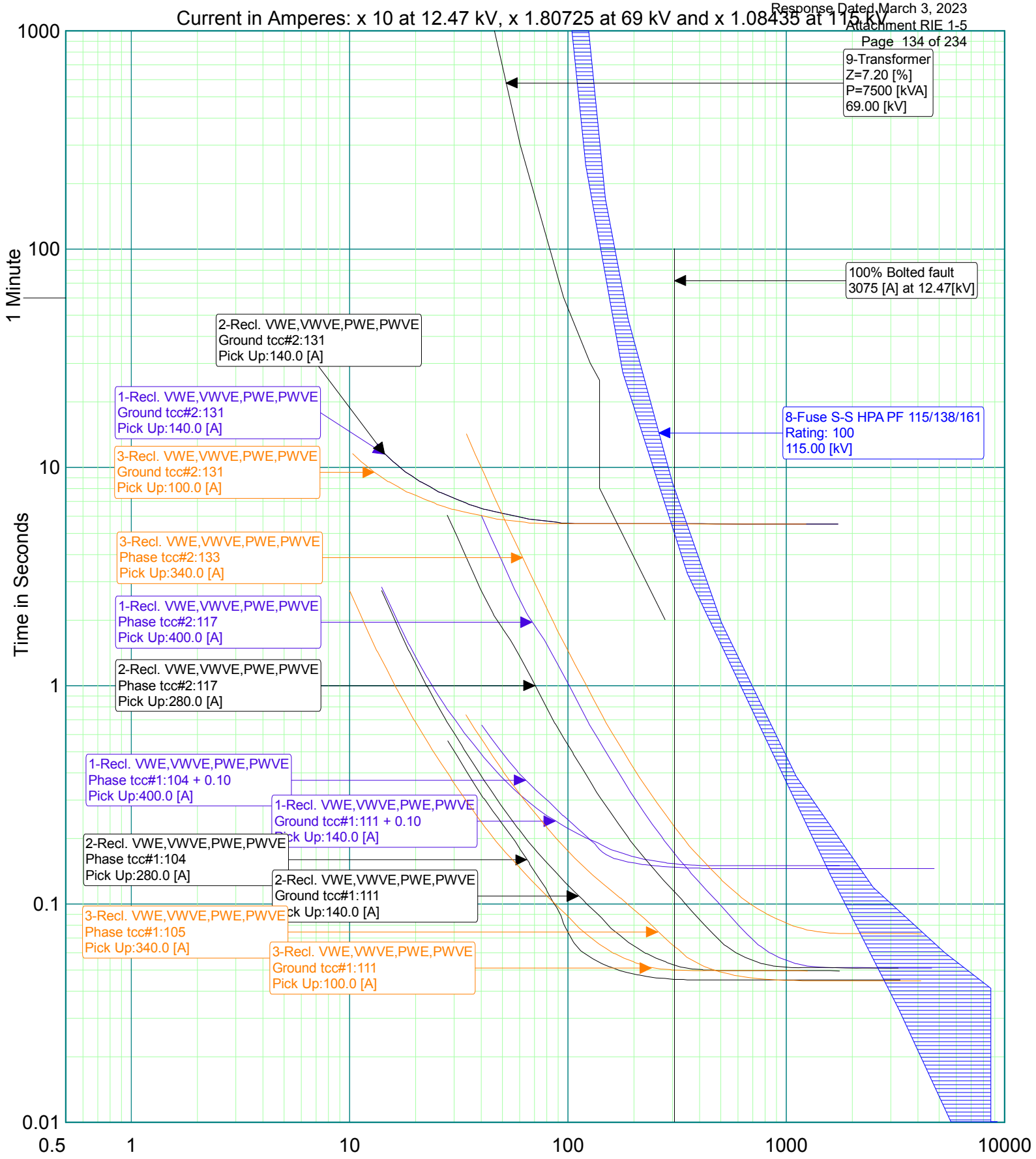
PLOTTING VOLTAGE:12.5 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Shockoe Substation

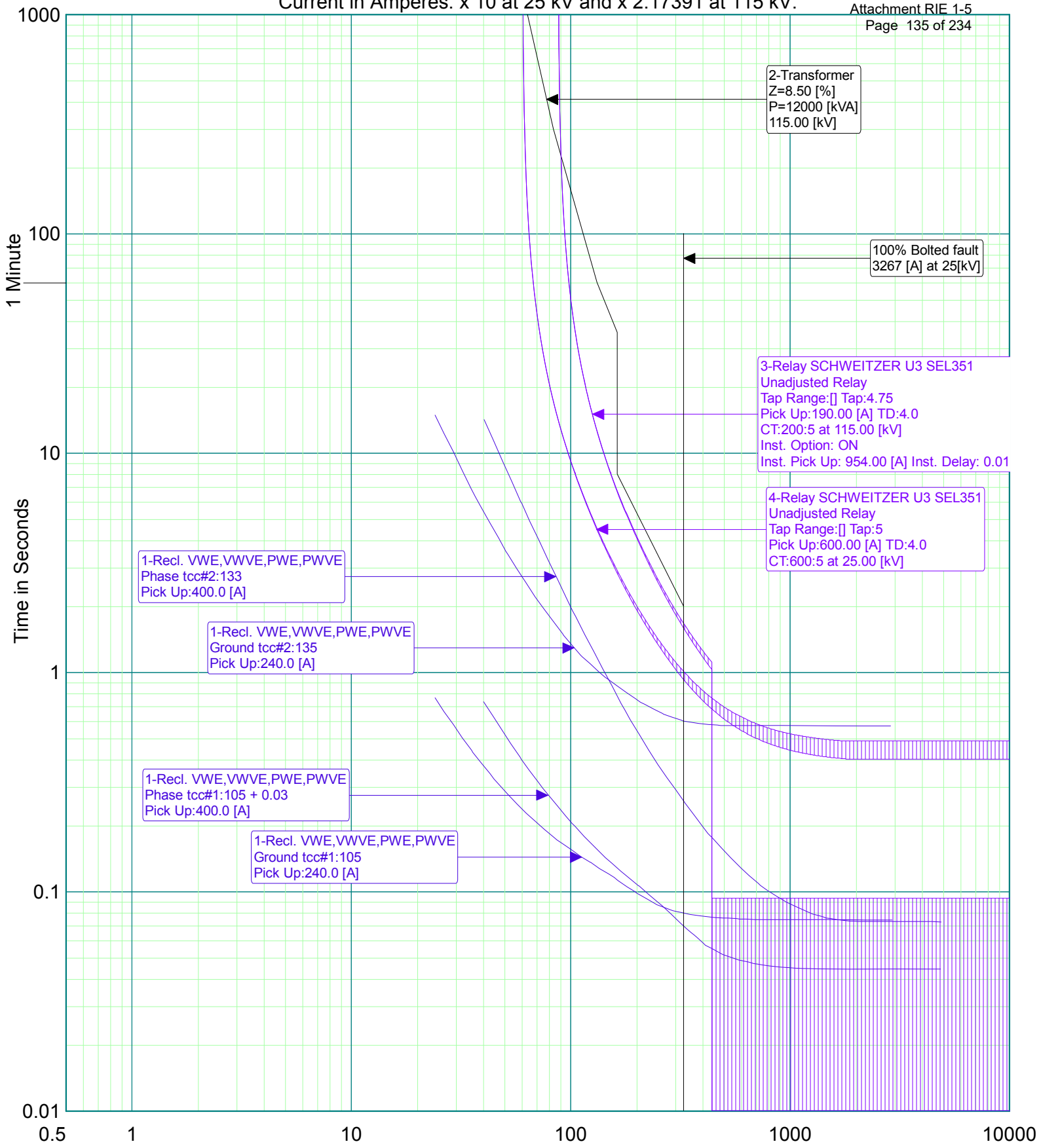
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Existing

Three Creeks Substation

PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

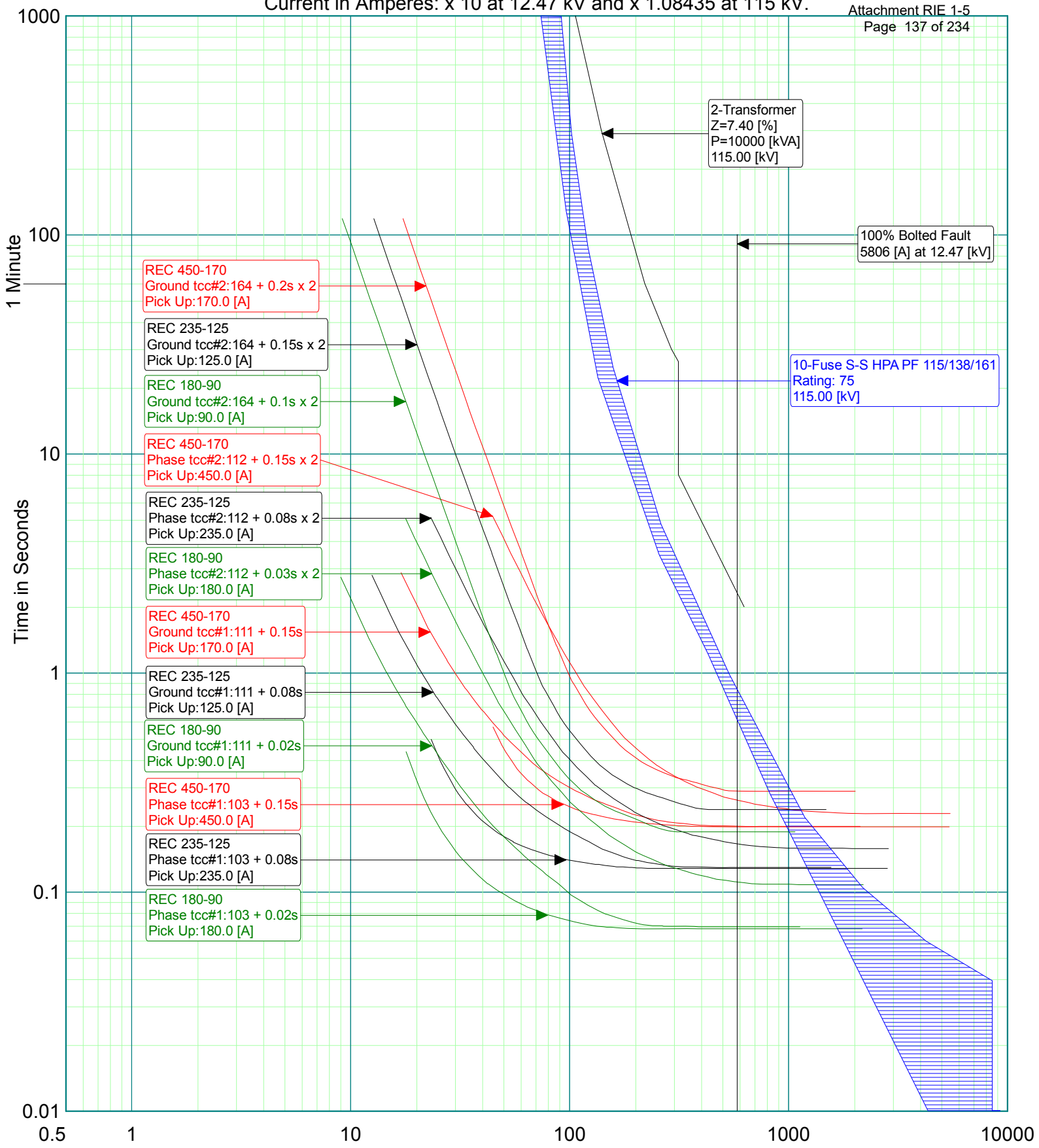
Power Services
Engineering and Management Services

NO:

DATE: 7/6/16

TCC CURVES

PROPOSED



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Sectionalizing Study - Proposed

Beechwood Substation

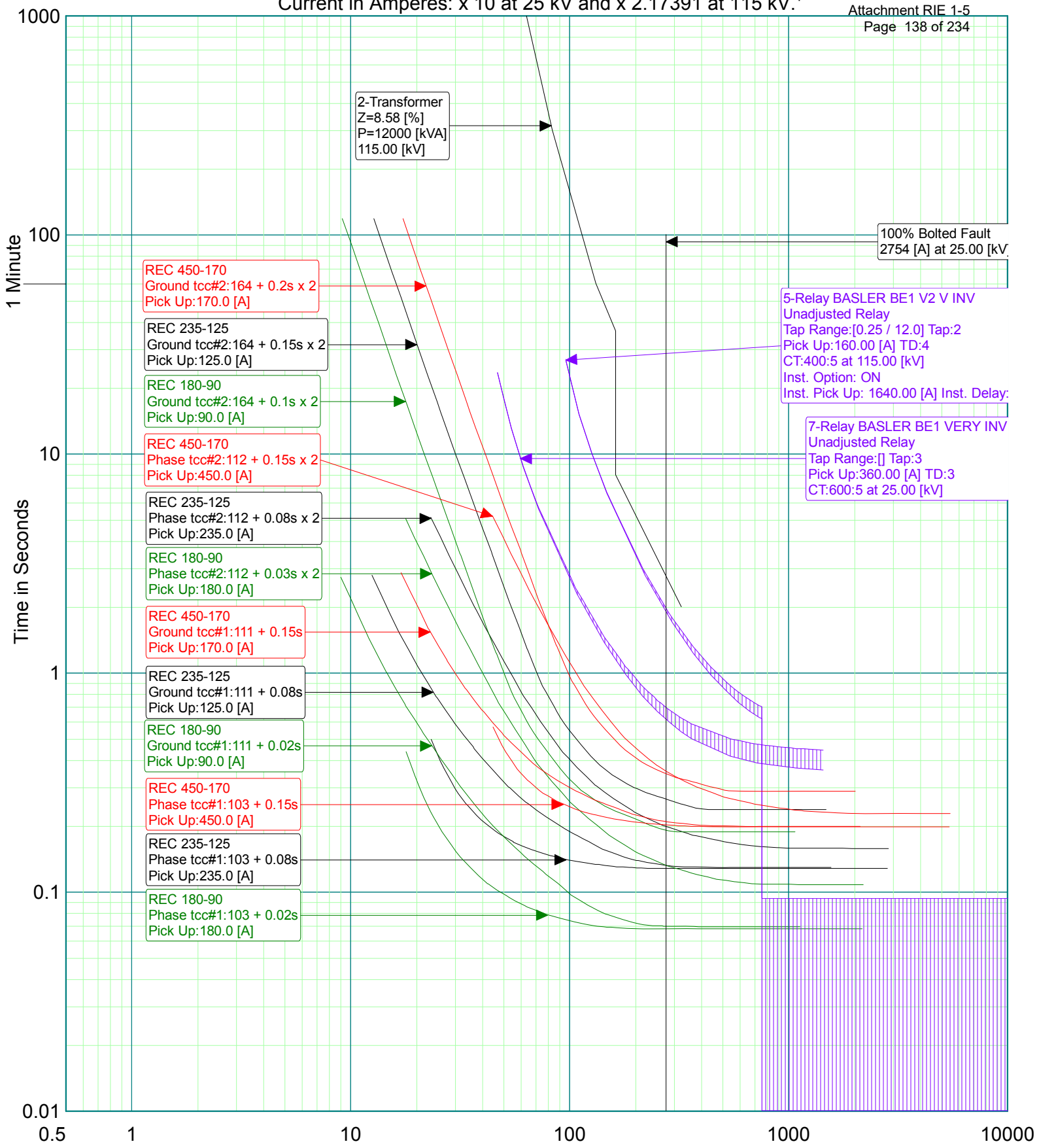
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

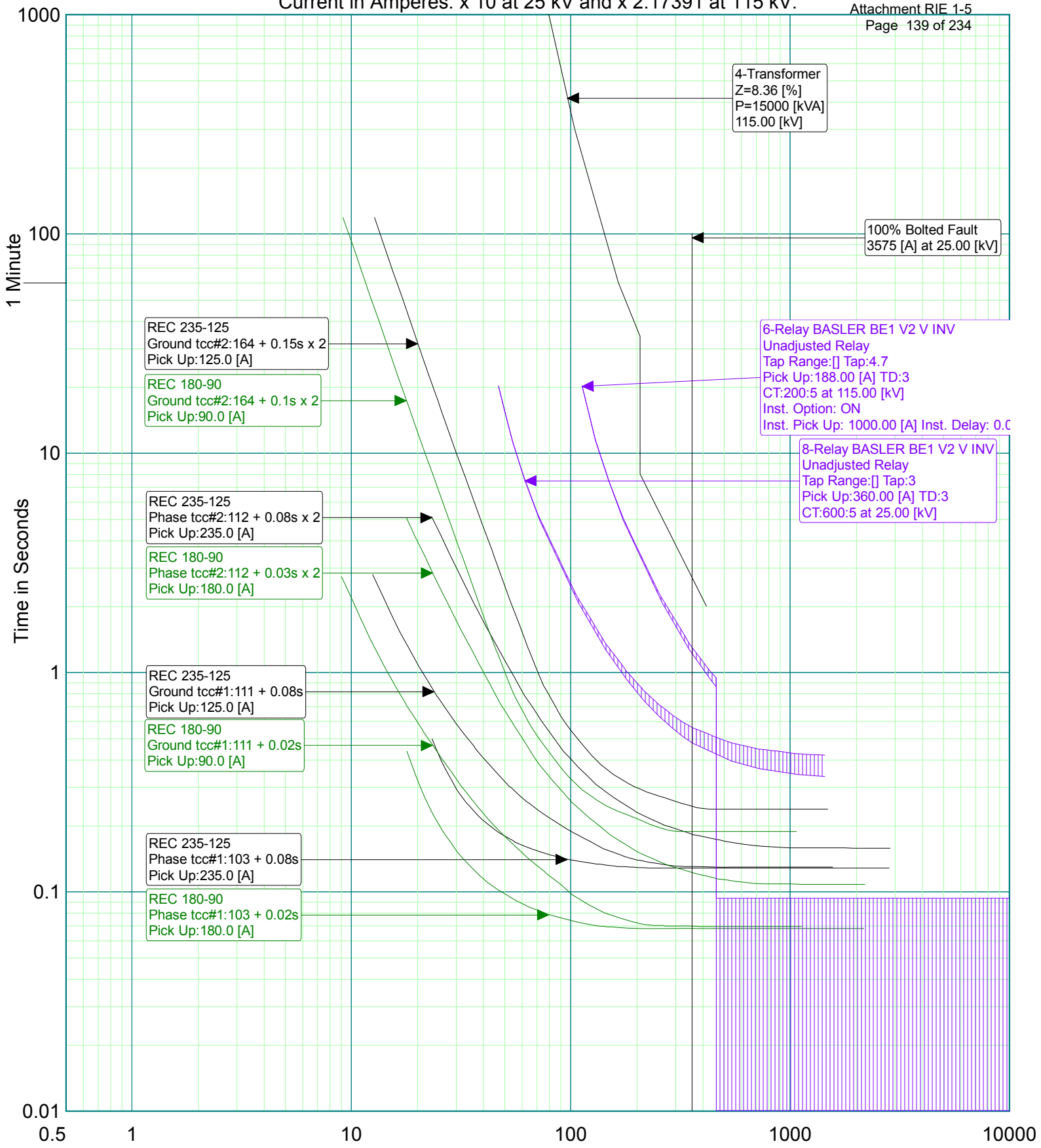
Beechwood 25 Substation

PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Belfield Substation

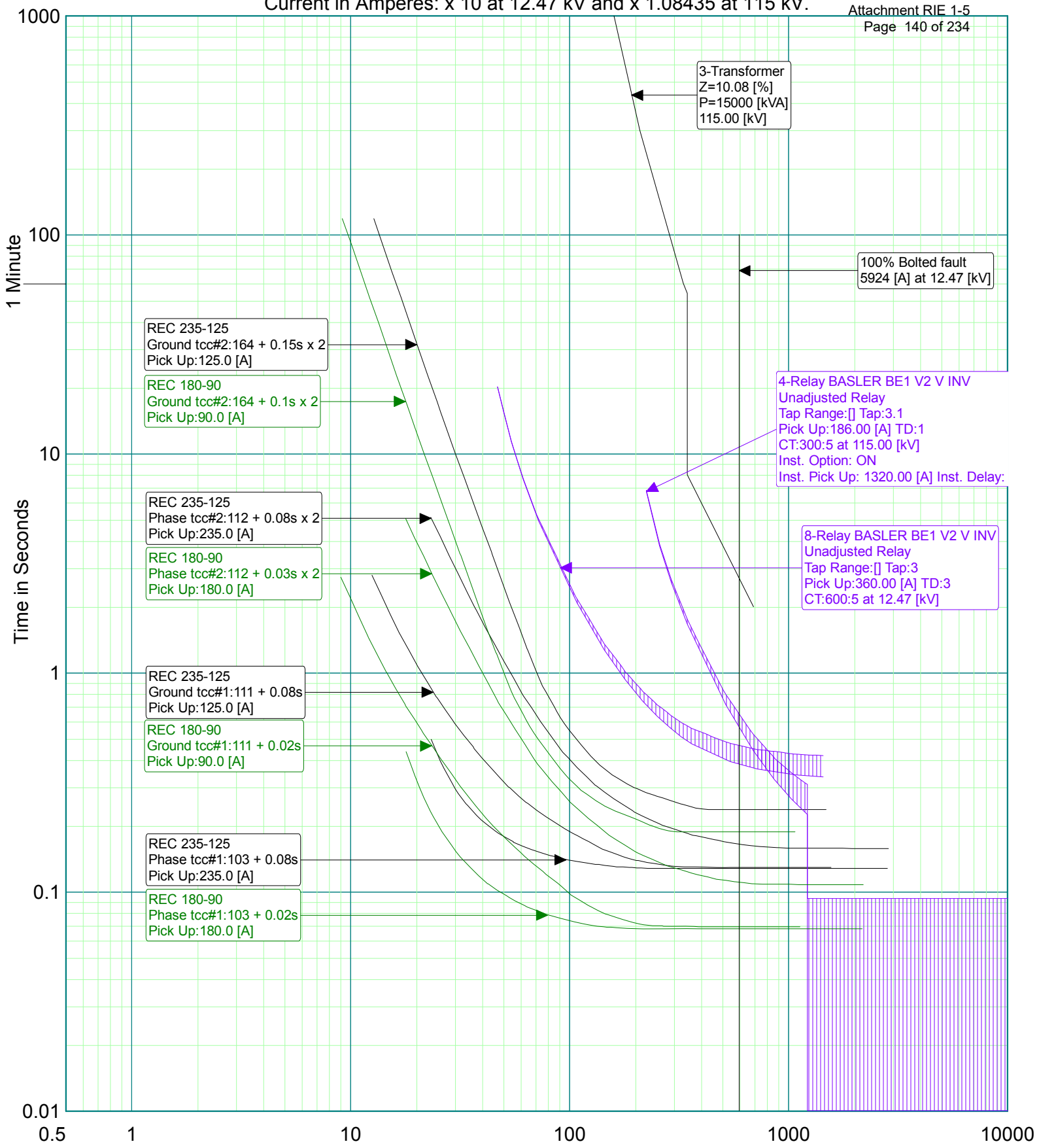
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Black Branch Substation

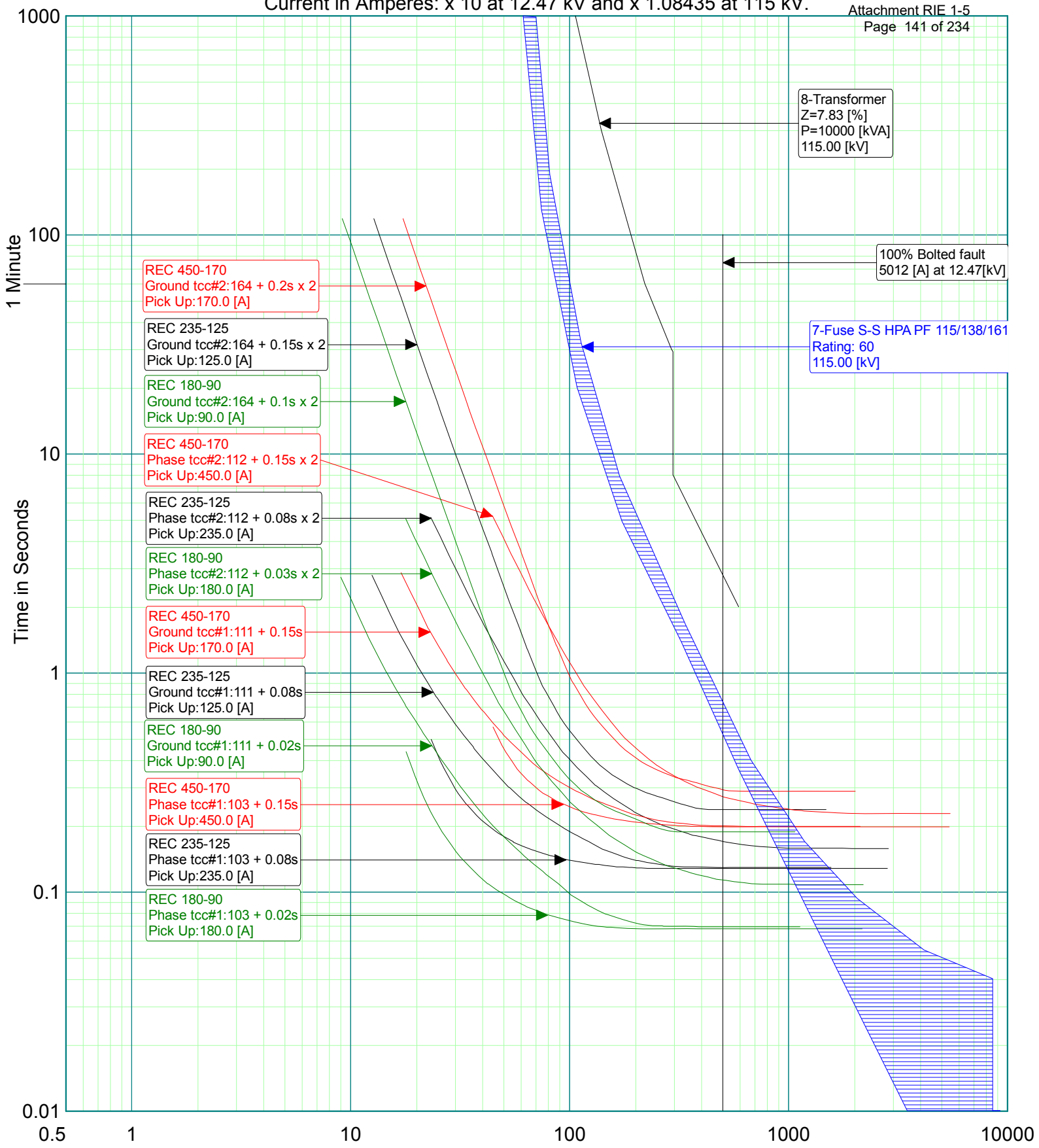
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Boydton Substation

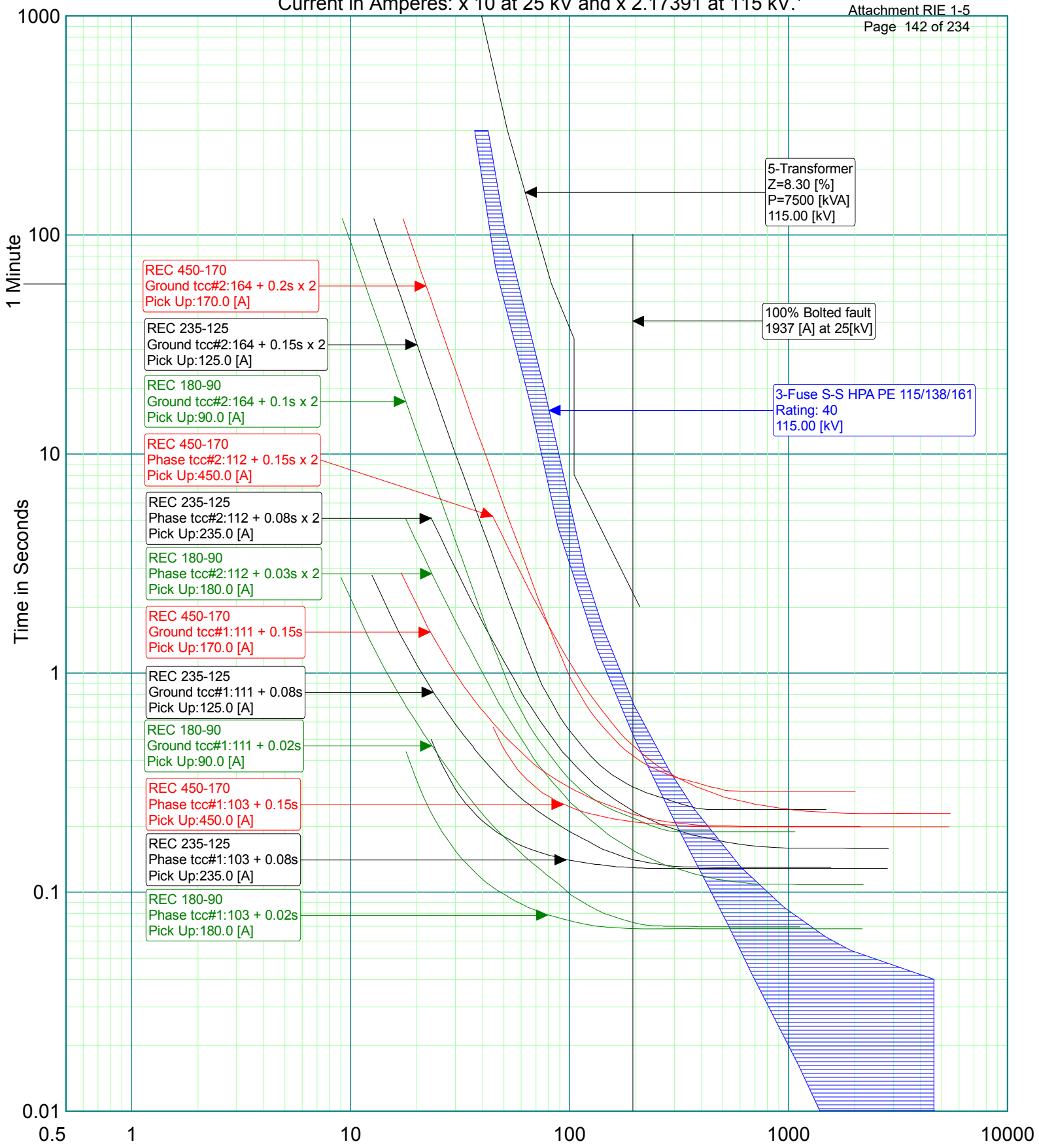
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Brink Substation

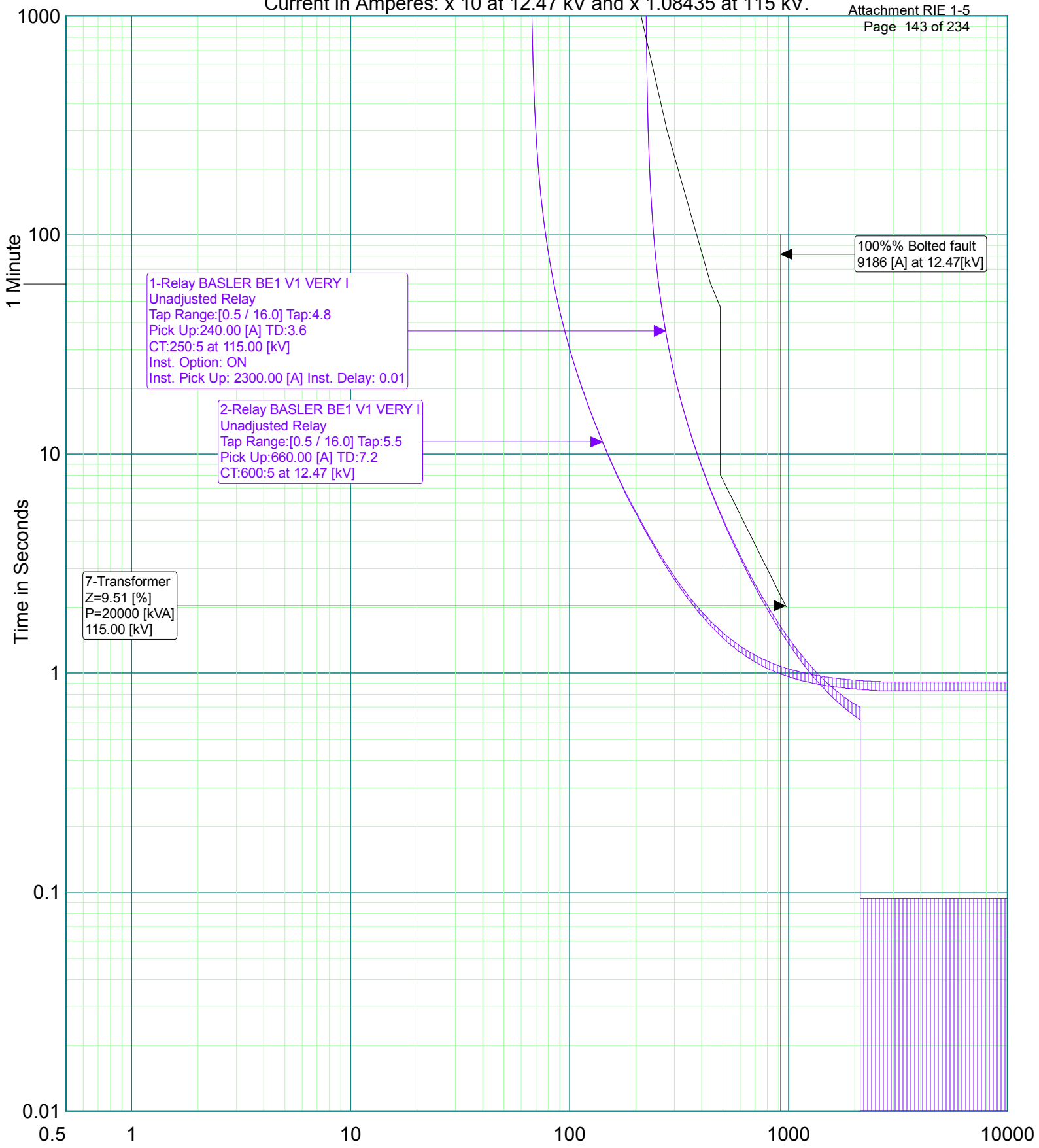
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Burlington Drive

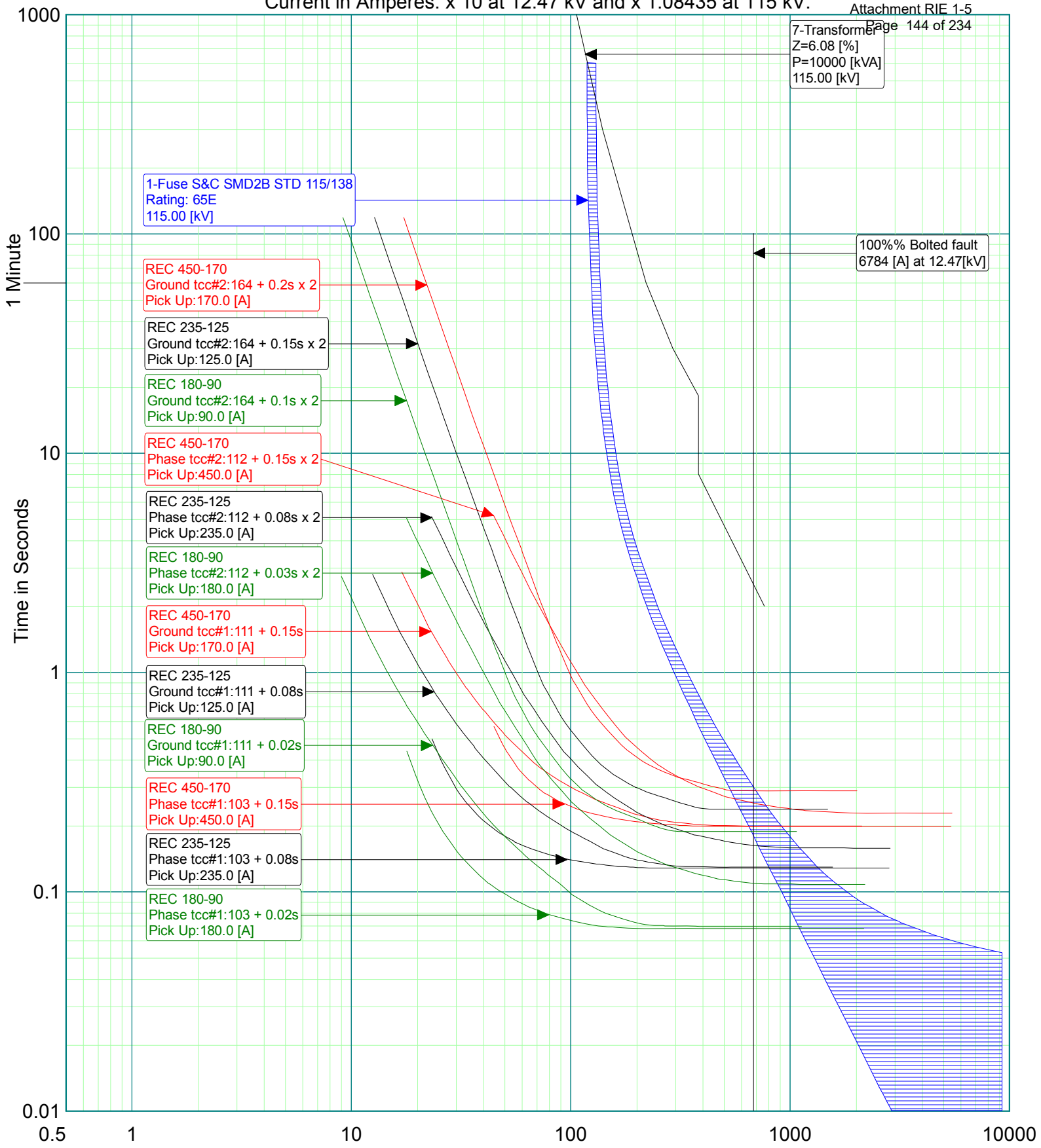
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Clarksville Substation

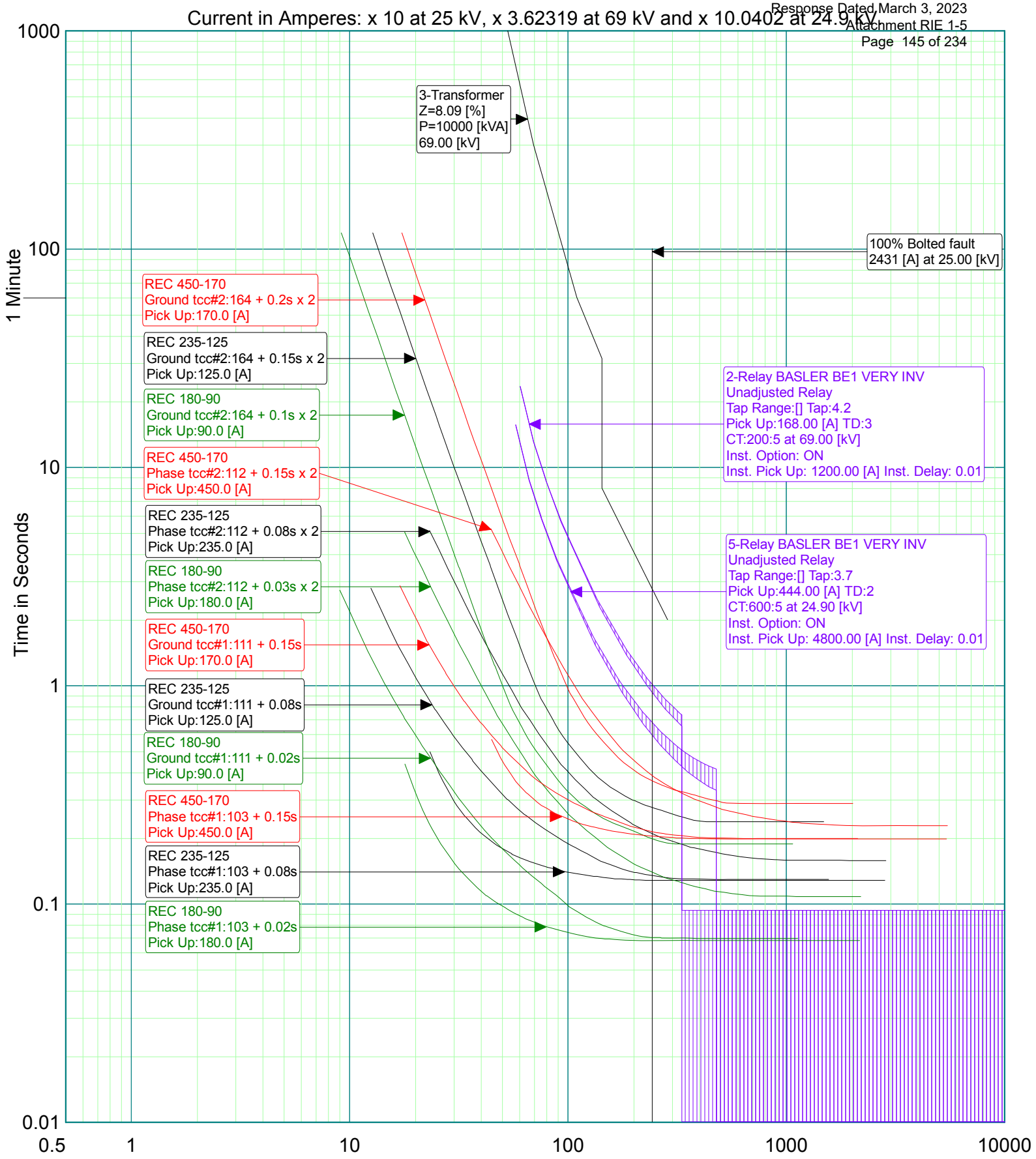
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16

Power Services
Engineering and Management Services



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Sectionalizing Study - Proposed

Climax Substation

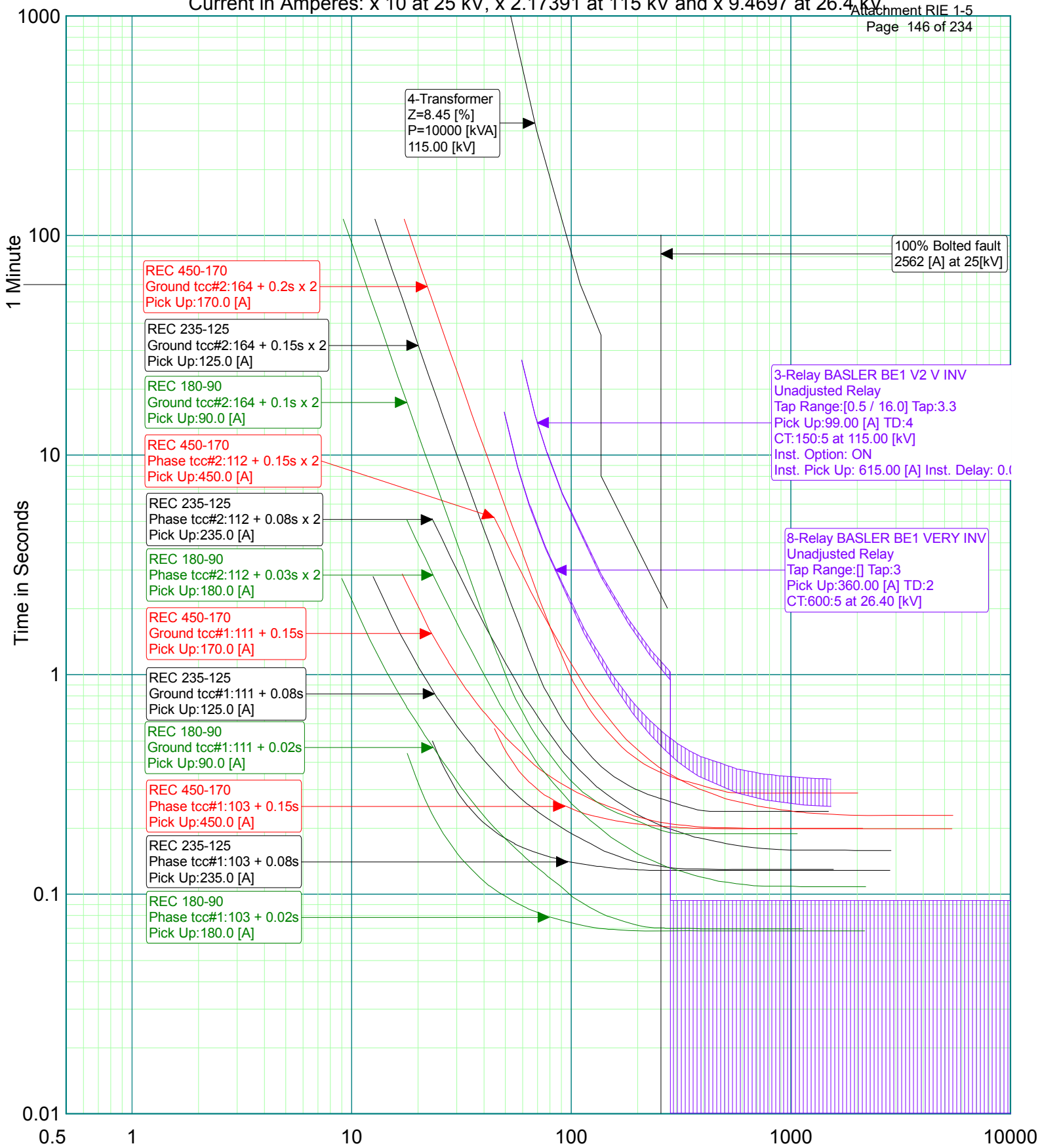
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

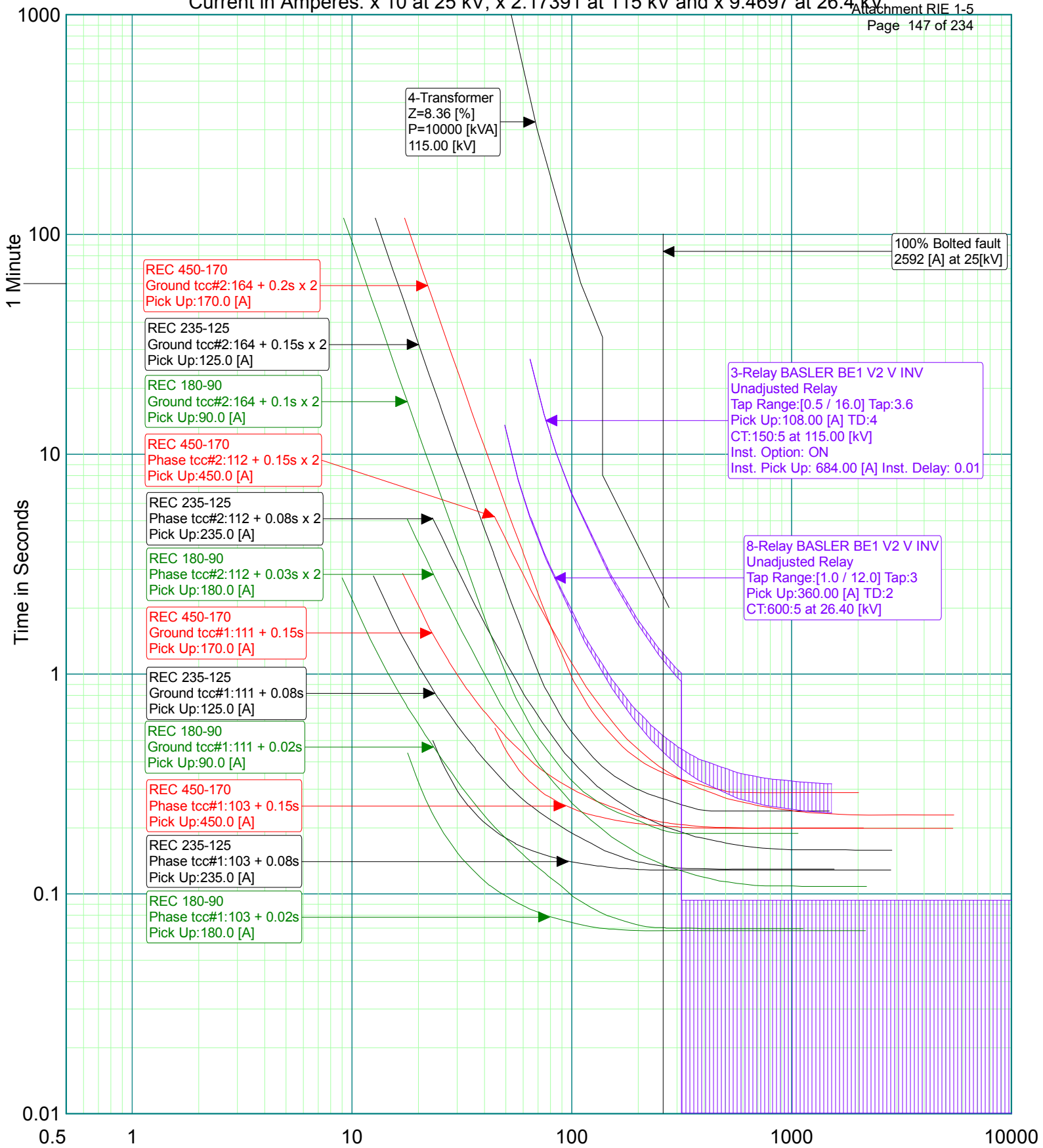
Crystal Hill East Substation

PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Crystal Hill West Substation

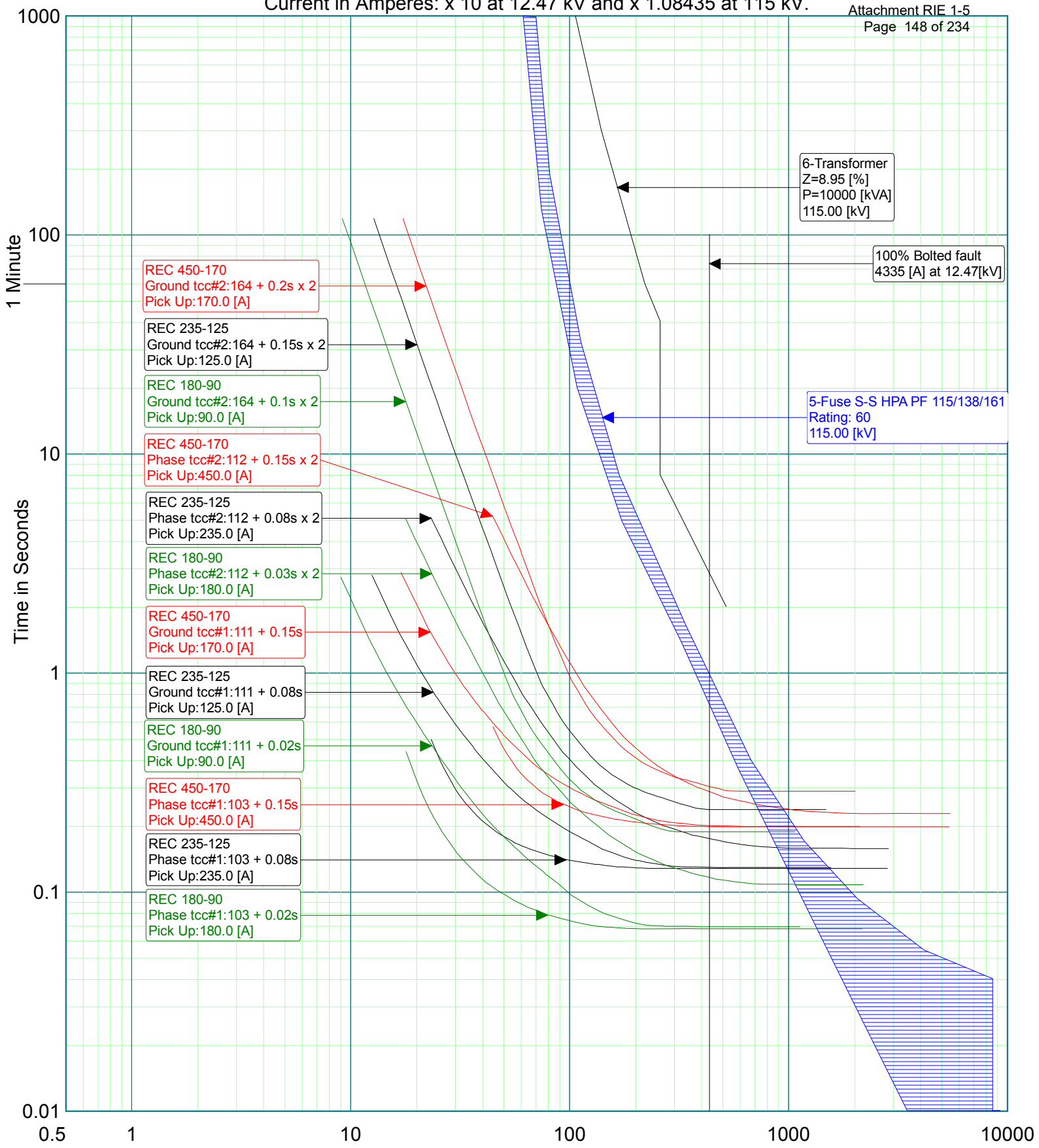
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

DC Jackson Substation

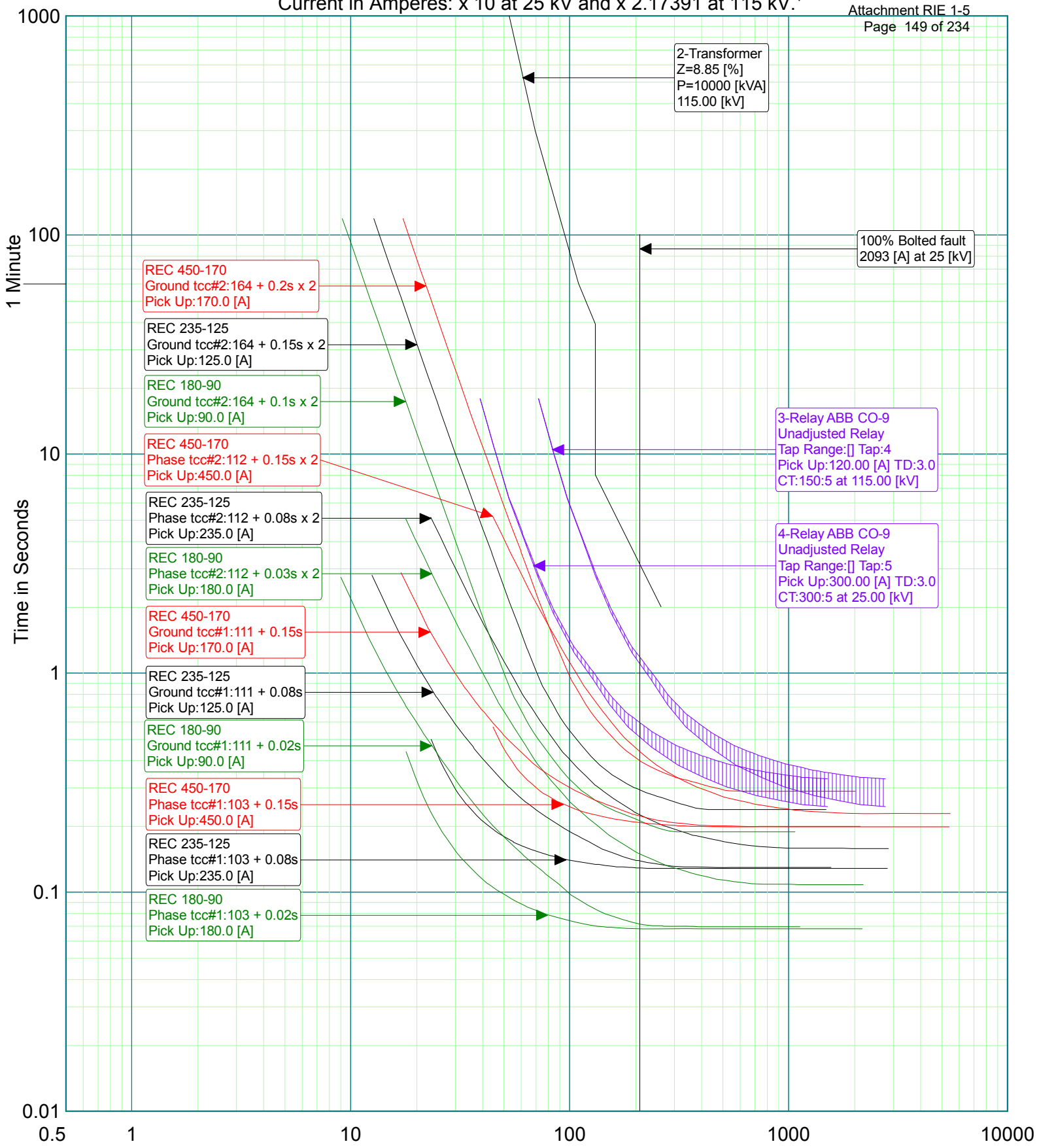
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Ebony Substation

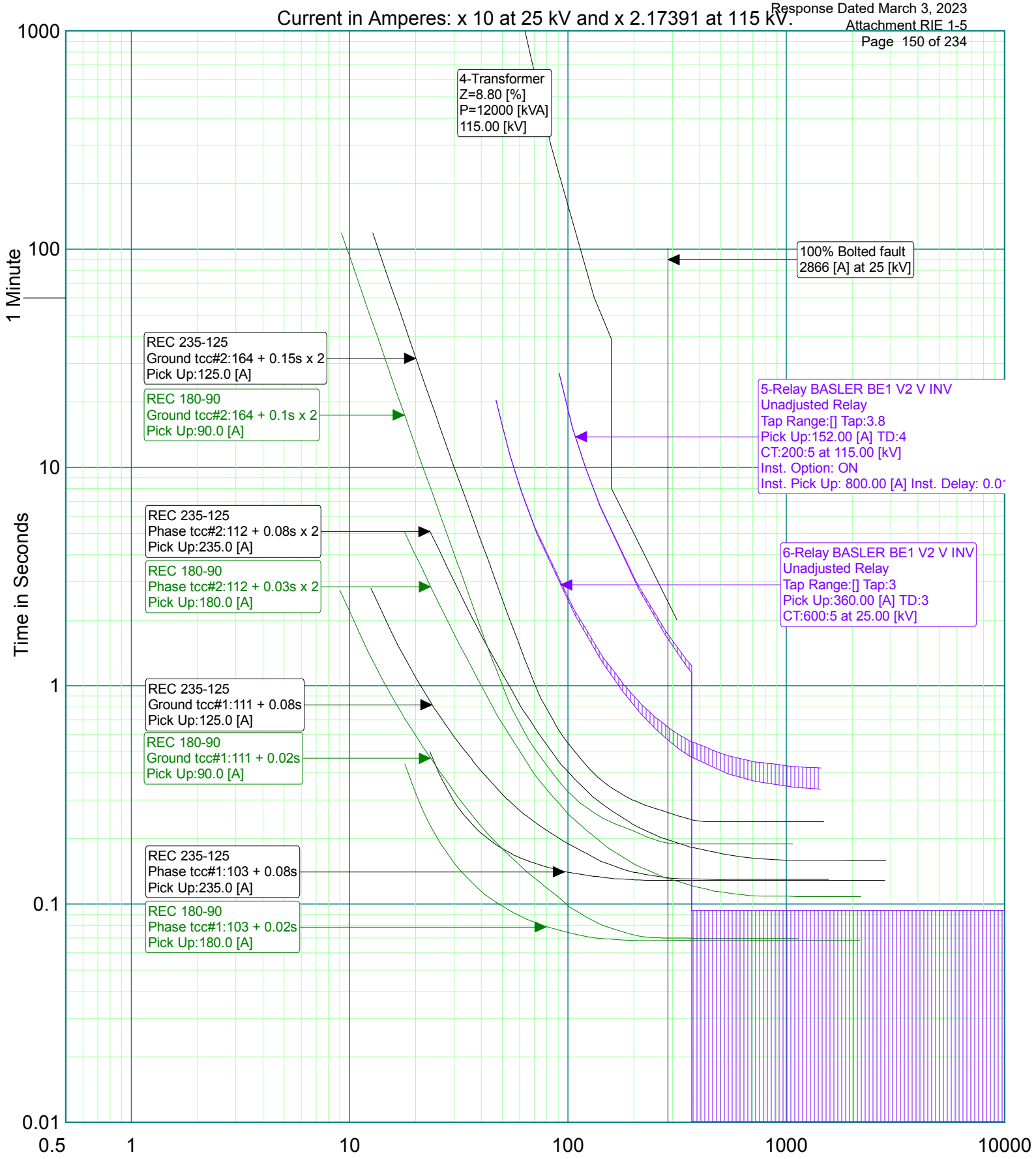
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Emporia Substation

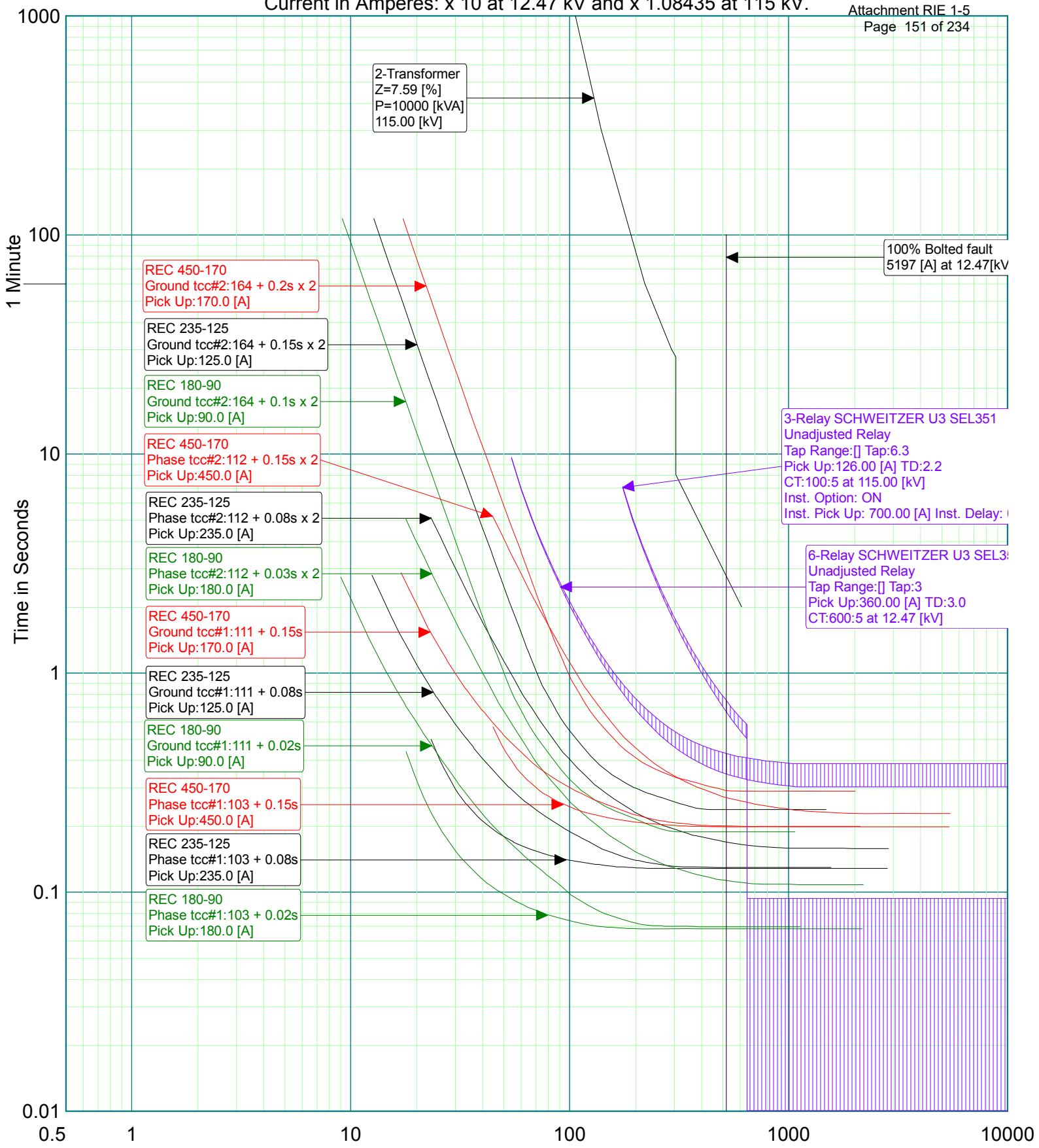
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Freeman Substation

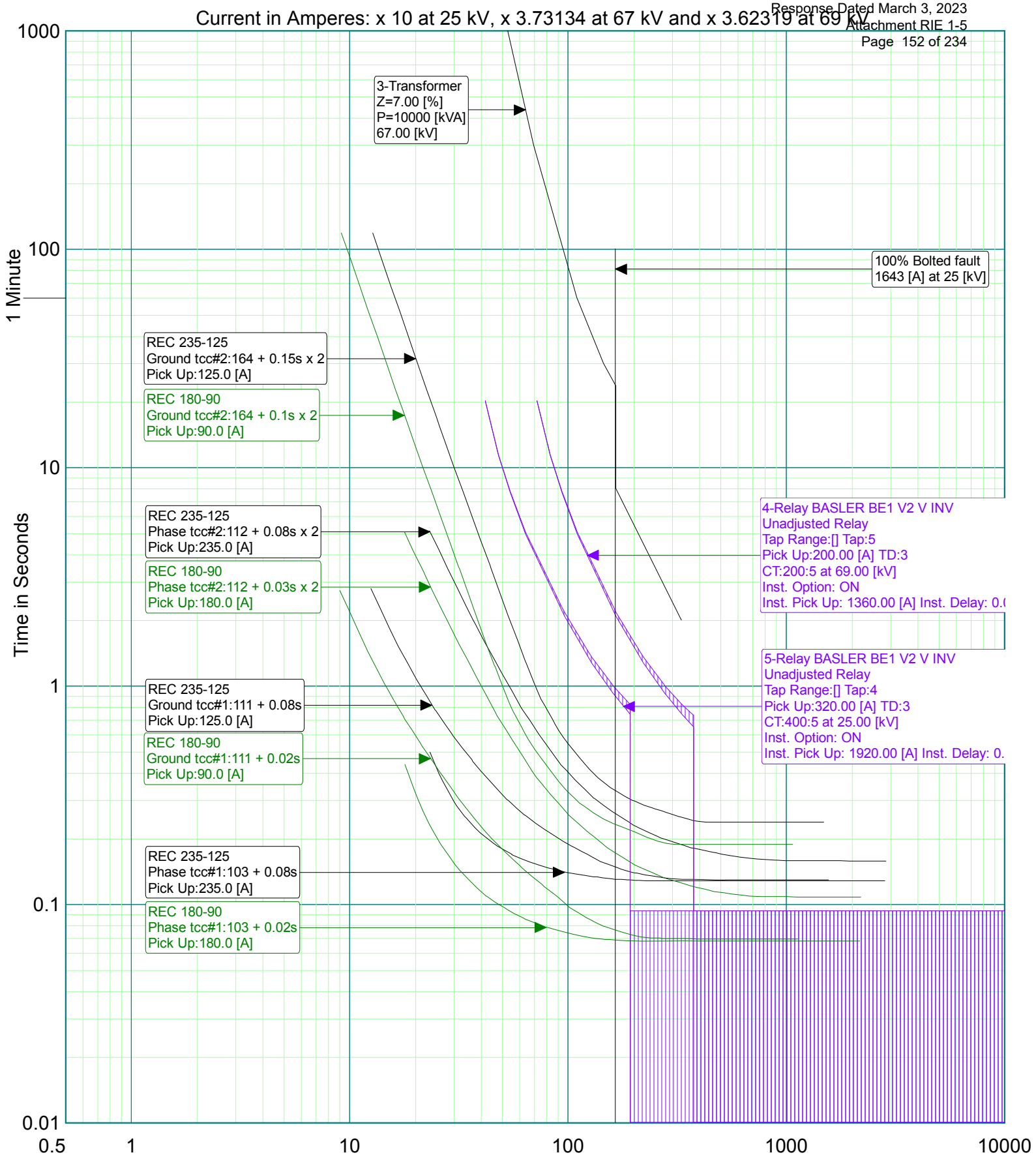
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Gasburg Substation

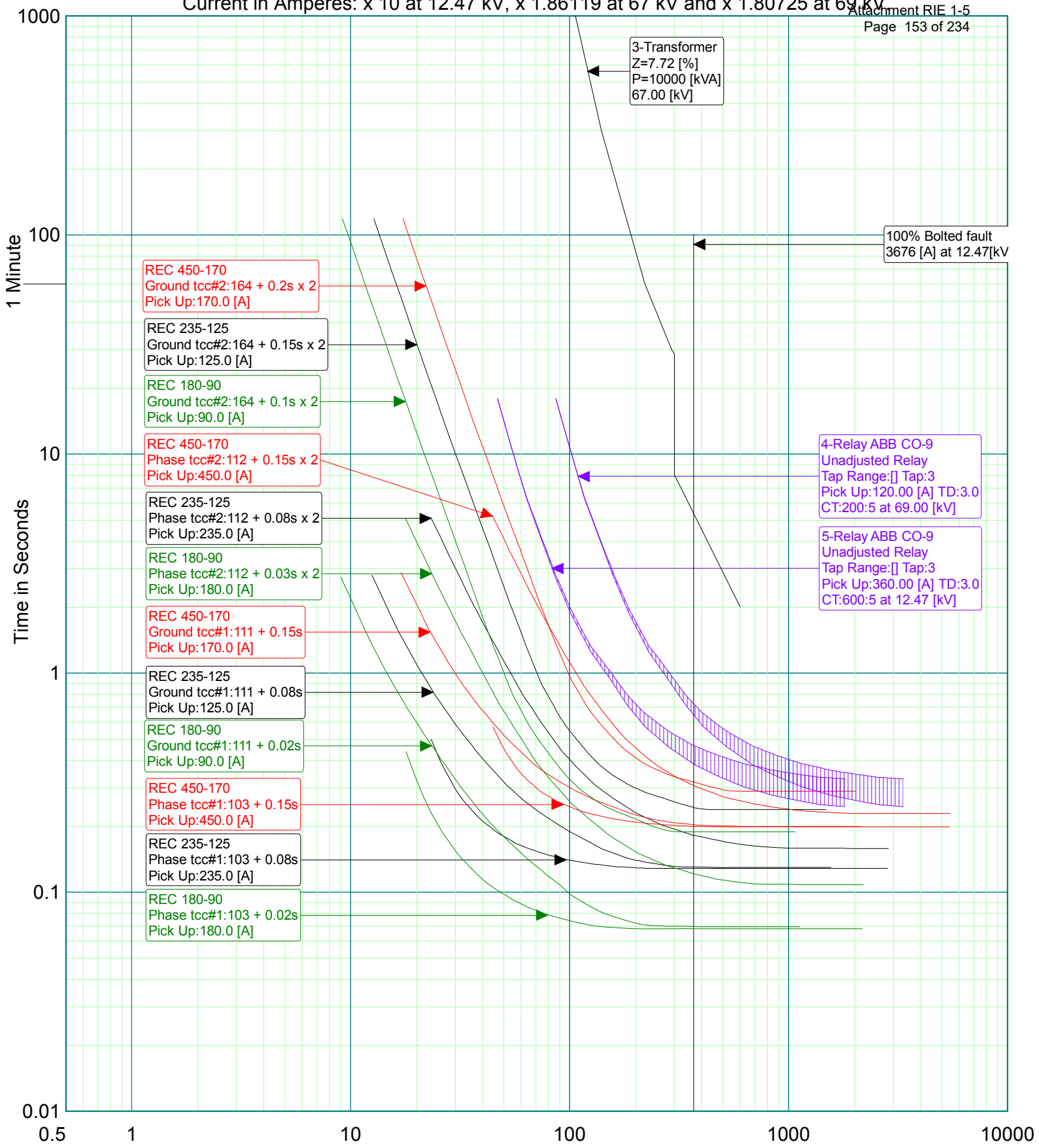
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Gretna Substation

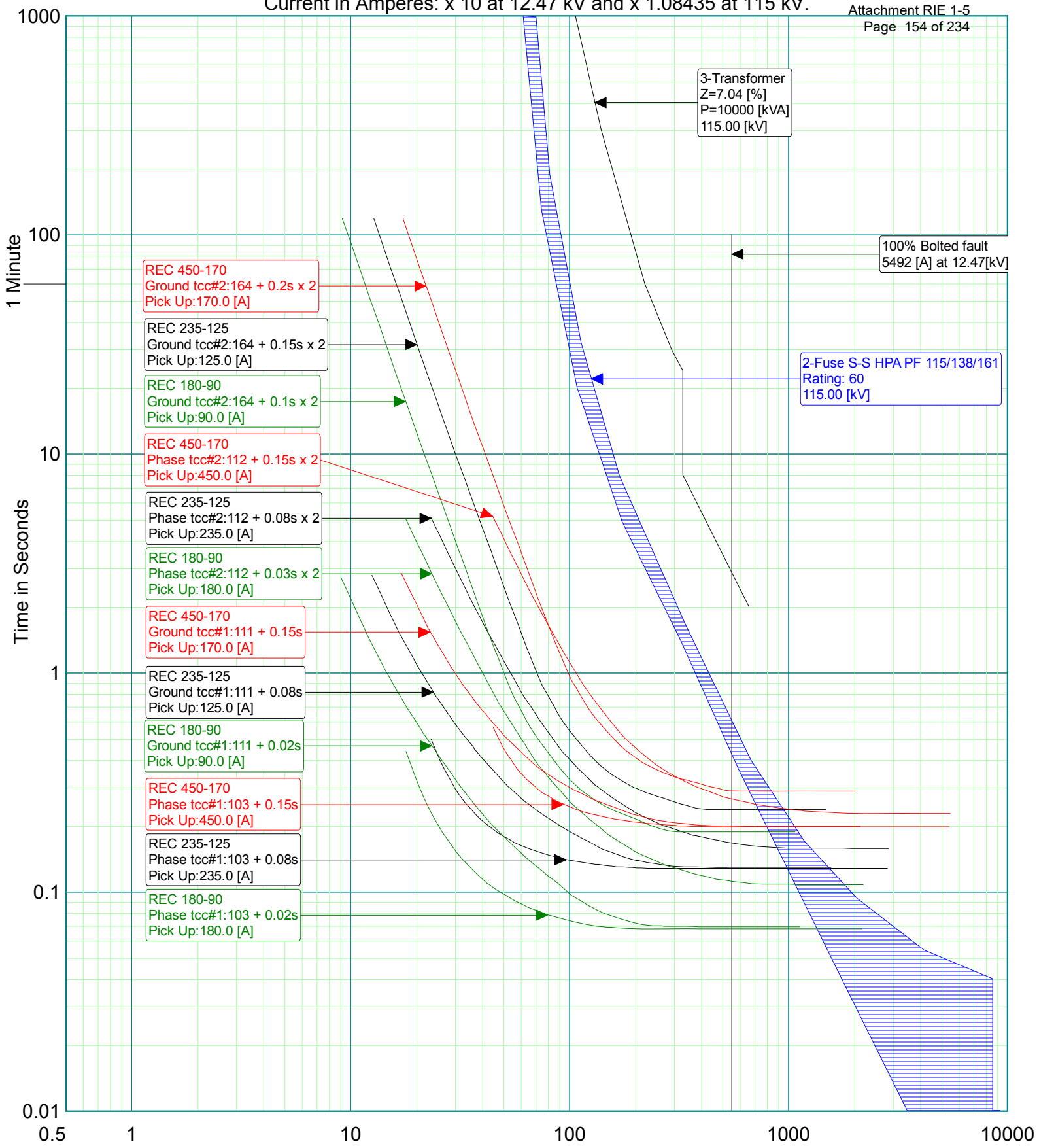
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Grit Substation

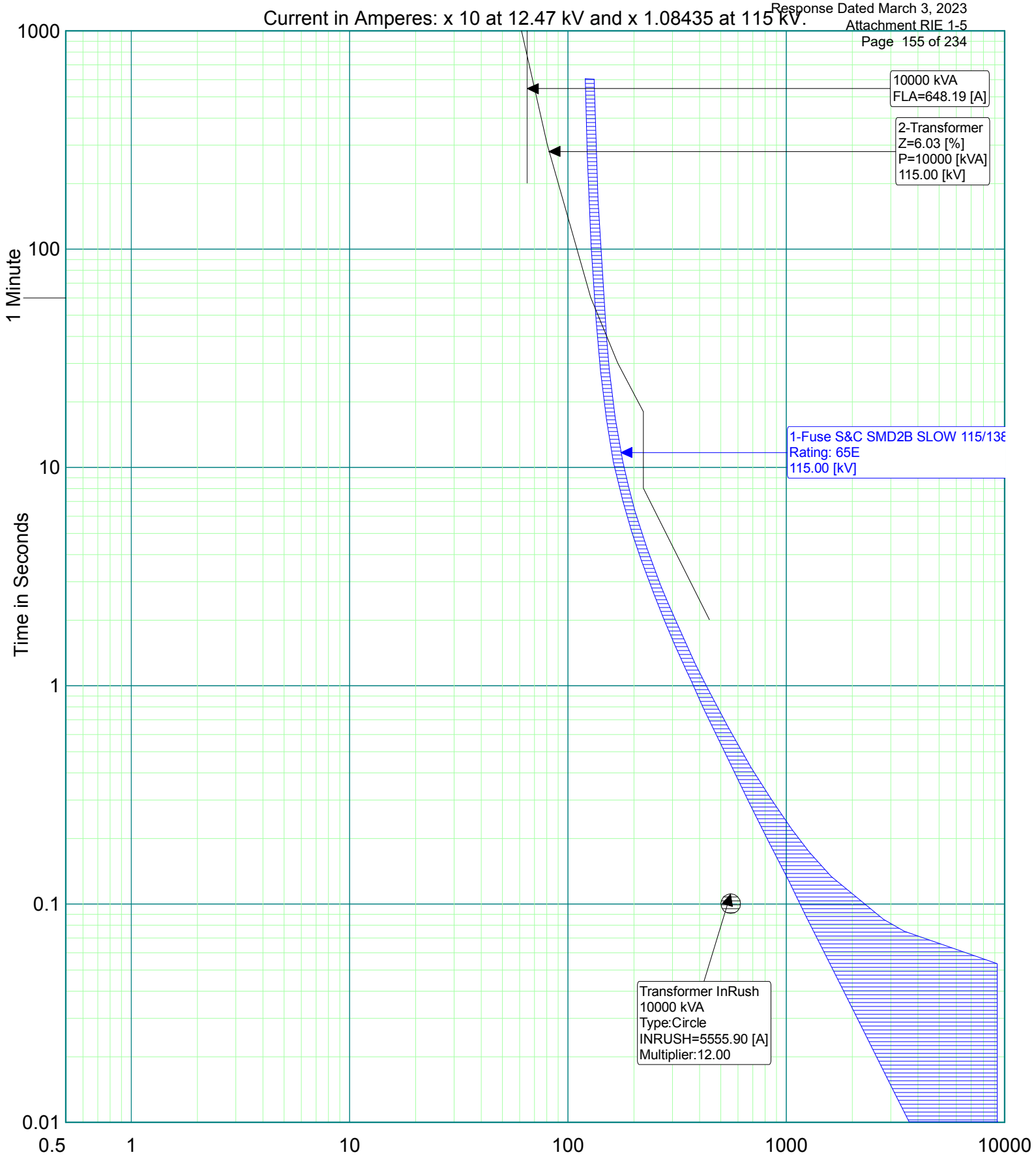
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

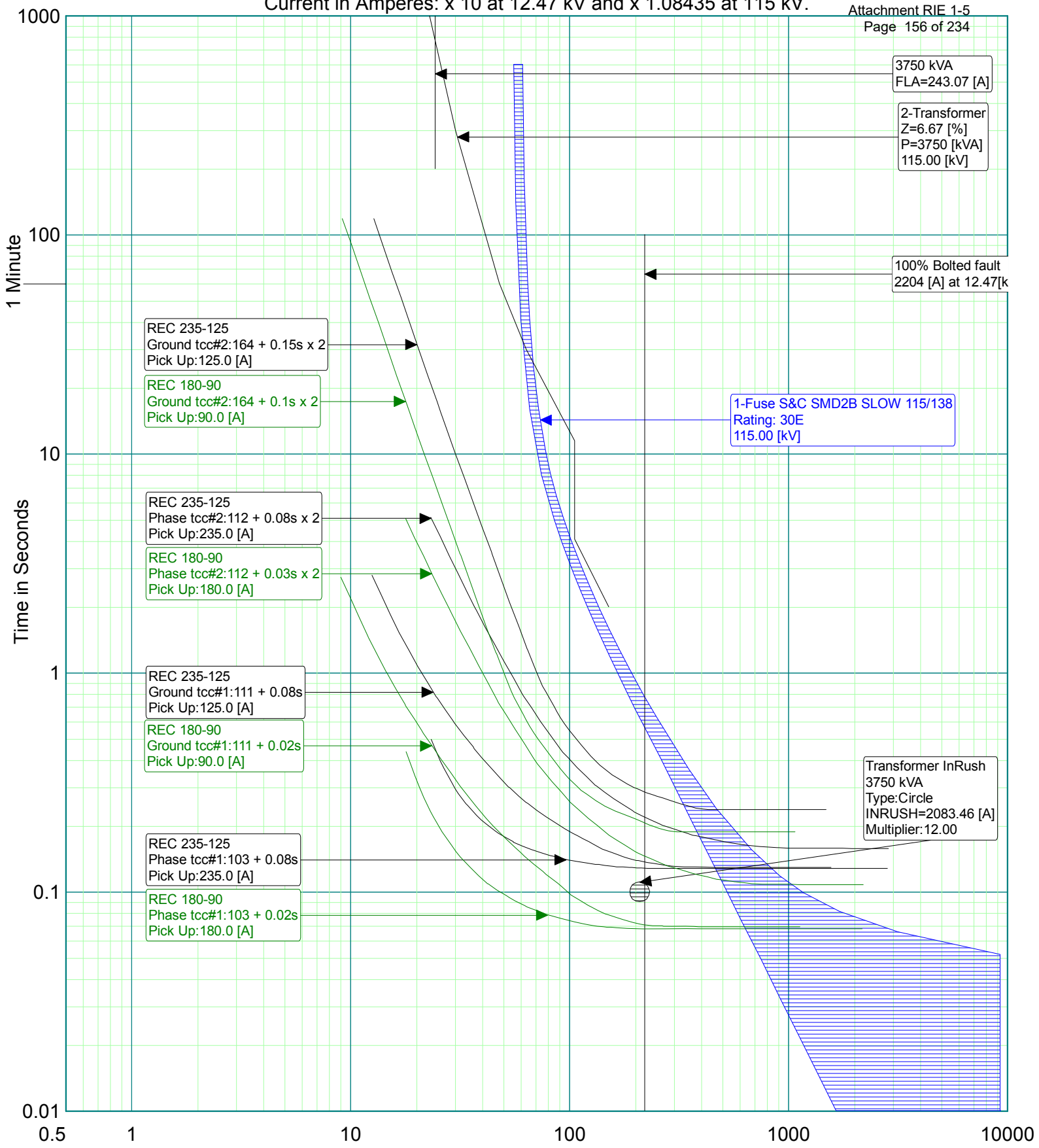
Hickory Grove CP Substation

PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

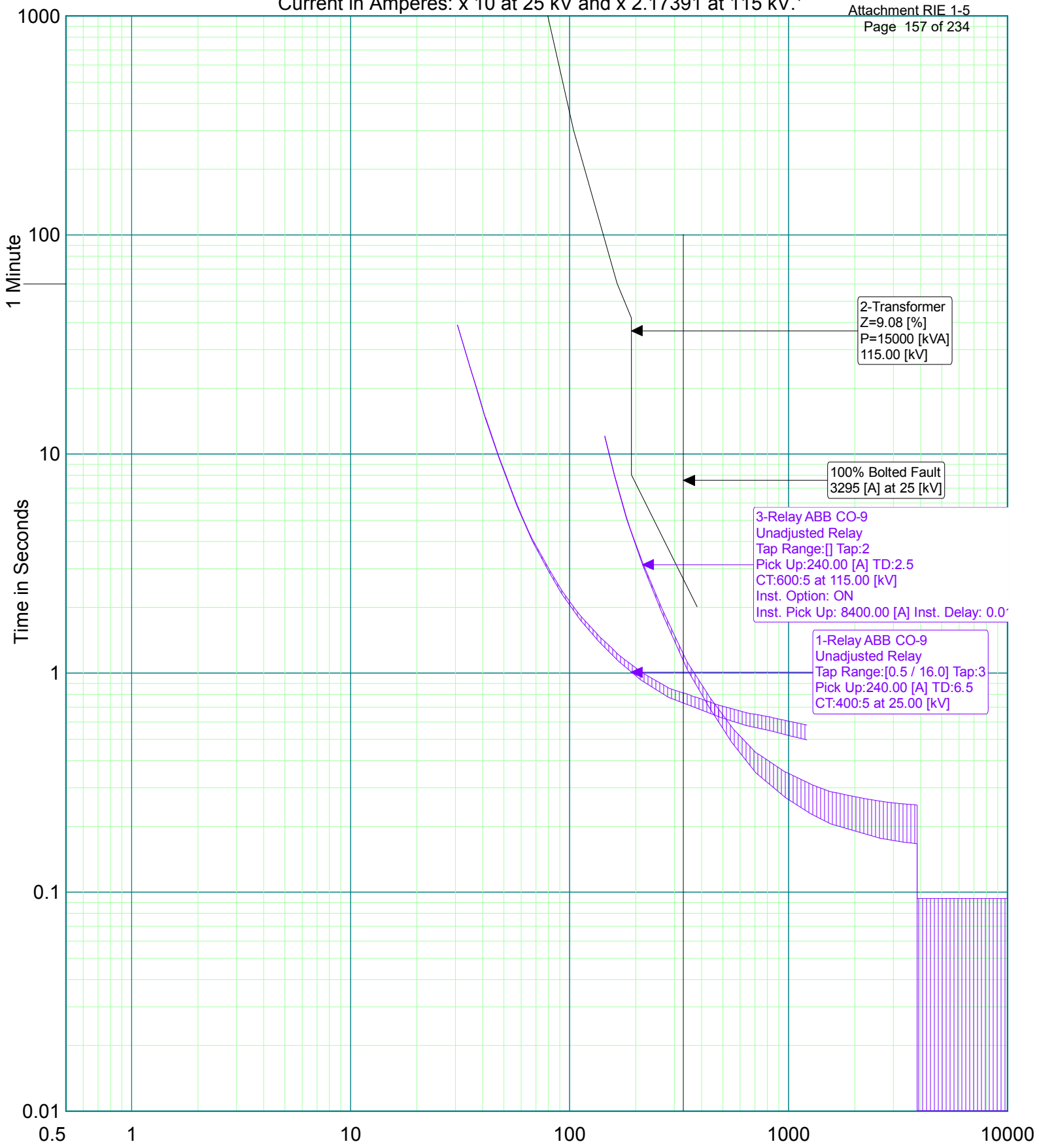
Hickory Grove Distribution Substation

PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Huber Substation

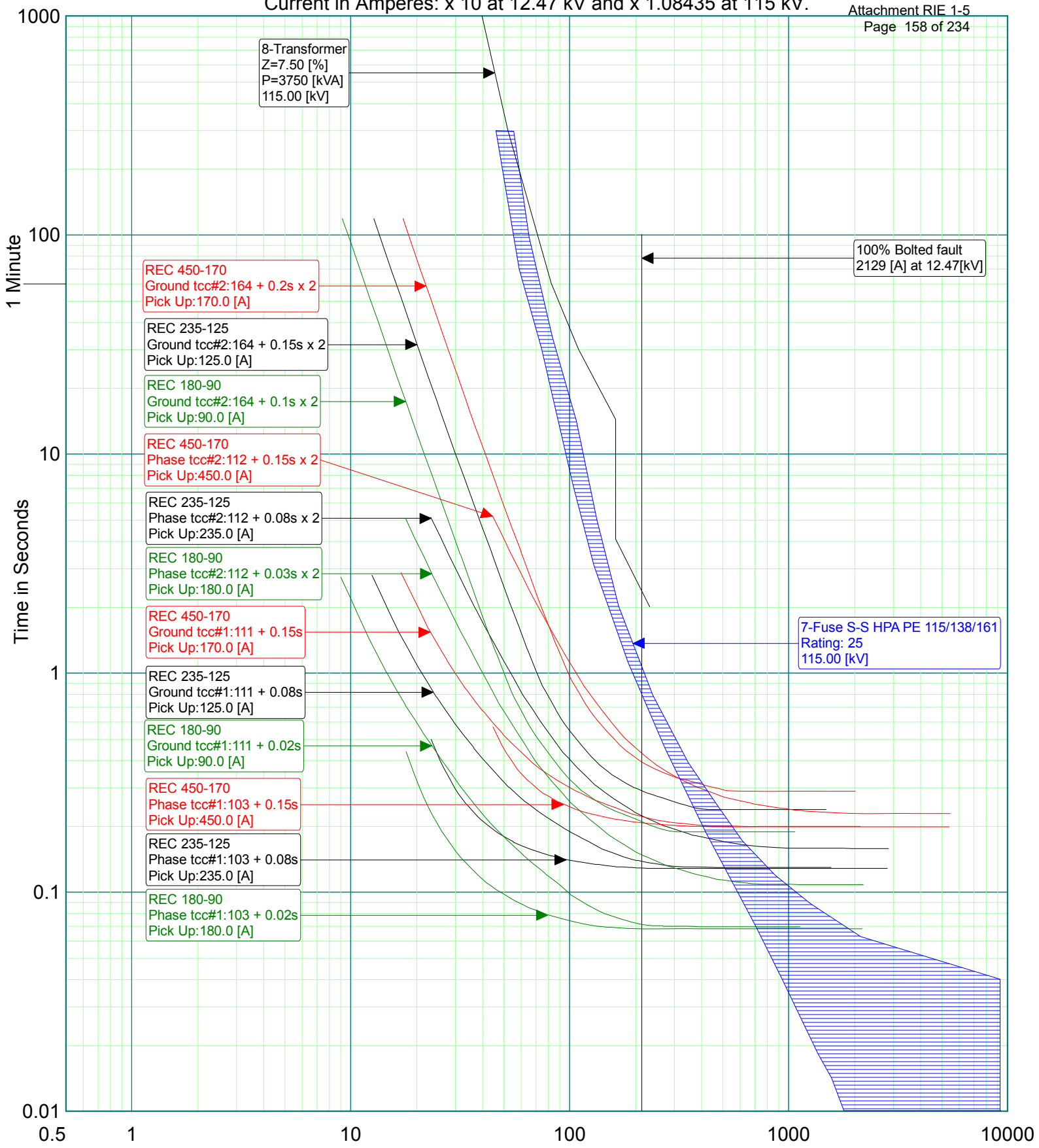
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Island Creek Substation

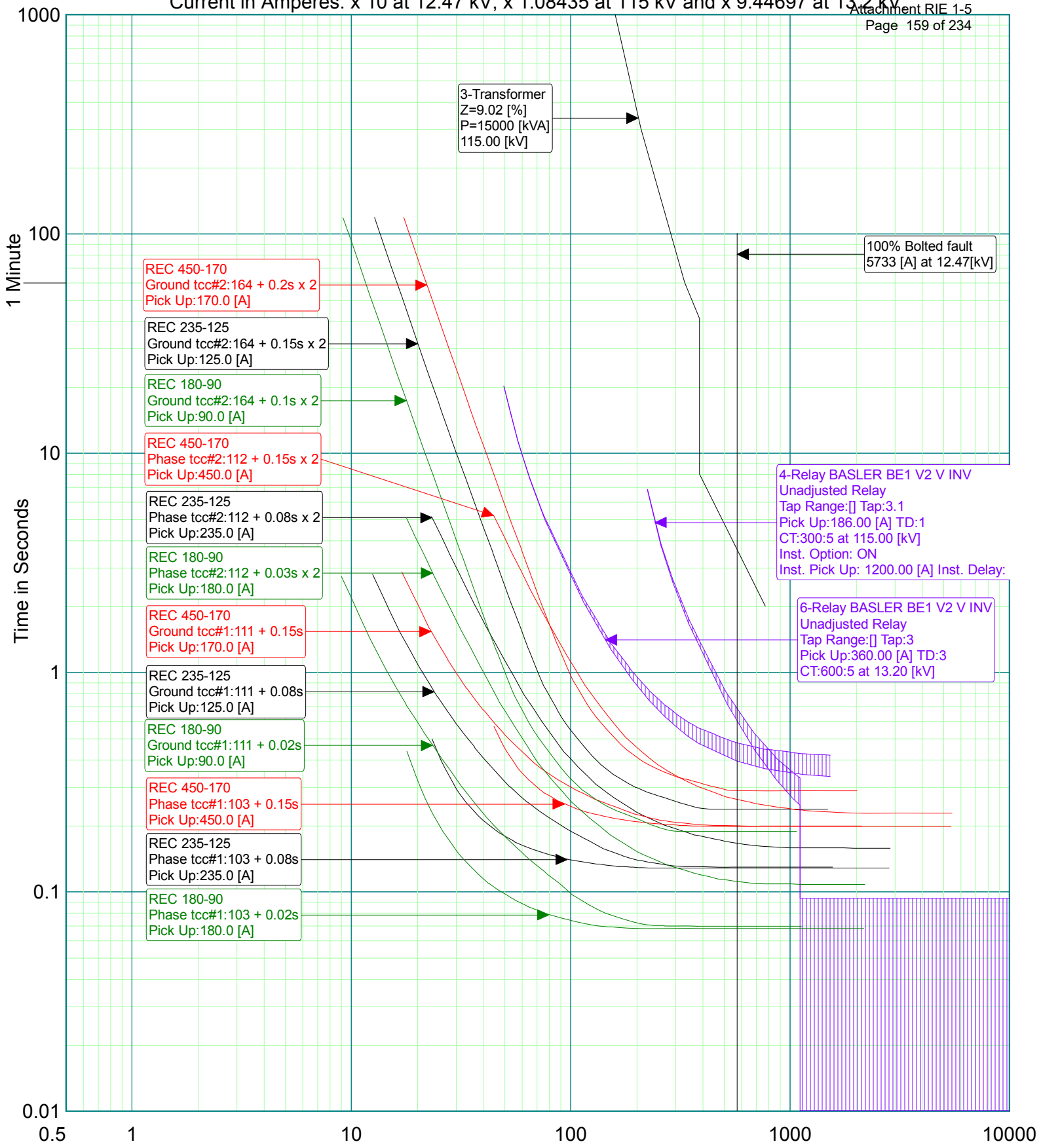
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Jones Store Substation

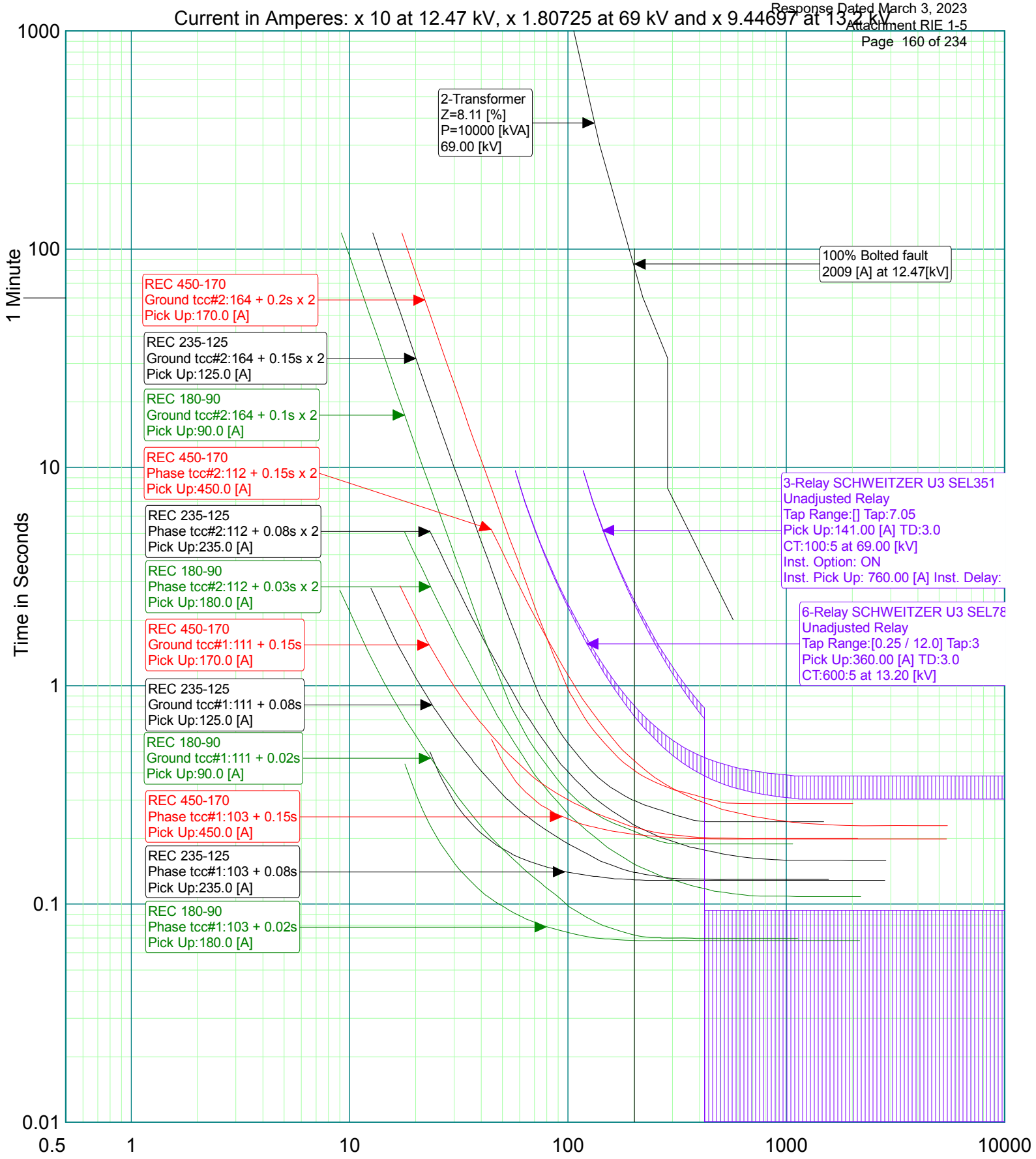
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Mt. Airy Substation

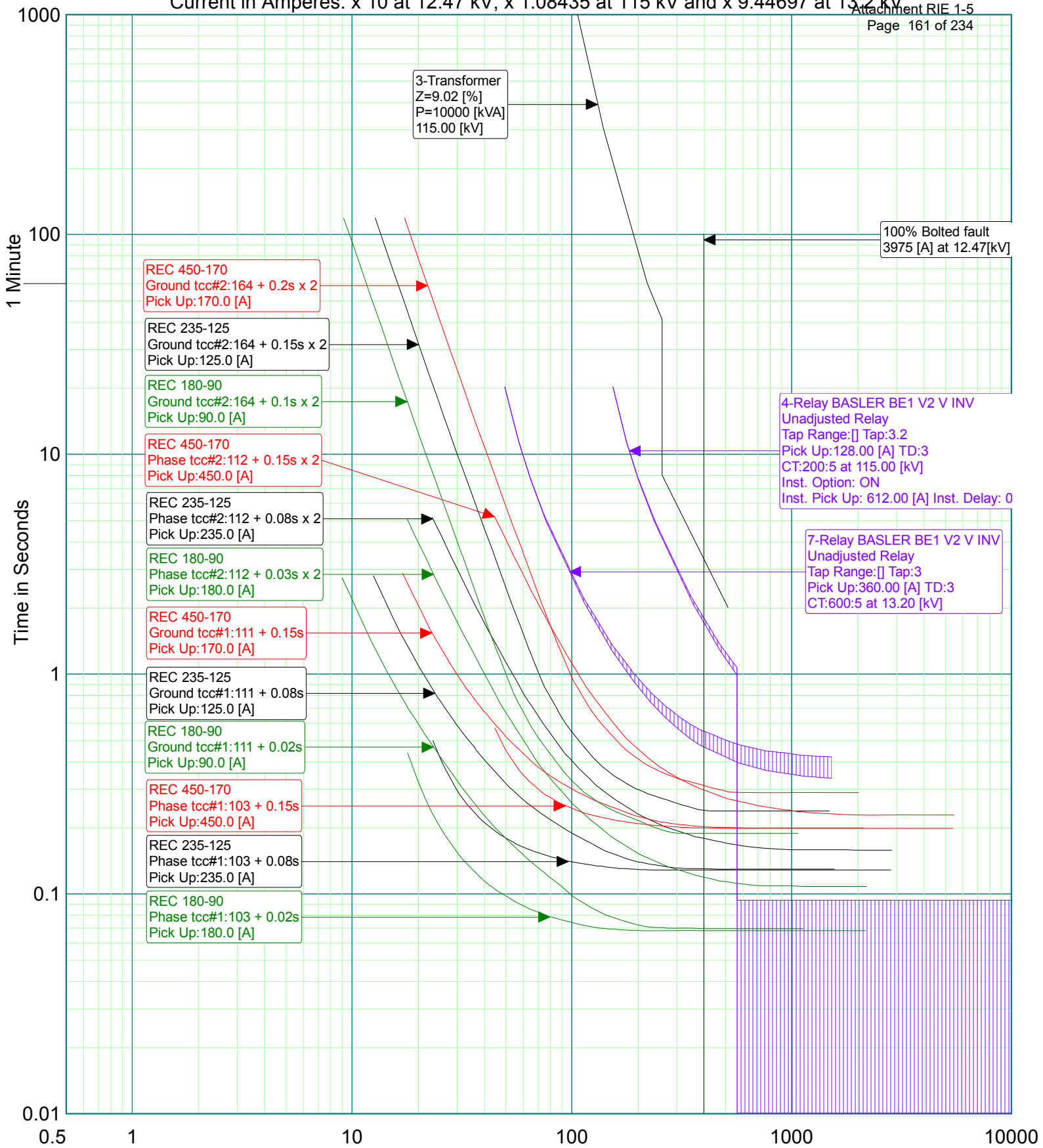
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Northview Substation

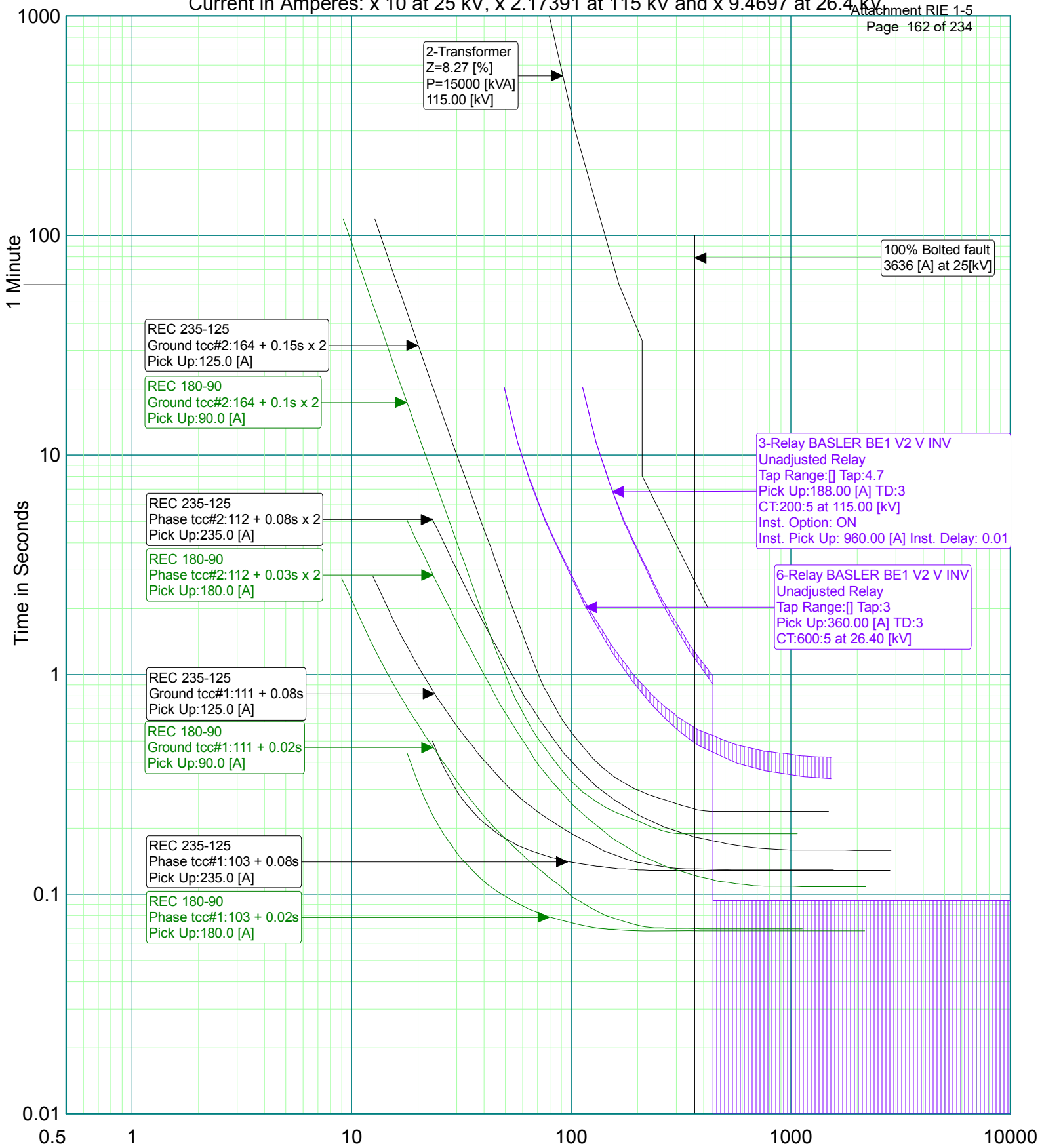
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Omega Substation

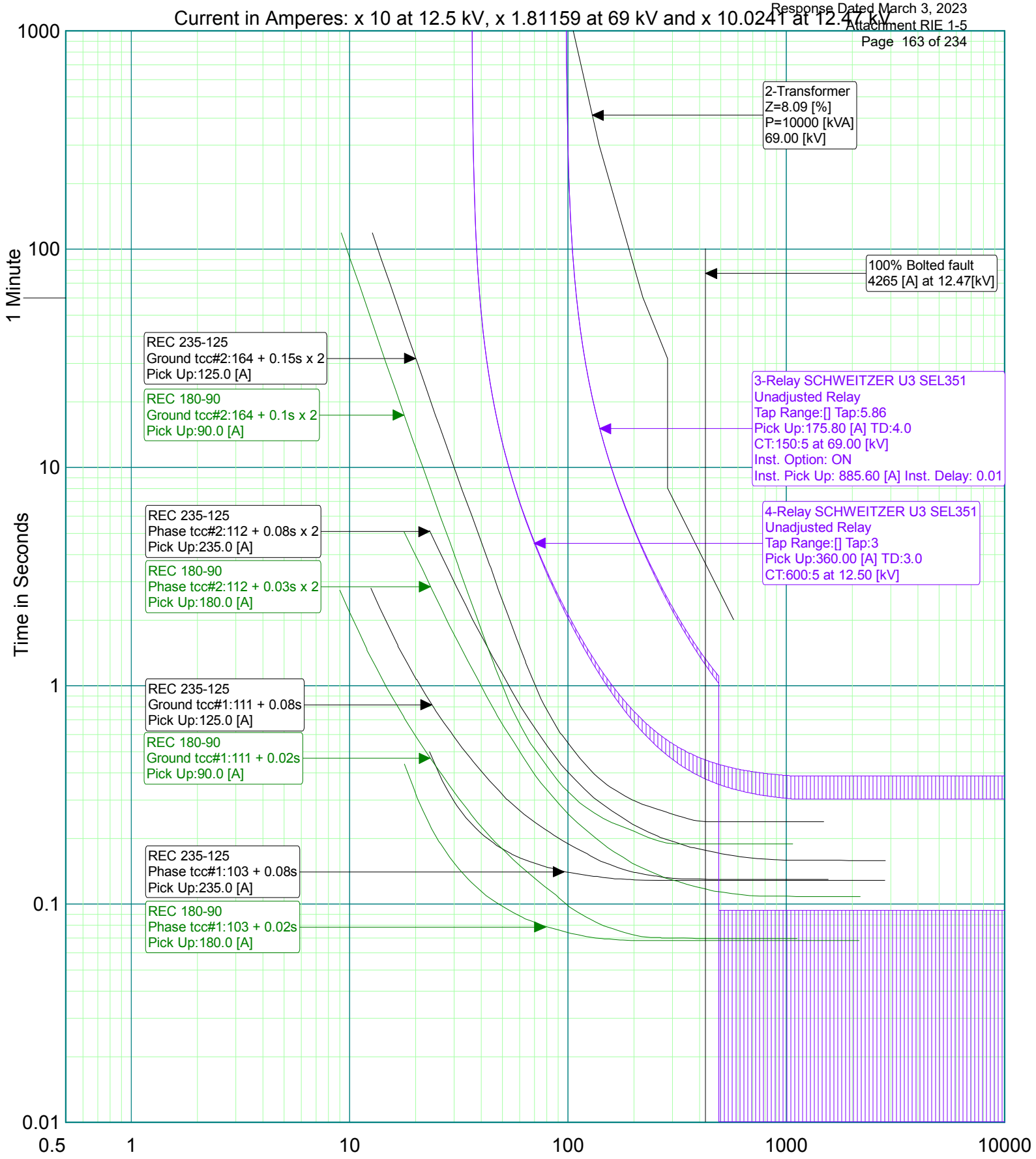
PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Sheva Substation

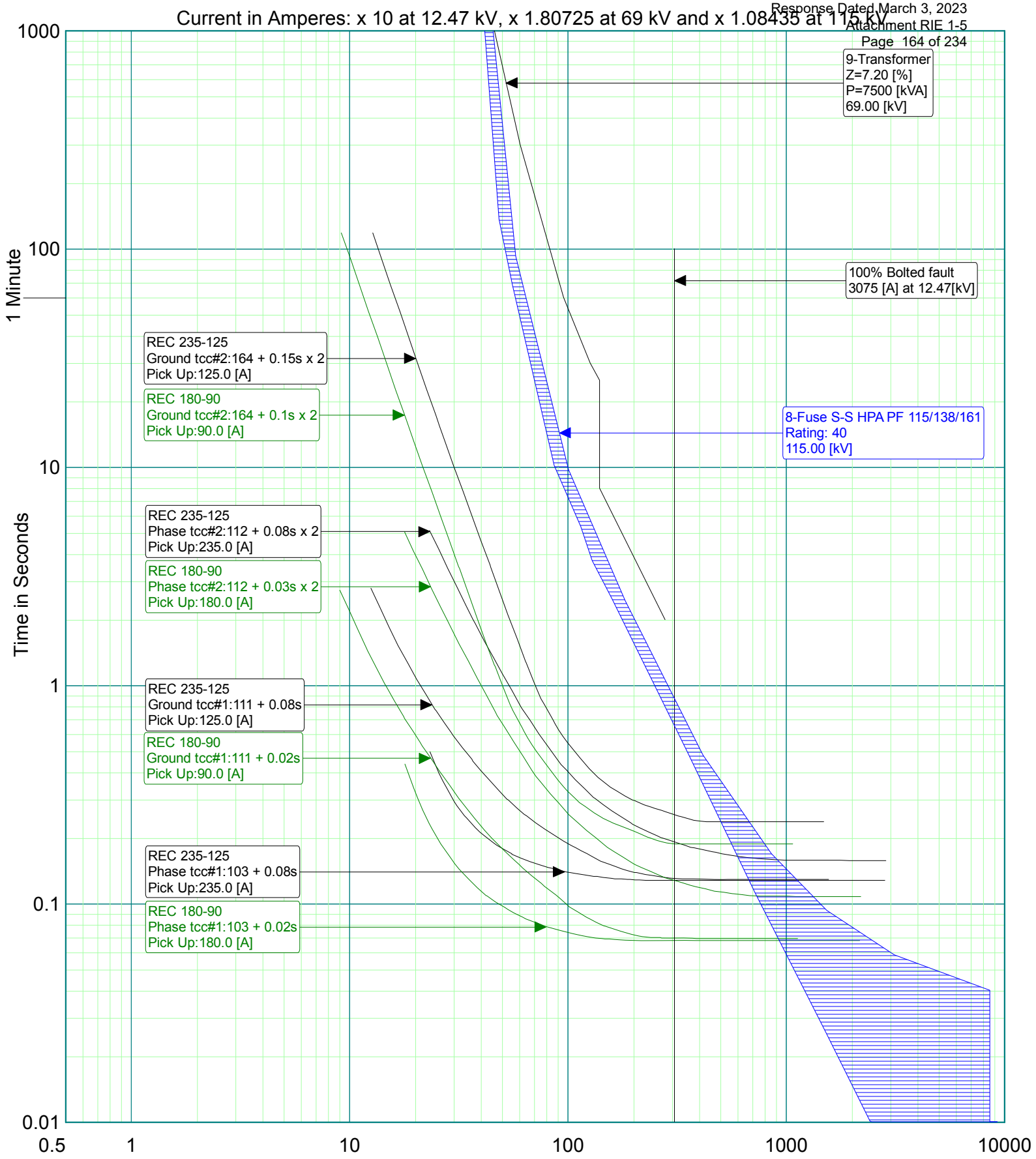
PLOTTING VOLTAGE:12.5 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Shockoe Substation

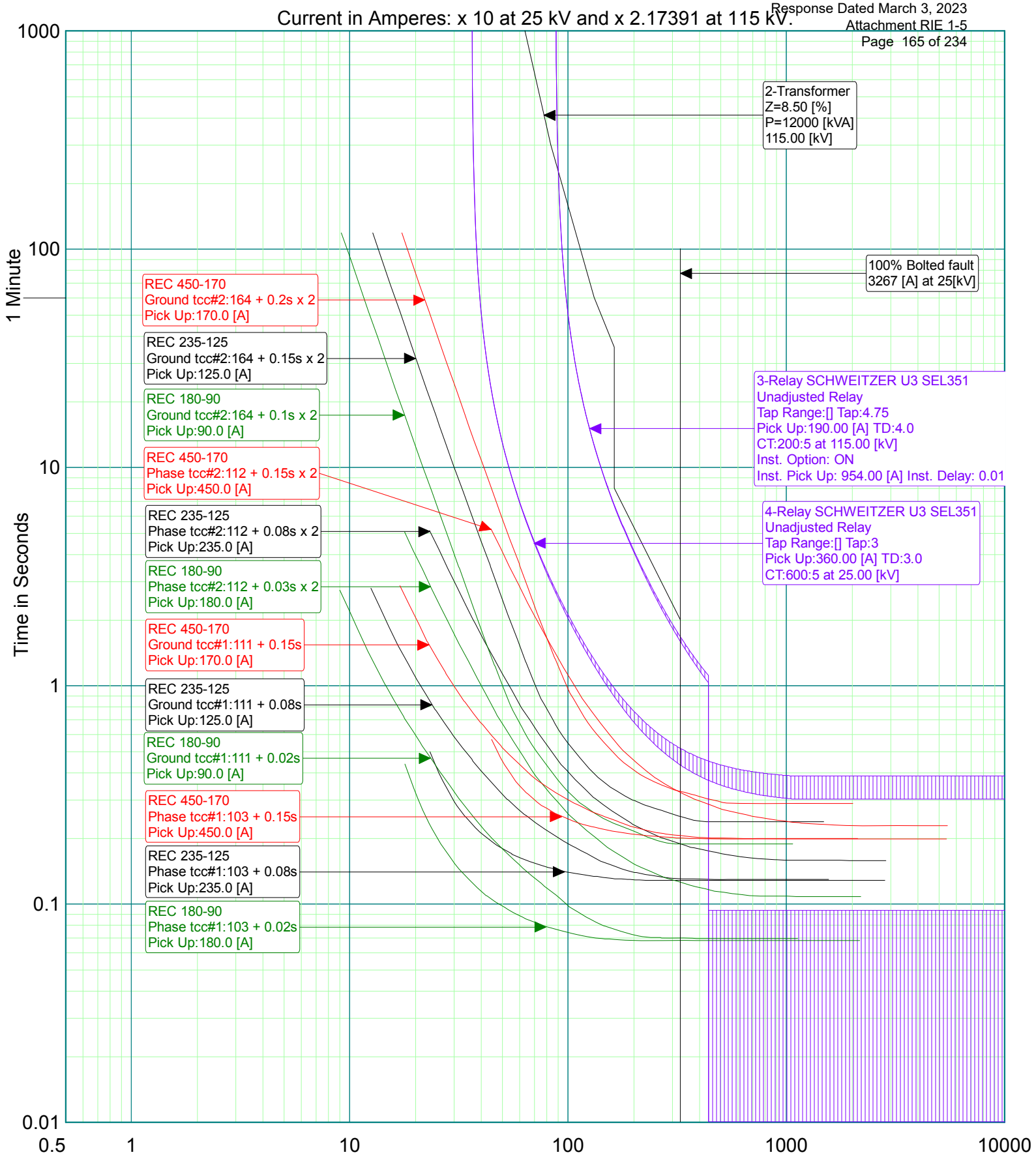
PLOTTING VOLTAGE:12.47 kV

BY: Homer E Montsinger IV, PE

Power Services
Engineering and Management Services

NO:

DATE: 7/6/16



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Sectionalizing Study - Proposed

Three Creeks Substation

PLOTTING VOLTAGE:25 kV

BY: Homer E Montsinger IV, PE

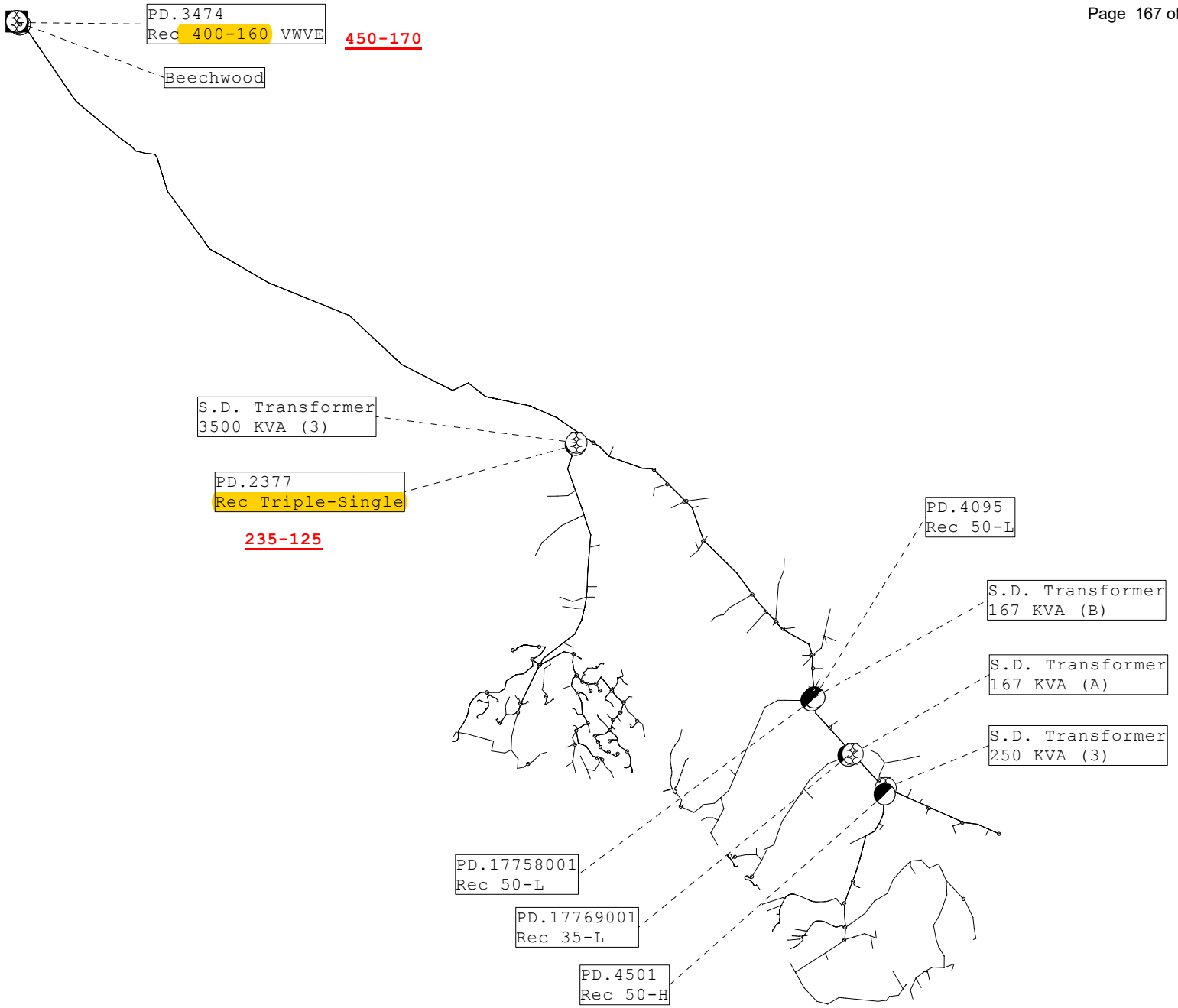
Power Services
Engineering and Management Services

NO:

DATE: 7/6/16

WINDMIL MODEL

CIRCUIT DIAGRAMS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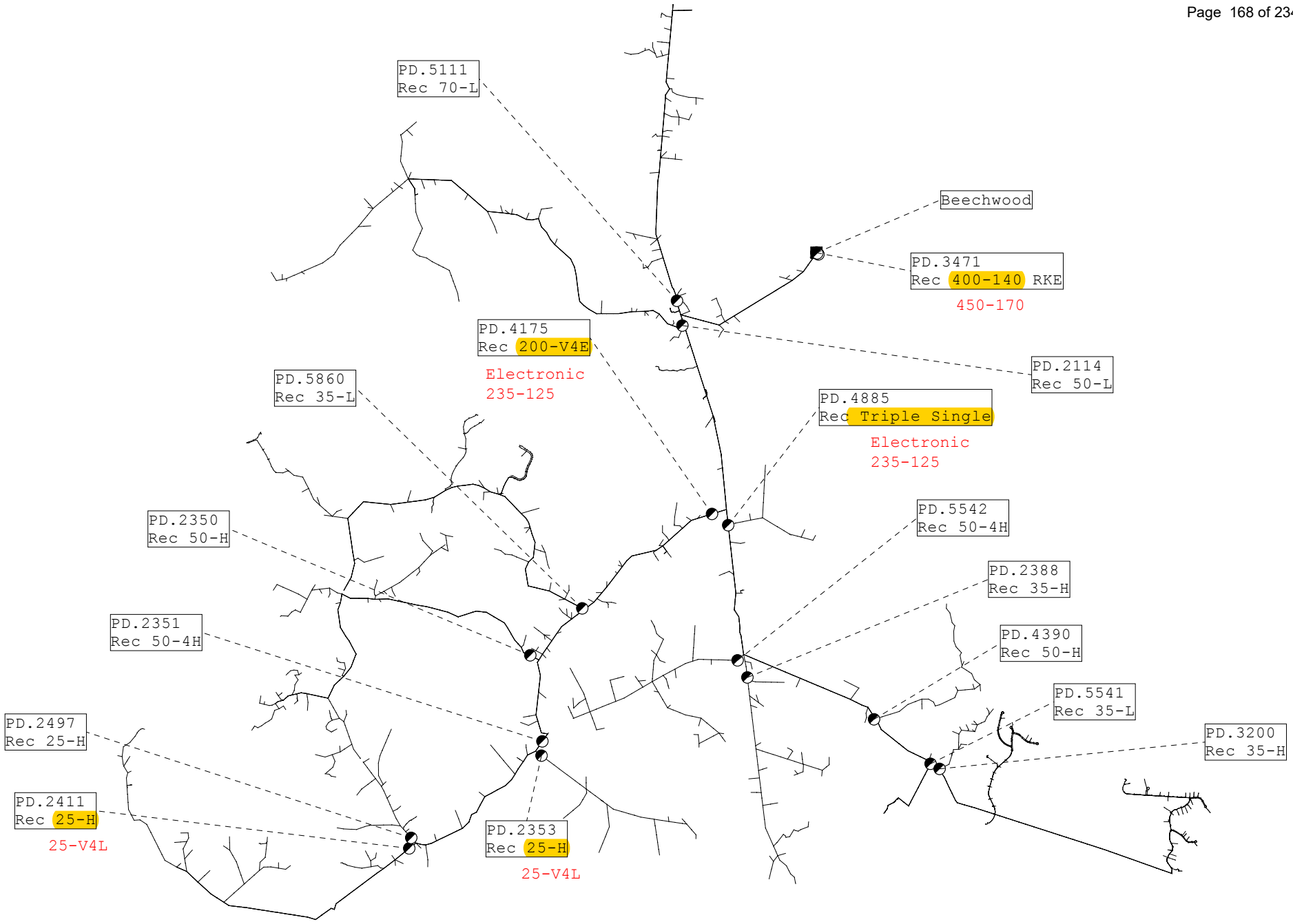
Rec 400-160 VWVE
450-170
Beechwood
S.D. Transformer
3500 KVA (3)
PD.2377
Rec Triple-Single
235-125
PD.4095
Rec 50-L
S.D. Transformer
167 KVA (B)
S.D. Transformer
167 KVA (A)
S.D. Transformer
250 KVA (3)
PD.17758001
Rec 50-L
PD.17769001
Rec 35-L
PD.4501
Rec 50-H



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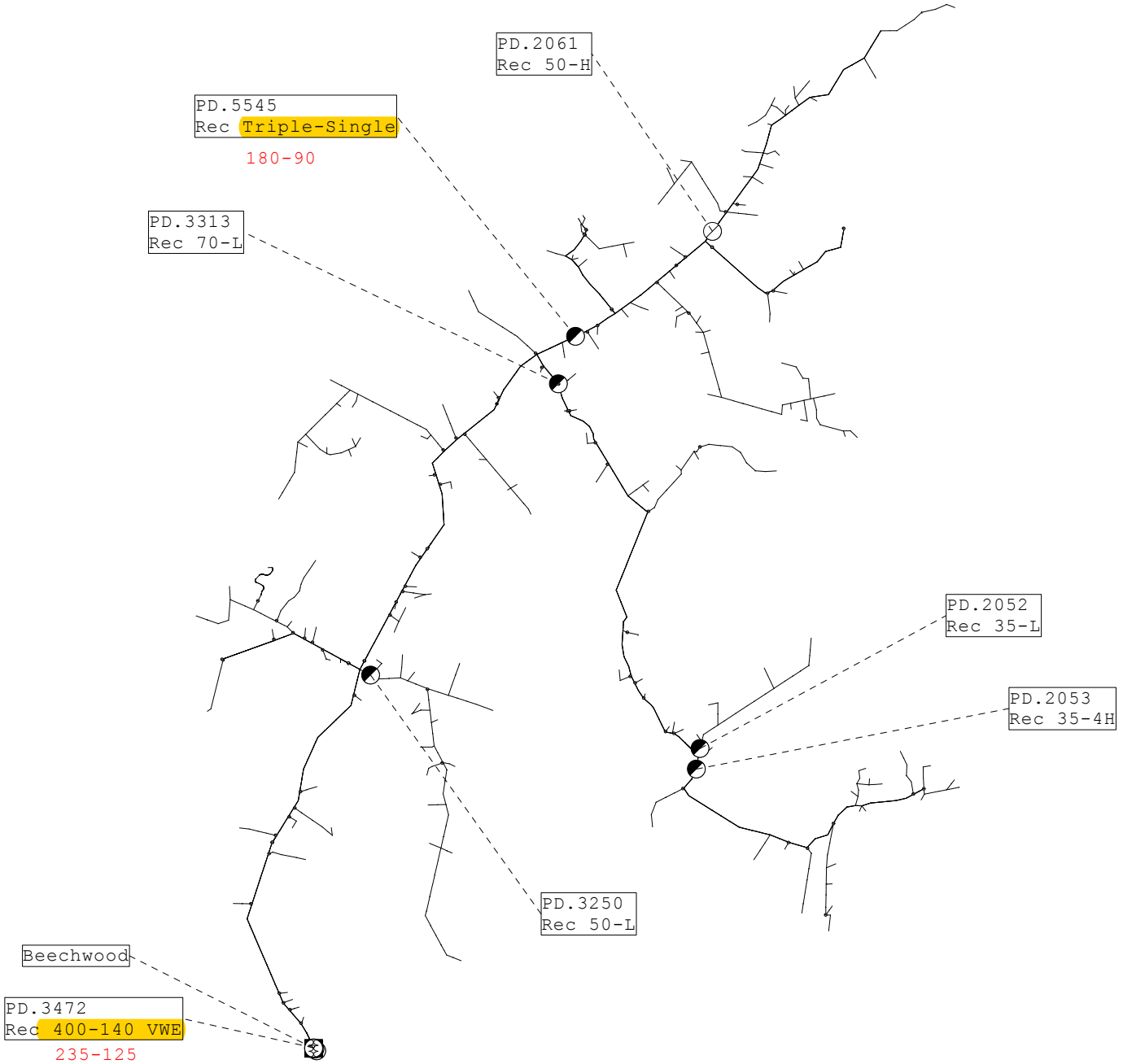
2015 Sectionalizing Study

Beechwood Substation
Palmer Springs

PowerServices



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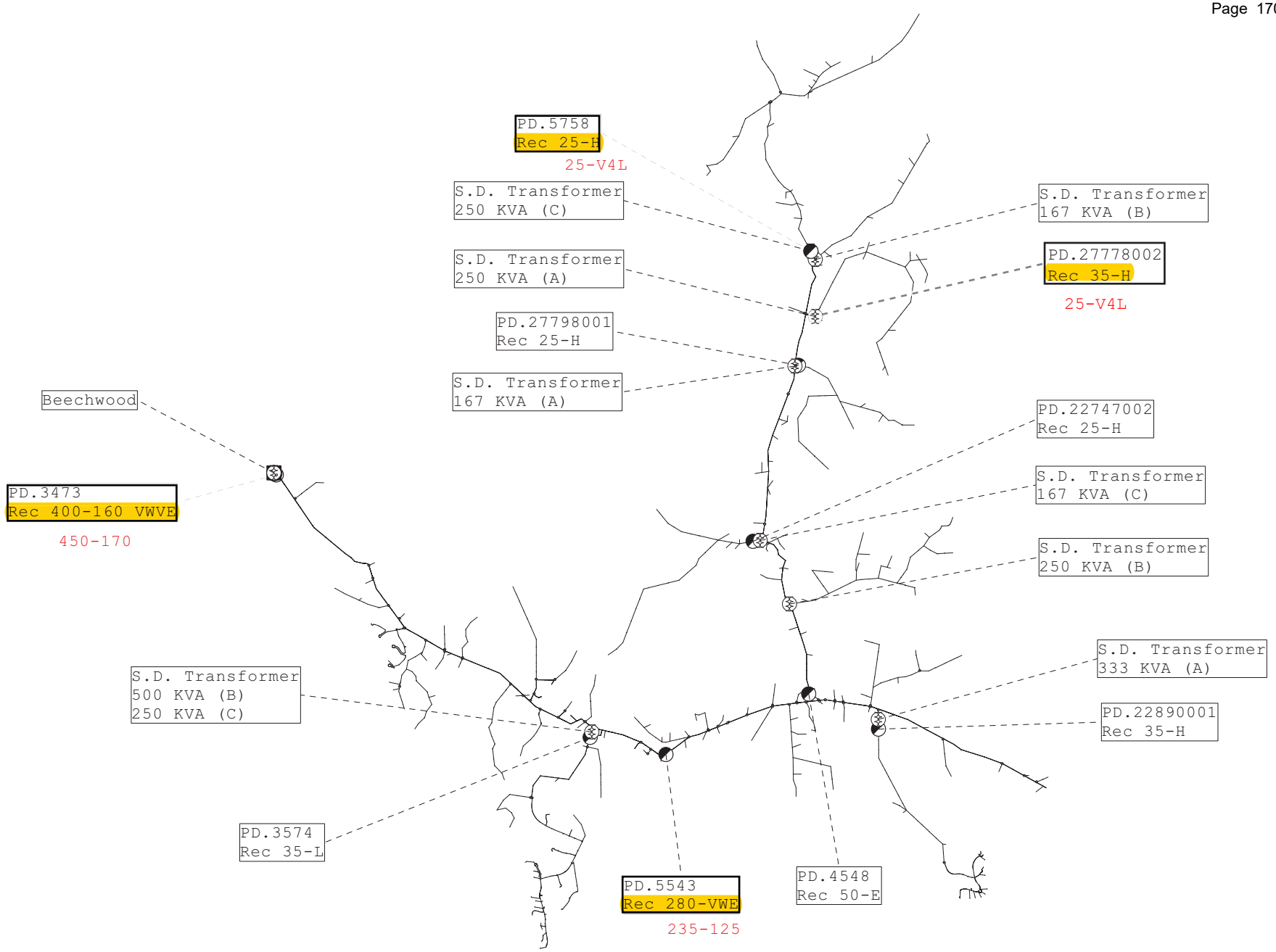
2015 Sectionalizing Study

Beechwood Substation
South Hill

PowerServices



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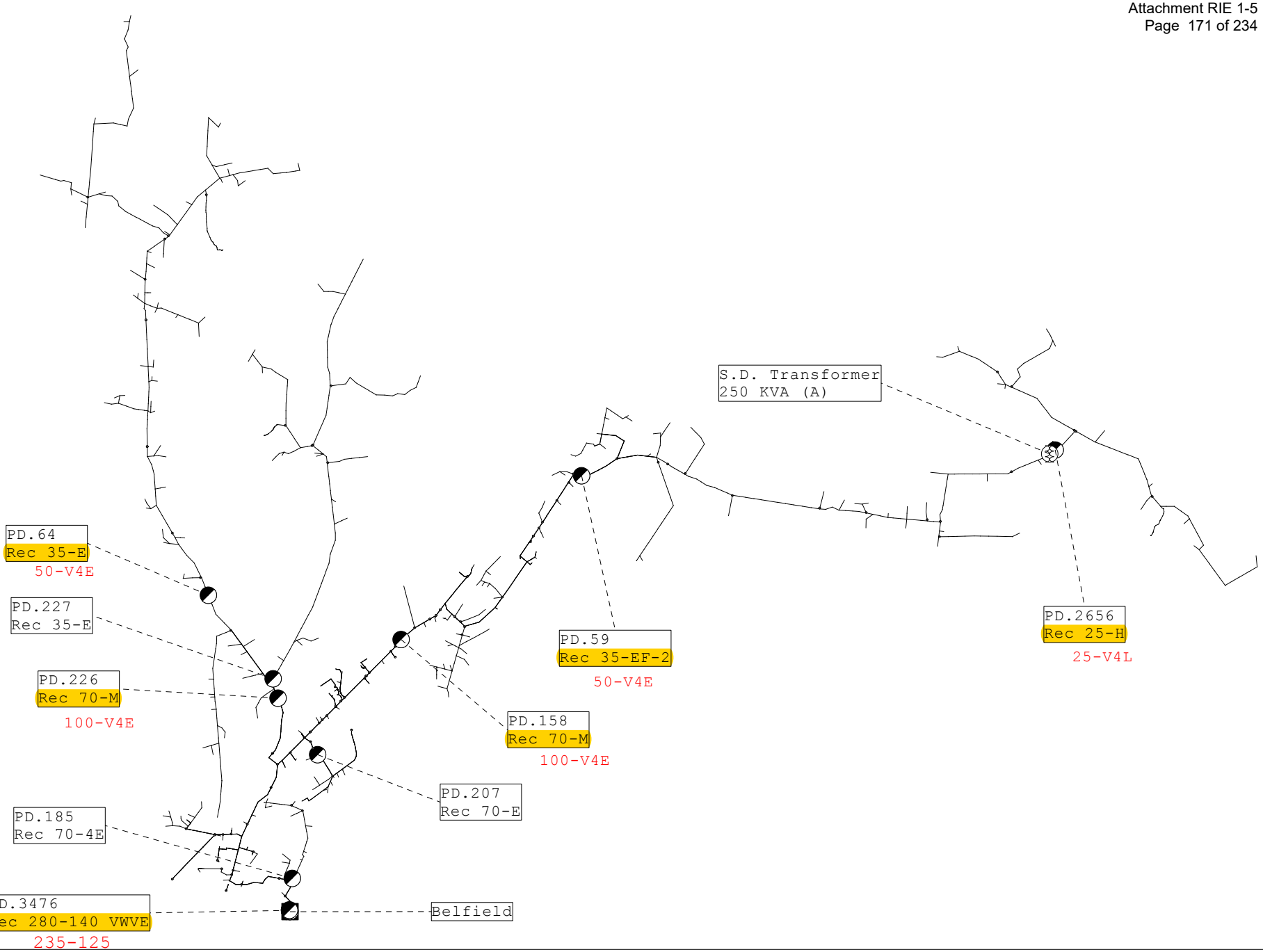
2015 Sectionalizing Study

Beechwood Substation
Tanglewood

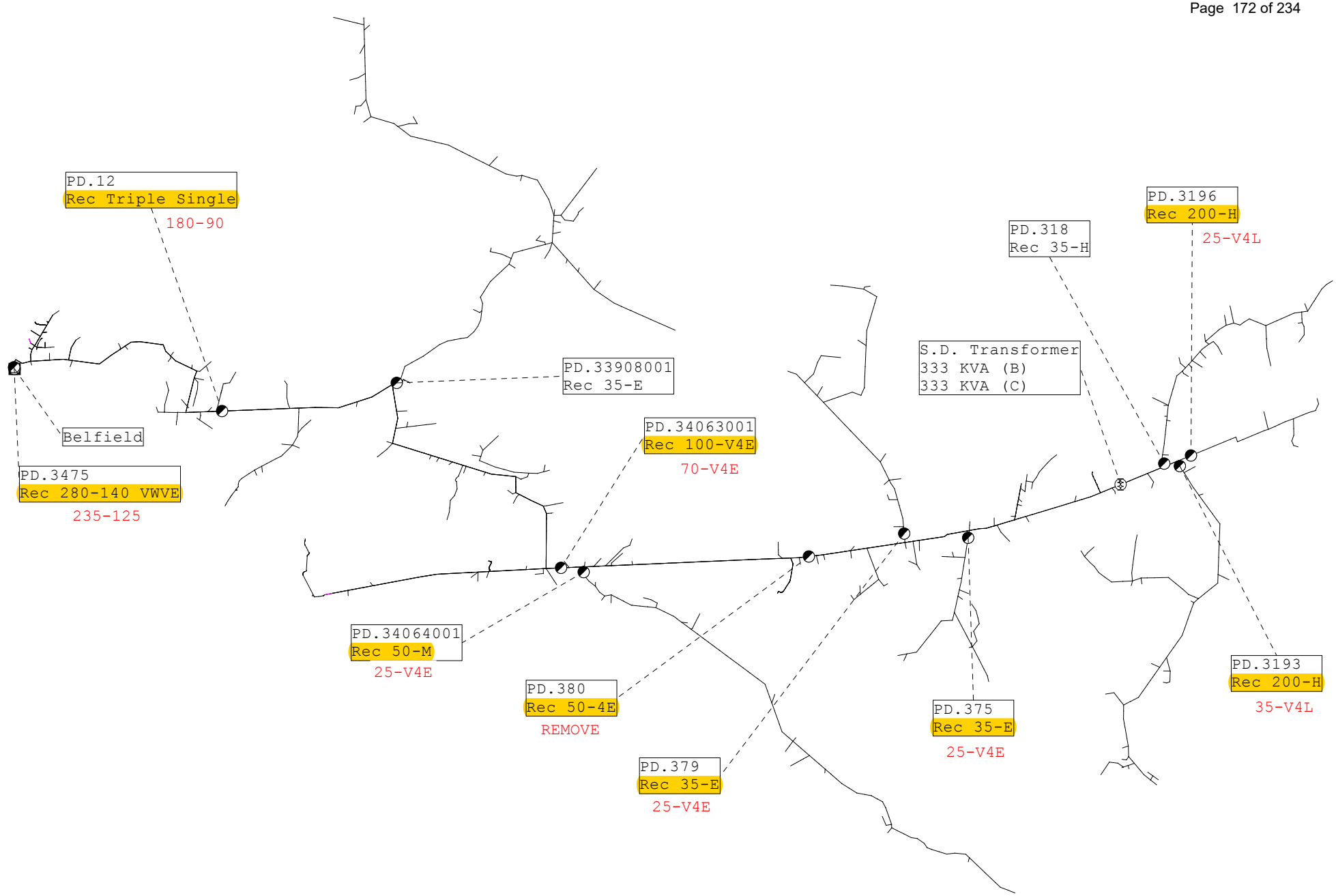
PowerServices



[redacted] n izing Study

Belfield Substation
301 North

PowerServices



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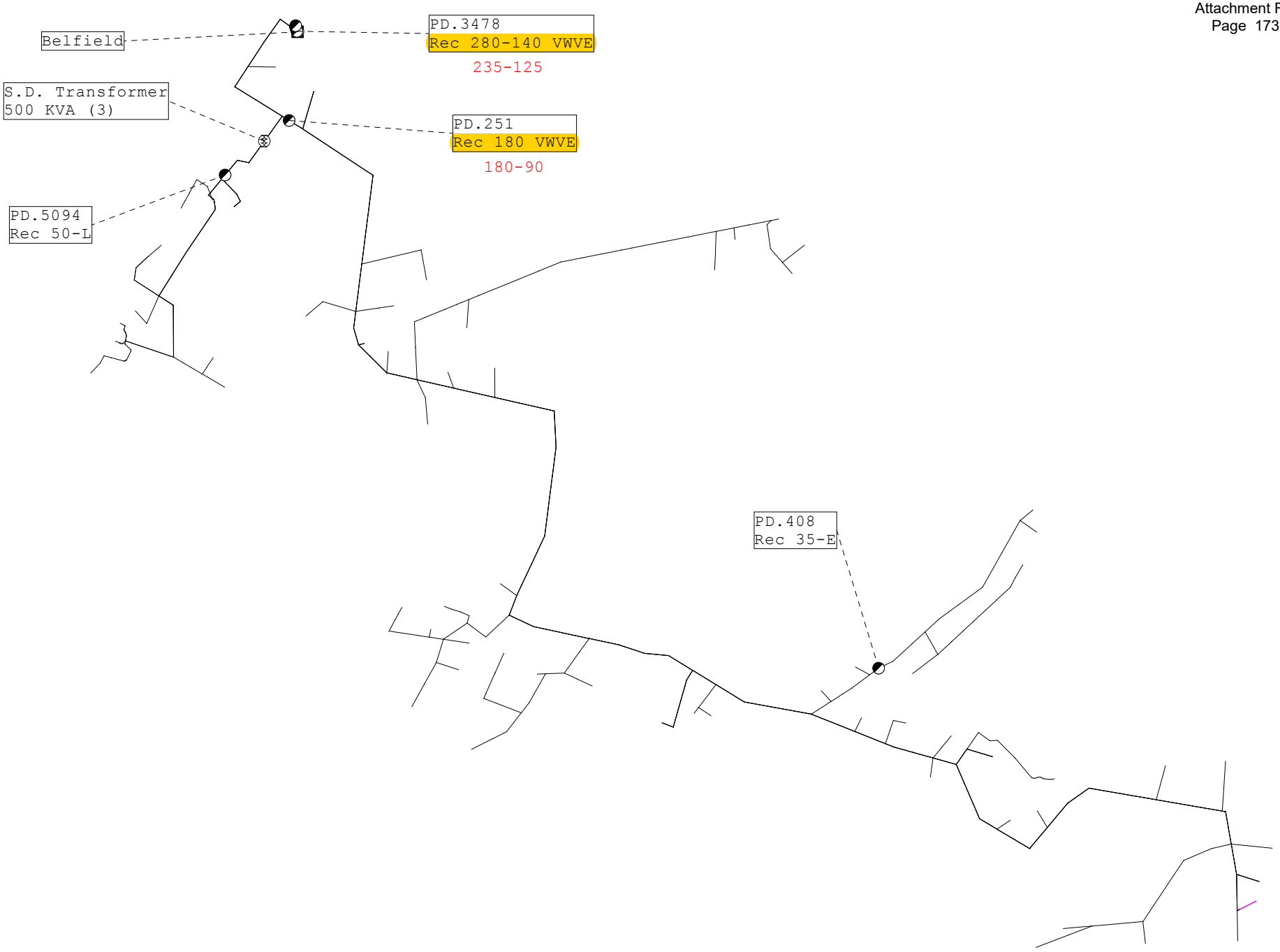
2015 Sectionalizing Study

Belfield Substation
Adams Grove

PowerServices



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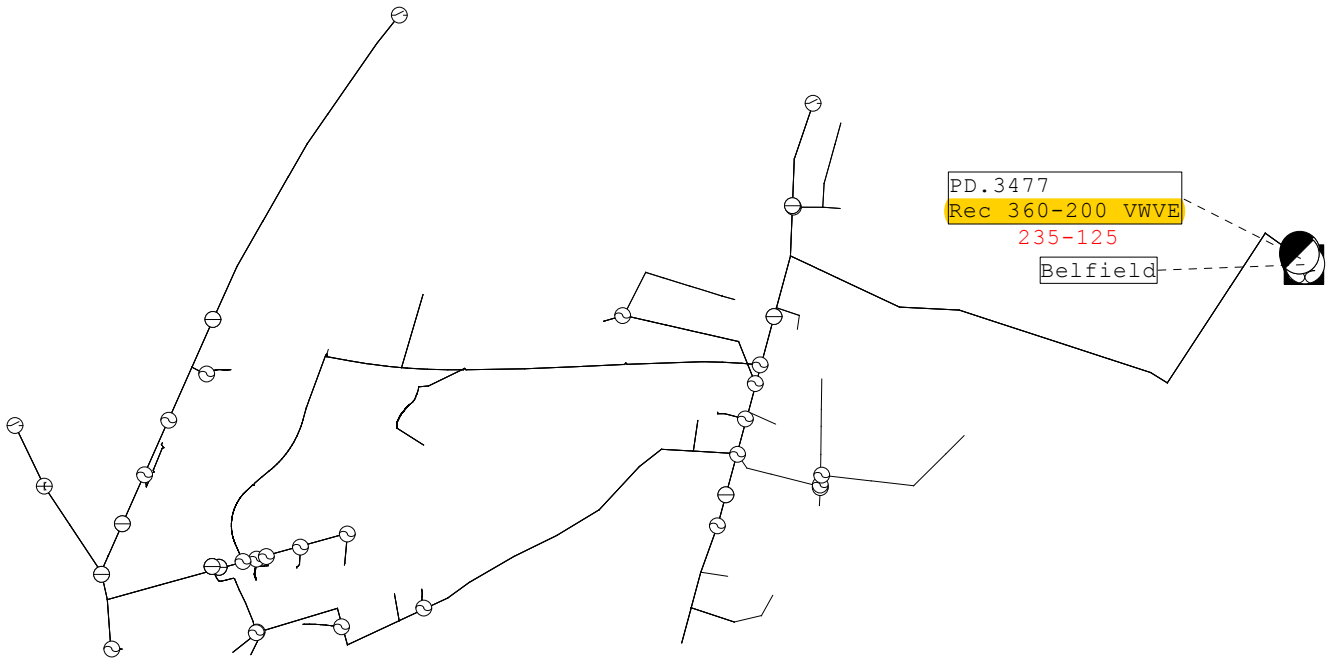
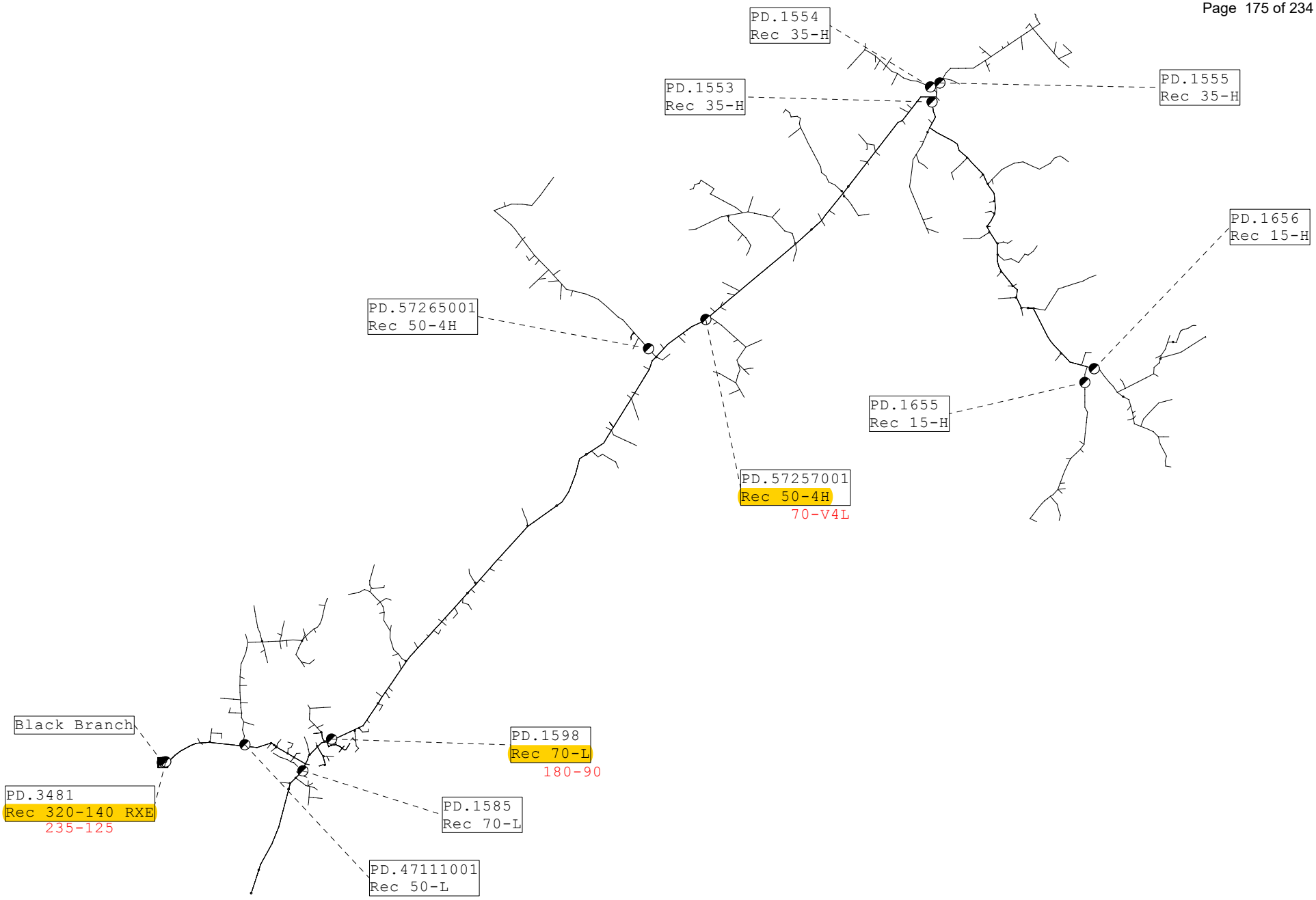
2015 Sectionalizing Study

Belfield Substation
Airport

PowerServices


PD.3477
Rec 360-200 VWVE
235-125
Belfield



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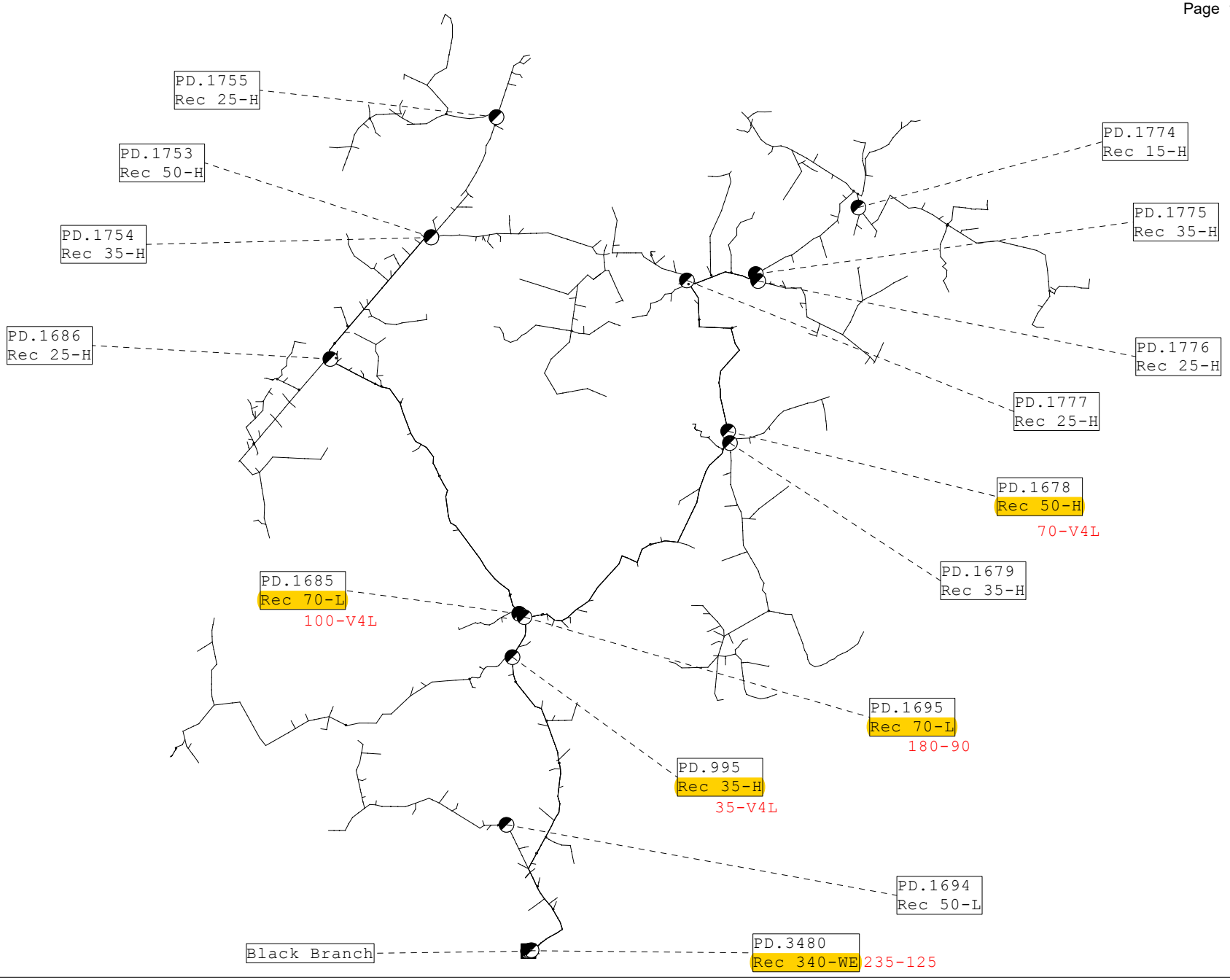
Black Branch Substation
Chase City

PowerServices



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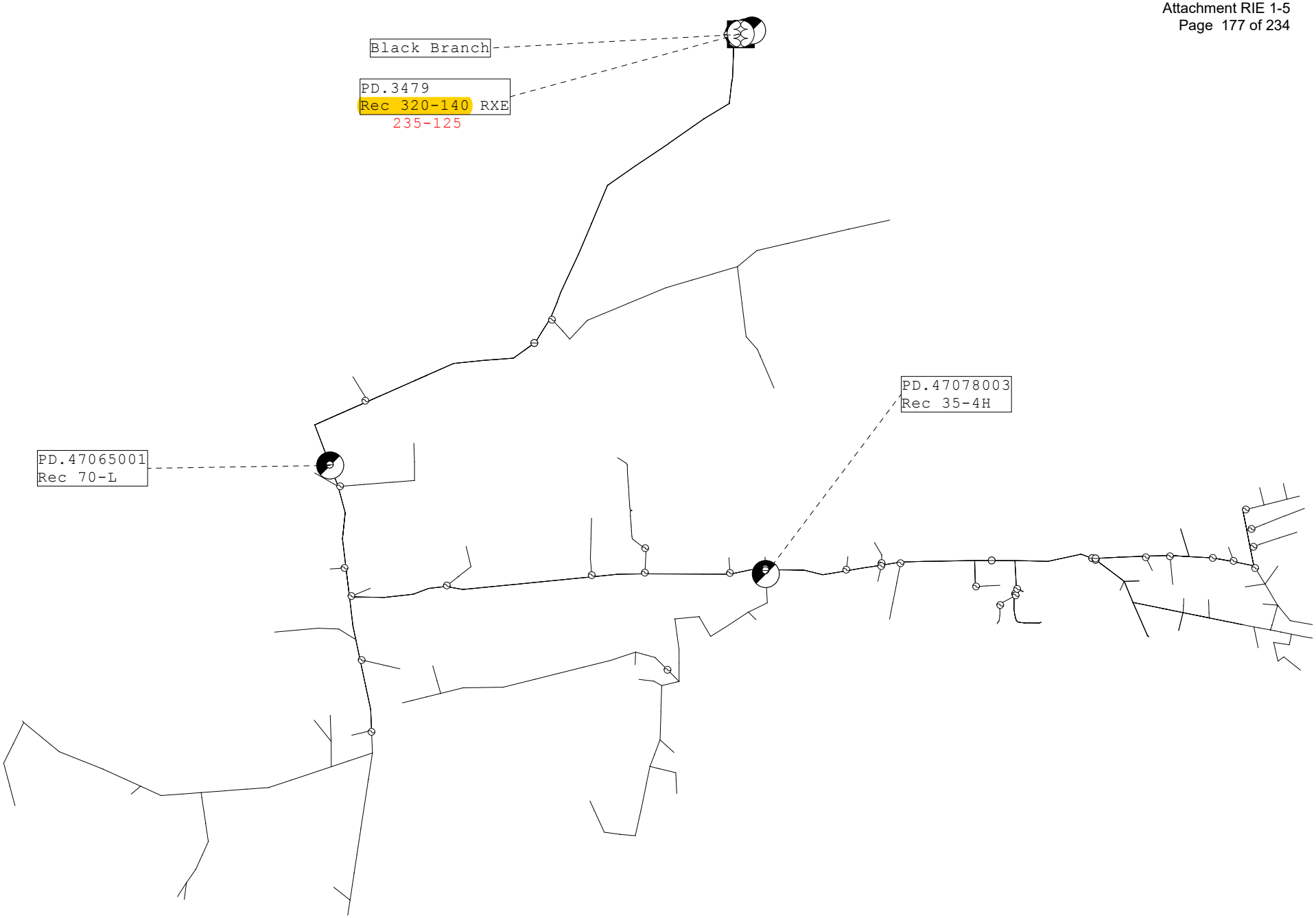
2015 Sectionalizing Study

Black Branch Substation
Fire Tower

PowerServices



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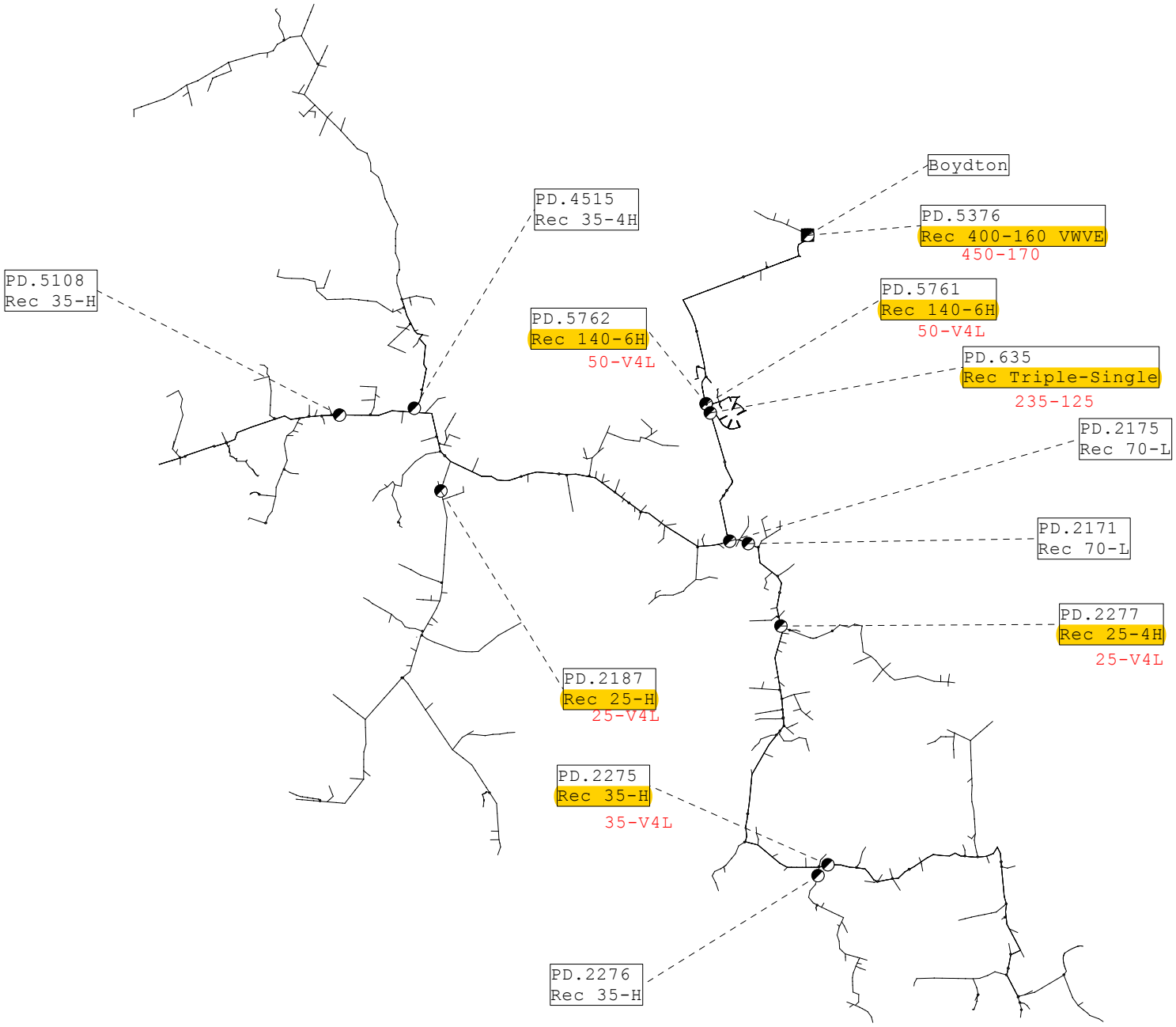
2015 Sectionalizing Study

Black Branch Substation
Wylliesburg

PowerServices



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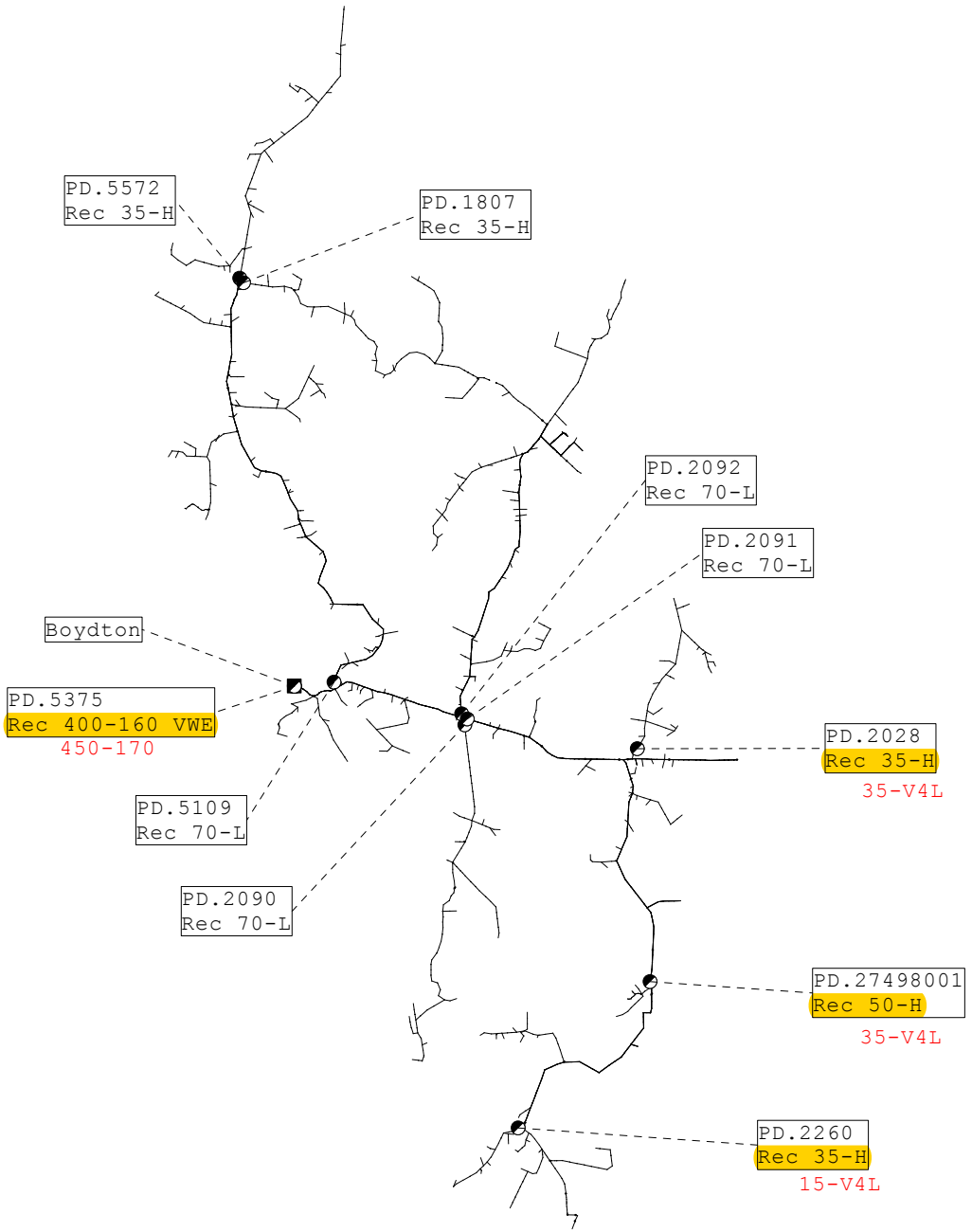
Boydton Substation
Prison

PowerServices



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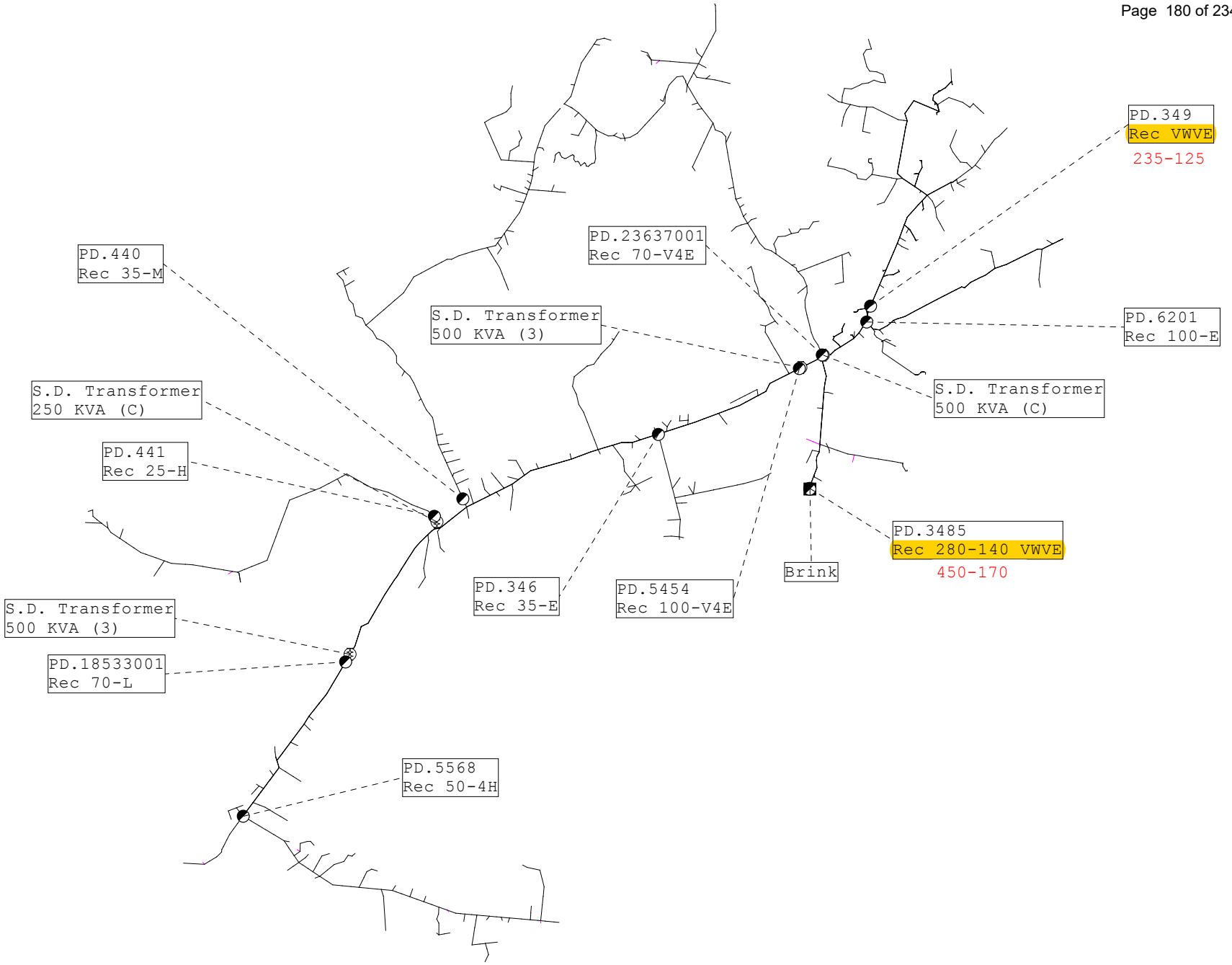
2015 Sectionalizing Study

Boydton Substation
Ridge

PowerServices



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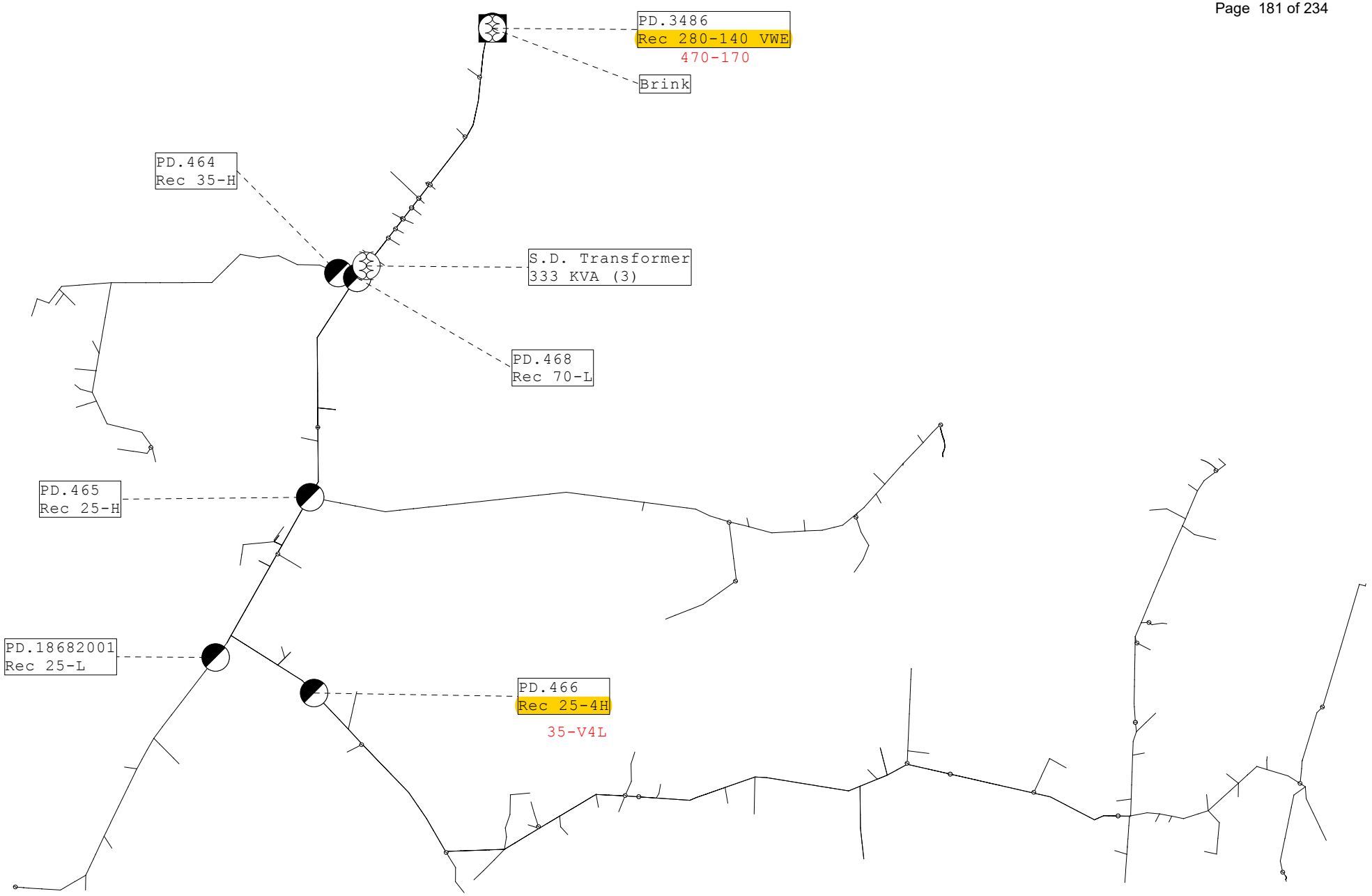
Brink Substation
Brink Store

PowerServices



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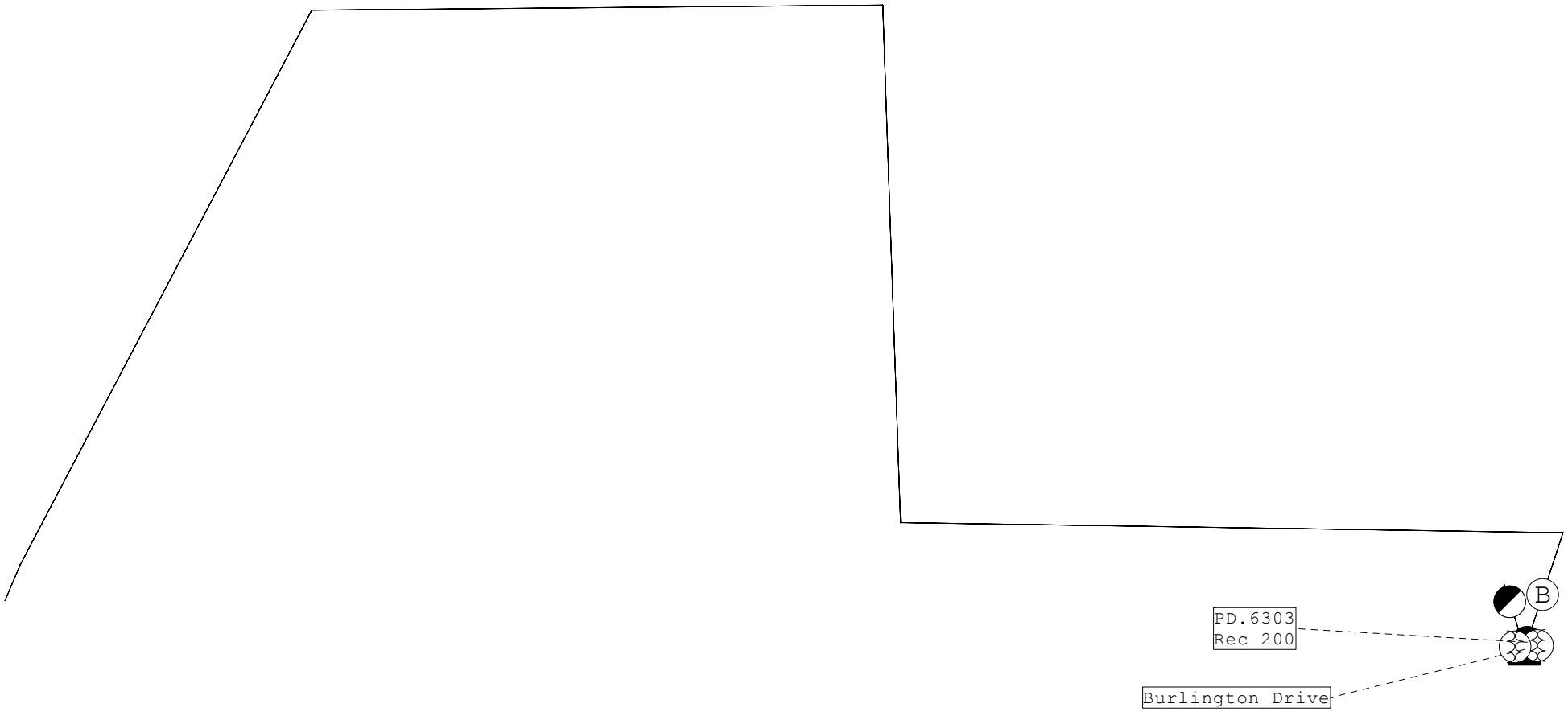
2015 Sectionalizing Study

Brink Substation
G.B. Ligon

PowerServices



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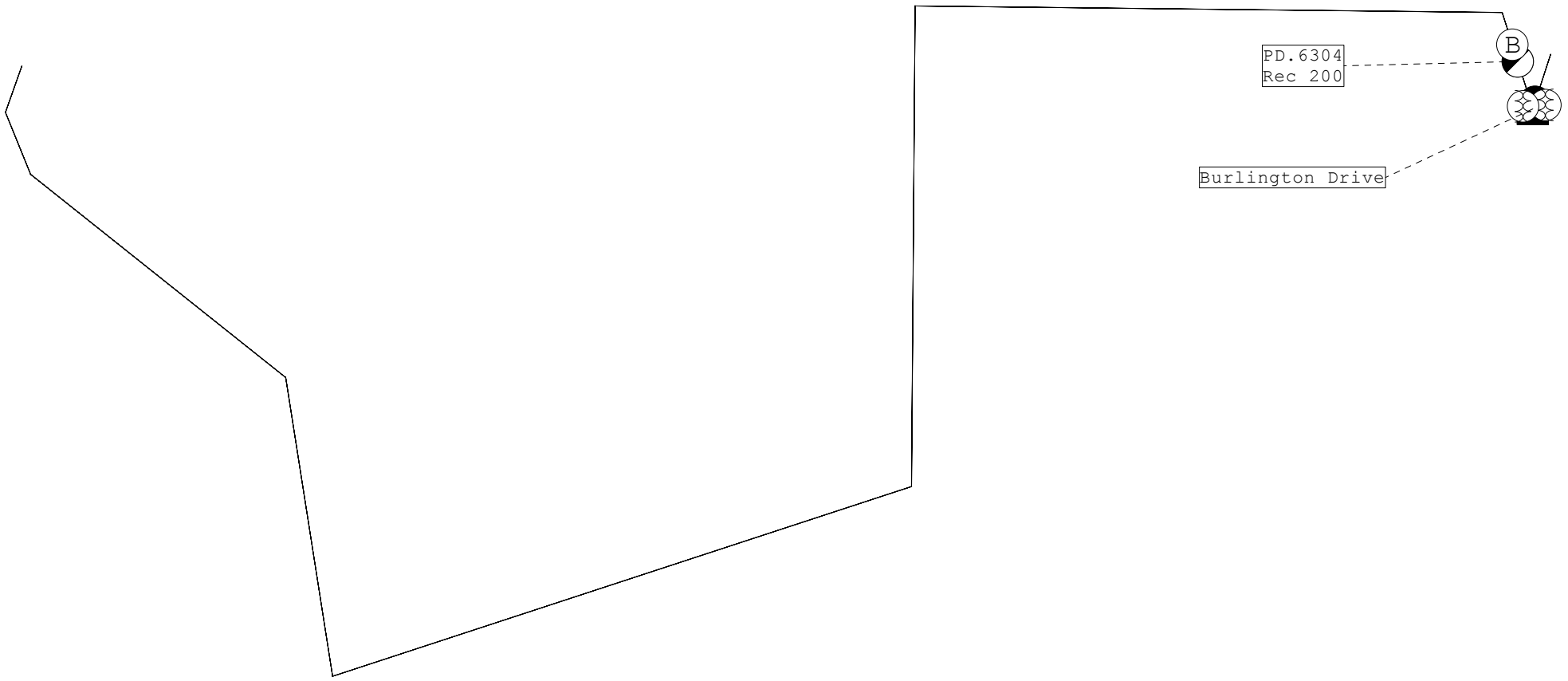
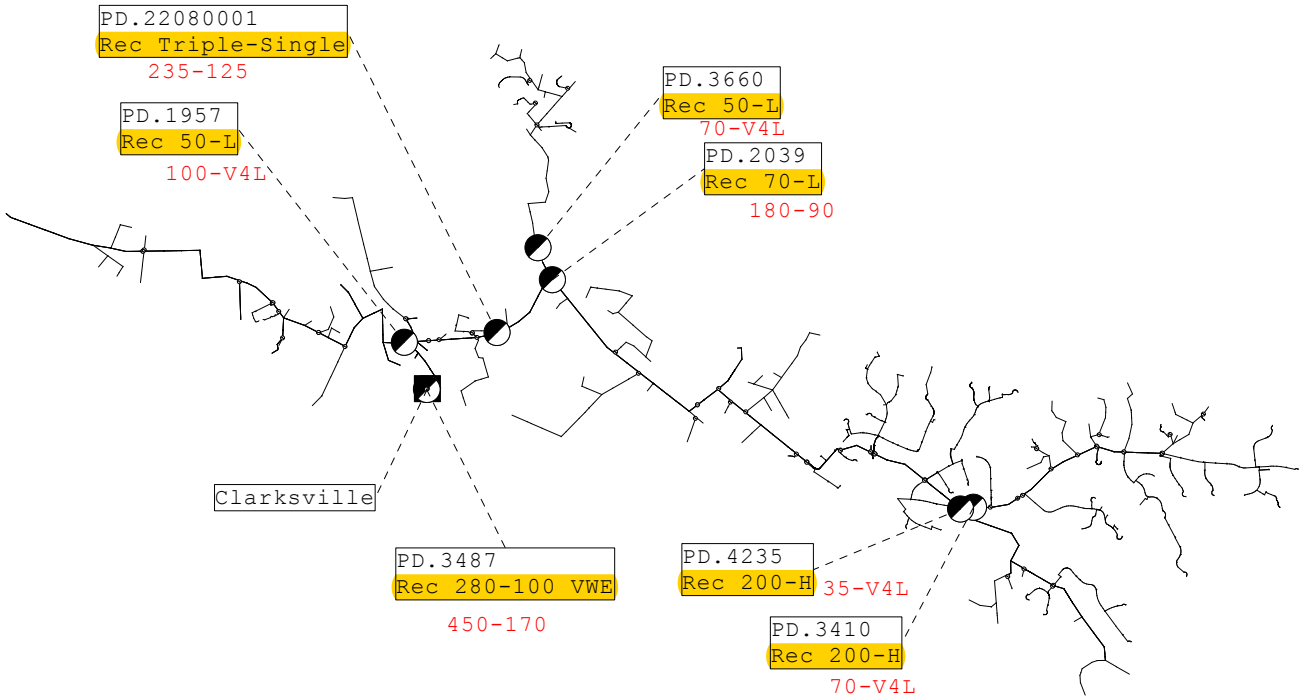
2015 Sectionalizing Study

Burlington Drive Substation
North #1

PowerServices


B
PD.6304
Rec 200
Burlington Drive



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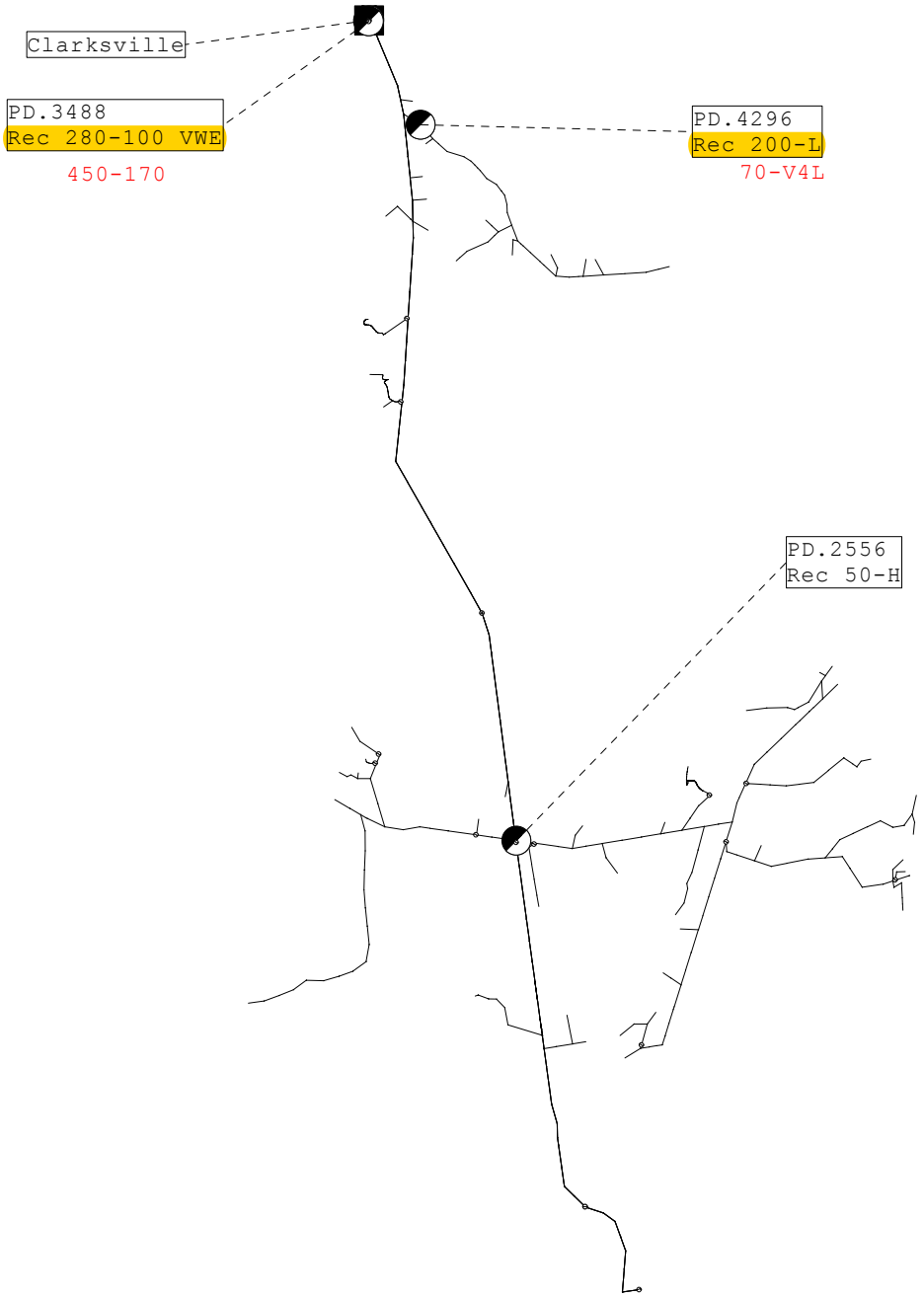
Clarksville Substation
Clarksville

PowerServices



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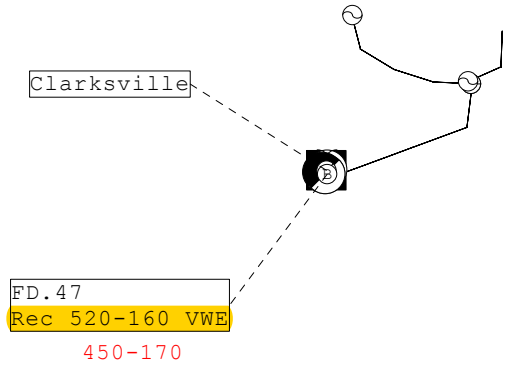
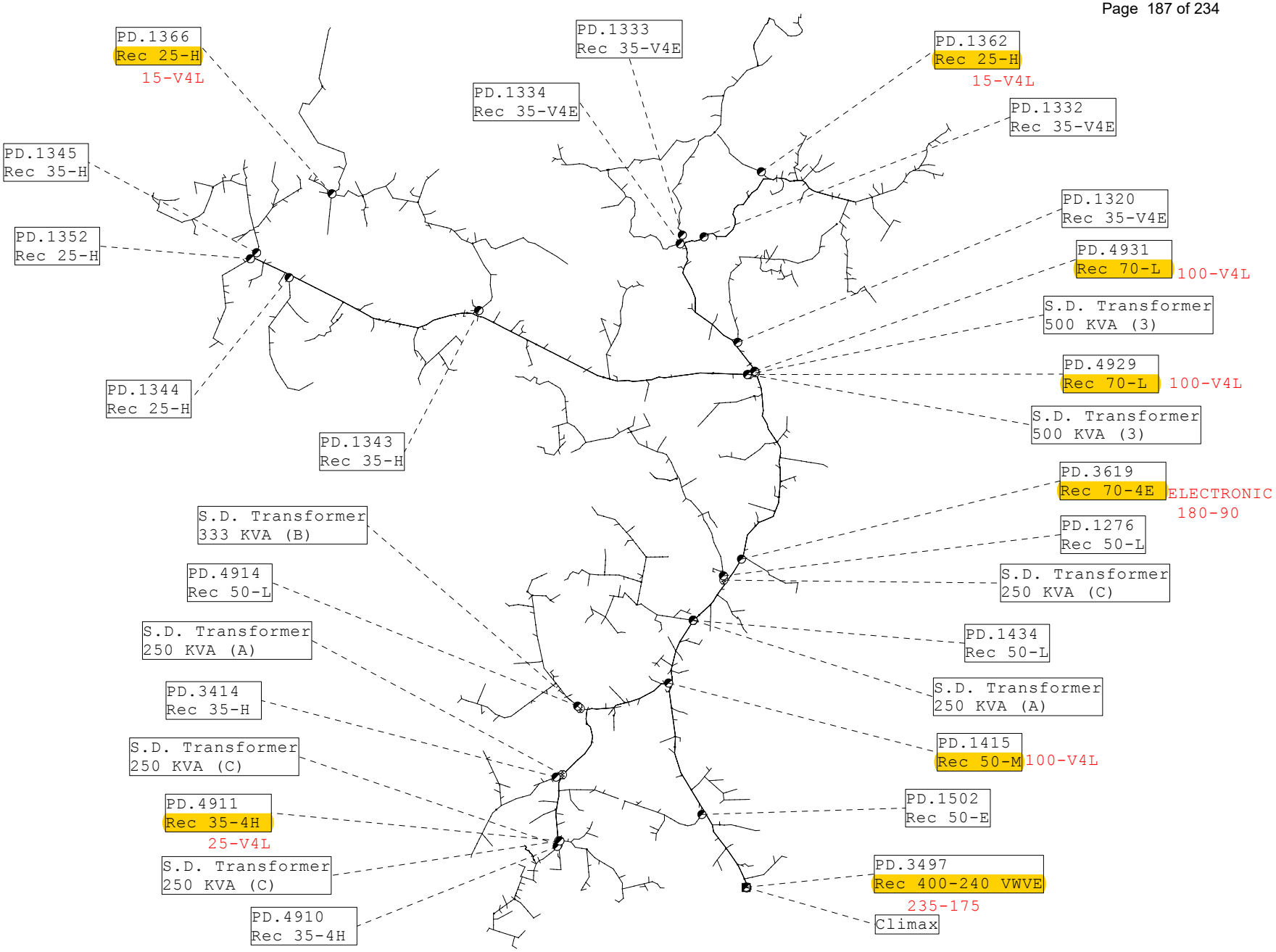
Clarksville Substation
Island Creek

PowerServices


Clarksville
FD.47
Rec 520-160 VWE
450-170



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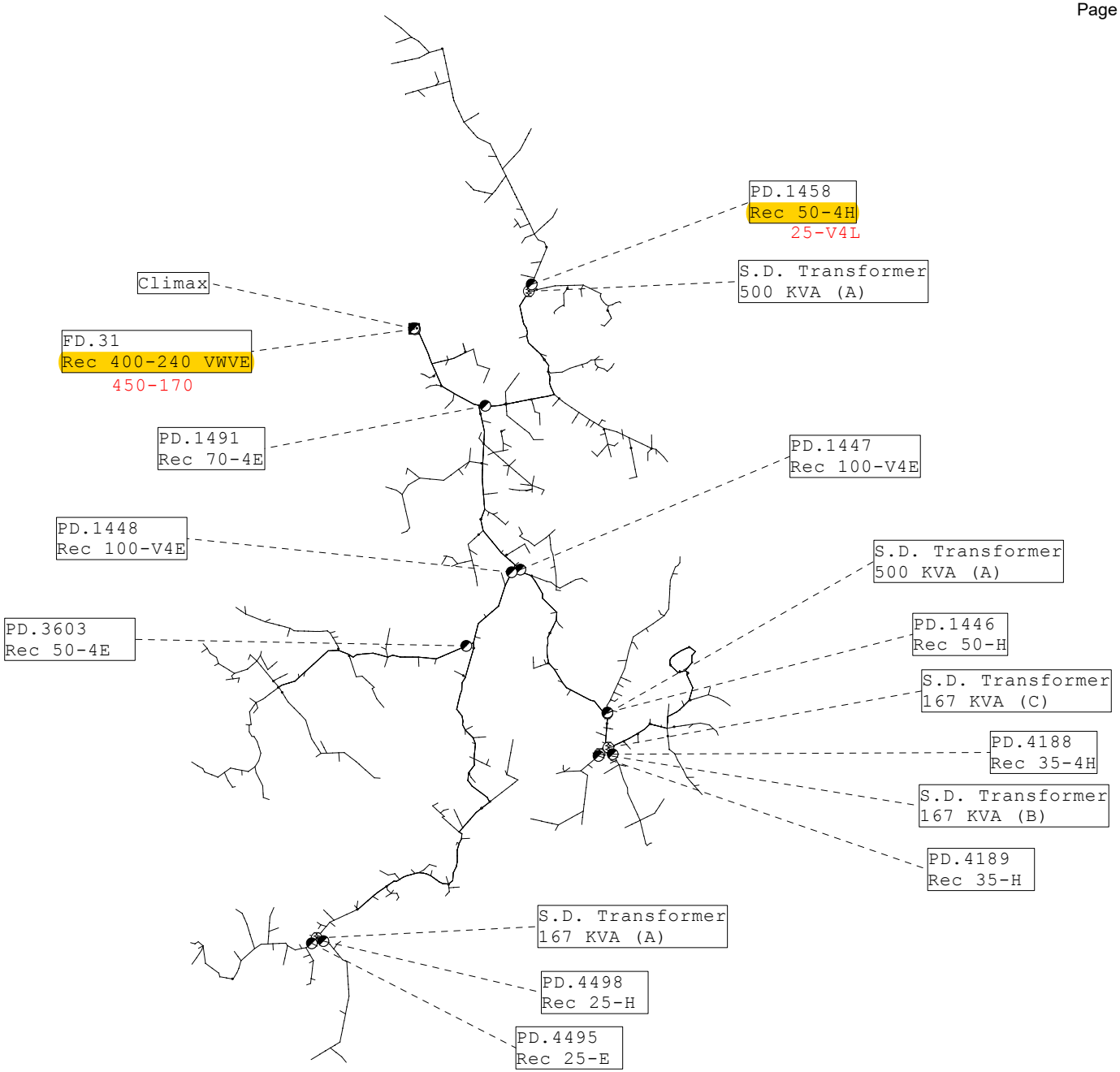
Climax Substation
Climax

PowerServices



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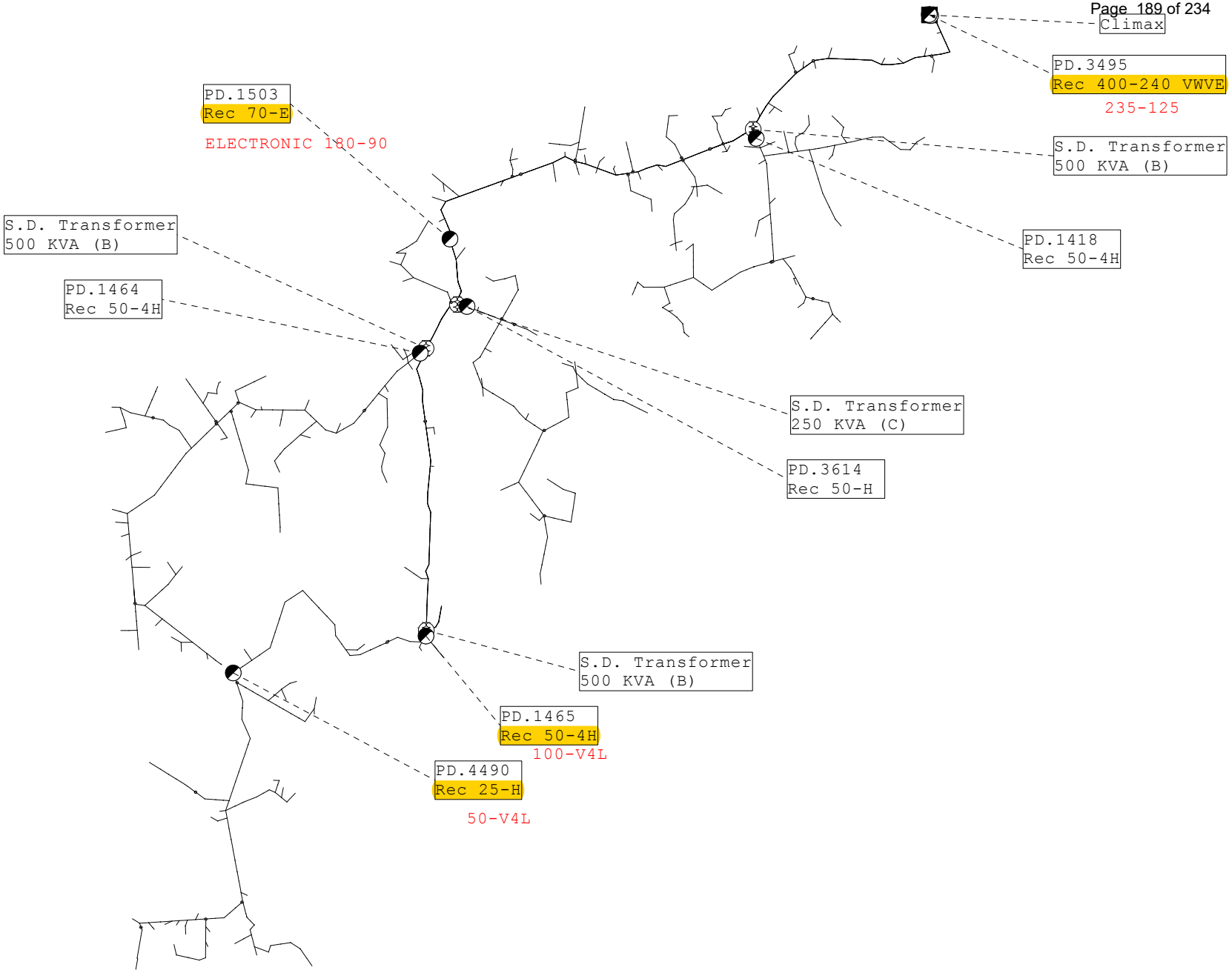
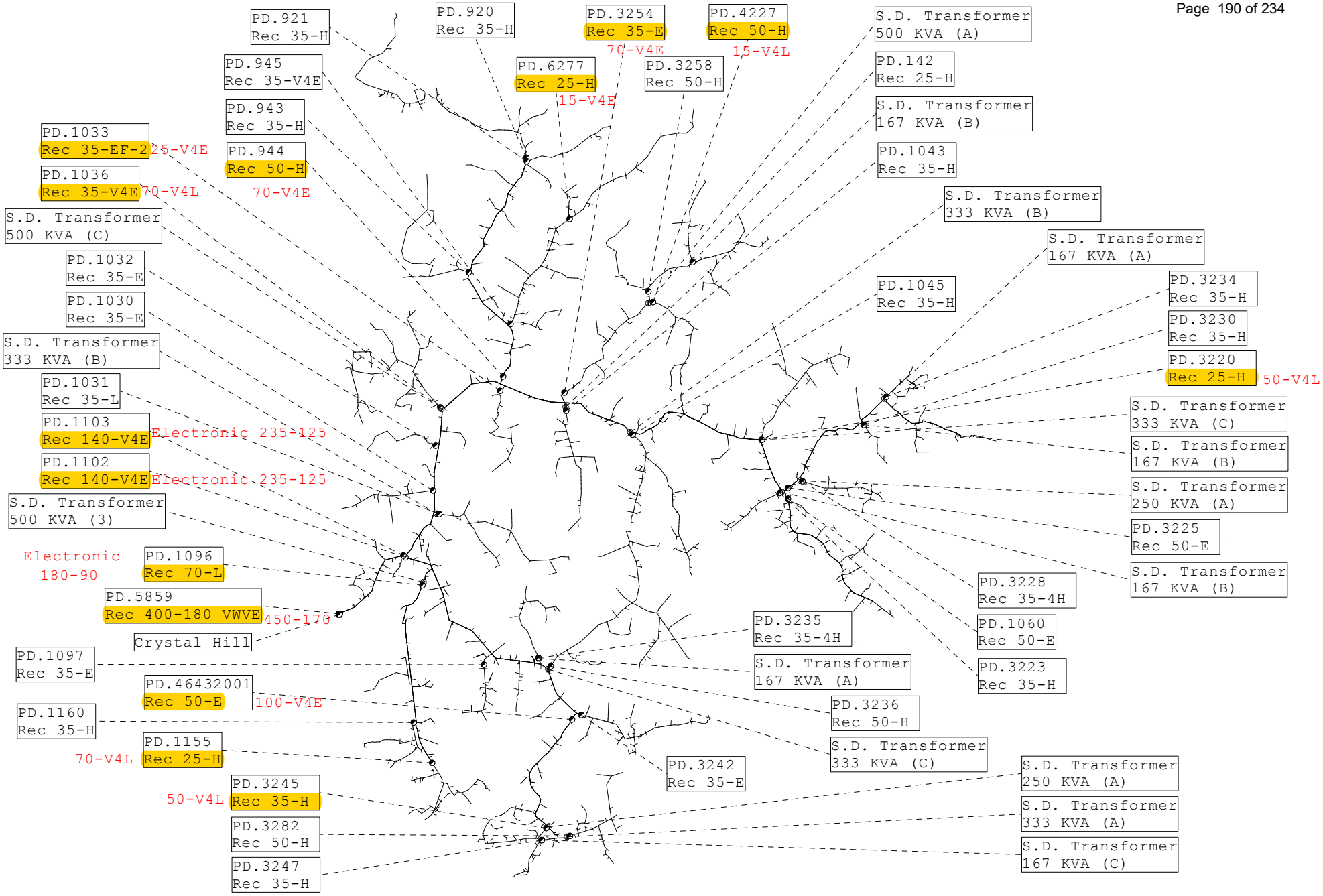
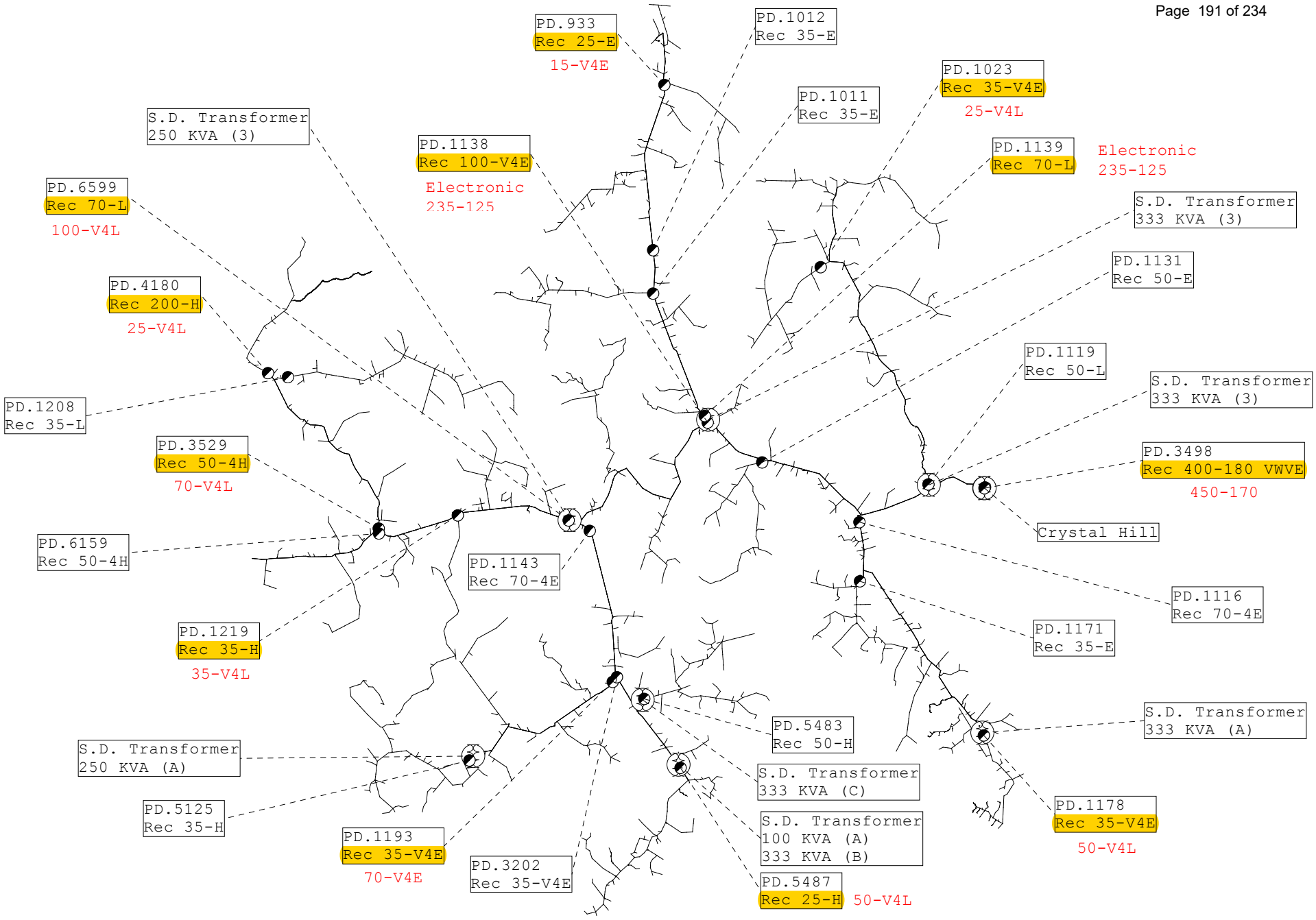
Climax Substation
Concord

PowerServices


Climax
PD.3495
Rec 400-240 VWVE
235-125
PD.1503
Rec 70-E
ELECTRONIC 180-90
S.D. Transformer
500 KVA (B)
PD.1418
Rec 50-4H
S.D. Transformer
500 KVA (B)
PD.1464
Rec 50-4H
S.D. Transformer
250 KVA (C)
PD.3614
Rec 50-H
S.D. Transformer
500 KVA (B)
PD.1465
Rec 50-4H
100-V4L
PD.4490
Rec 25-H
50-V4L


PD.921
Rec 35-H
PD.920
Rec 35-H
PD.3254
Rec 35-E
70-V4E
PD.4227
Rec 50-H
15-V4L
S.D. Transformer
500 KVA (A)
PD.945
Rec 35-V4E
PD.6277
Rec 25-H
15-V4E
PD.3258
Rec 50-H
PD.142
Rec 25-H
PD.943
Rec 35-H
S.D. Transformer
167 KVA (B)
PD.1033
Rec 35-EF-2
25-V4E
PD.944
Rec 50-H
70-V4E
PD.1043
Rec 35-H
PD.1036
Rec 35-V4E
70-V4L
S.D. Transformer
333 KVA (B)
S.D. Transformer
500 KVA (C)
S.D. Transformer
167 KVA (A)
PD.1032
Rec 35-E
PD.1045
Rec 35-H
PD.3234
Rec 35-H
PD.1030
Rec 35-E
PD.3230
Rec 35-H
S.D. Transformer
333 KVA (B)
PD.3220
Rec 25-H
50-V4L
PD.1031
Rec 35-L
S.D. Transformer
333 KVA (C)
PD.1103
Rec 140-V4E
Electronic 235-125
S.D. Transformer
167 KVA (B)
PD.1102
Rec 140-V4E
Electronic 235-125
S.D. Transformer
250 KVA (A)
S.D. Transformer
500 KVA (3)
PD.3225
Rec 50-E
Electronic
180-90
PD.1096
Rec 70-L
S.D. Transformer
167 KVA (B)
PD.3228
Rec 35-4H
PD.5859
Rec 400-180 VWVE
450-170
PD.3235
Rec 35-4H
PD.1060
Rec 50-E
Crystal Hill
PD.1097
Rec 35-E
S.D. Transformer
167 KVA (A)
PD.3223
Rec 35-H
PD.46432001
Rec 50-E
100-V4E
PD.3236
Rec 50-H
PD.1160
Rec 35-H
S.D. Transformer
333 KVA (C)
PD.1155
Rec 25-H
70-V4L
PD.3242
Rec 35-E
S.D. Transformer
250 KVA (A)
PD.3245
Rec 35-H
50-V4L
S.D. Transformer
333 KVA (A)
PD.3282
Rec 50-H
S.D. Transformer
167 KVA (C)
PD.3247
Rec 35-H



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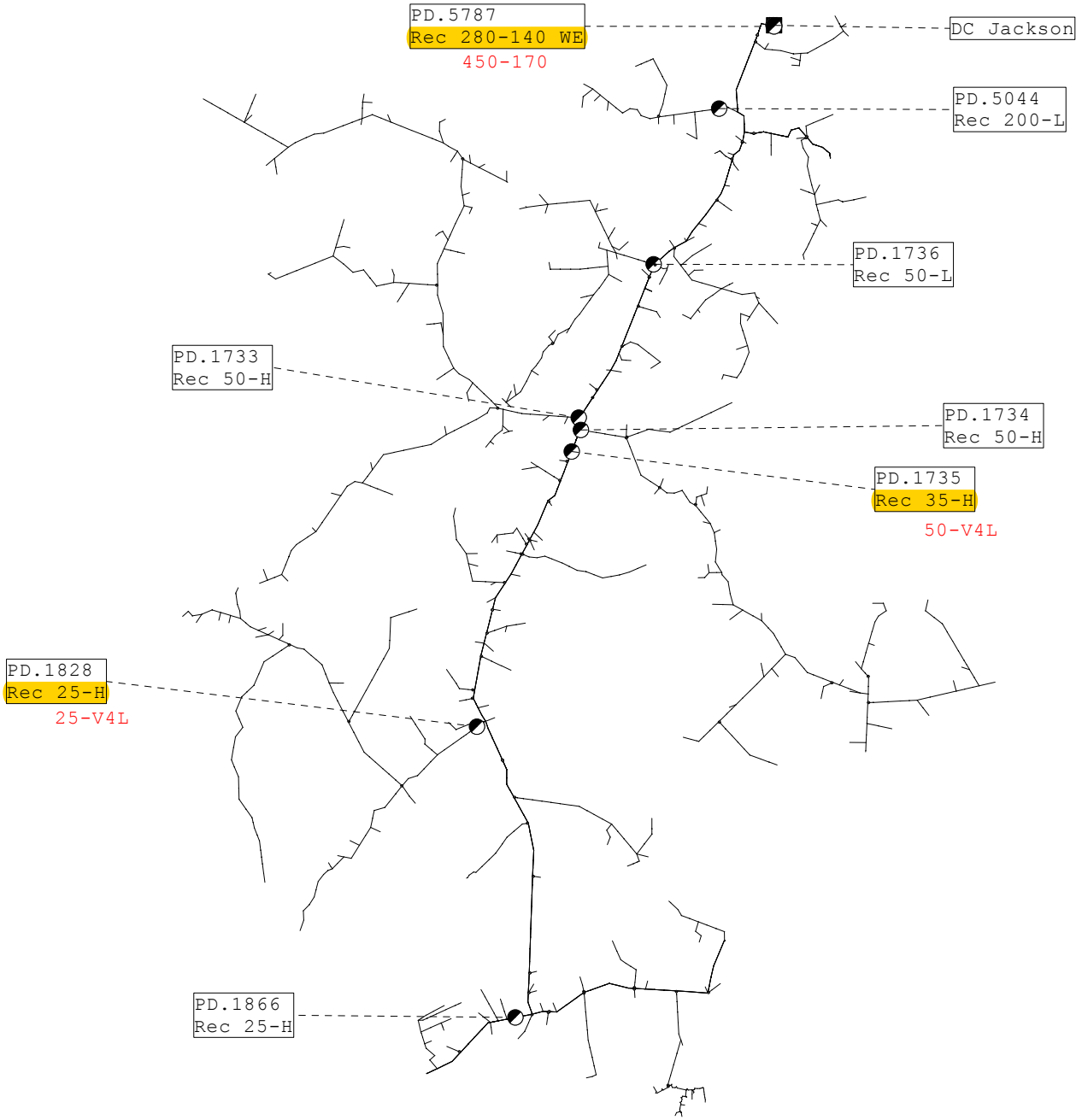
2015 Sectionalizing Study

Crystal Hill Substation
West

PowerServices



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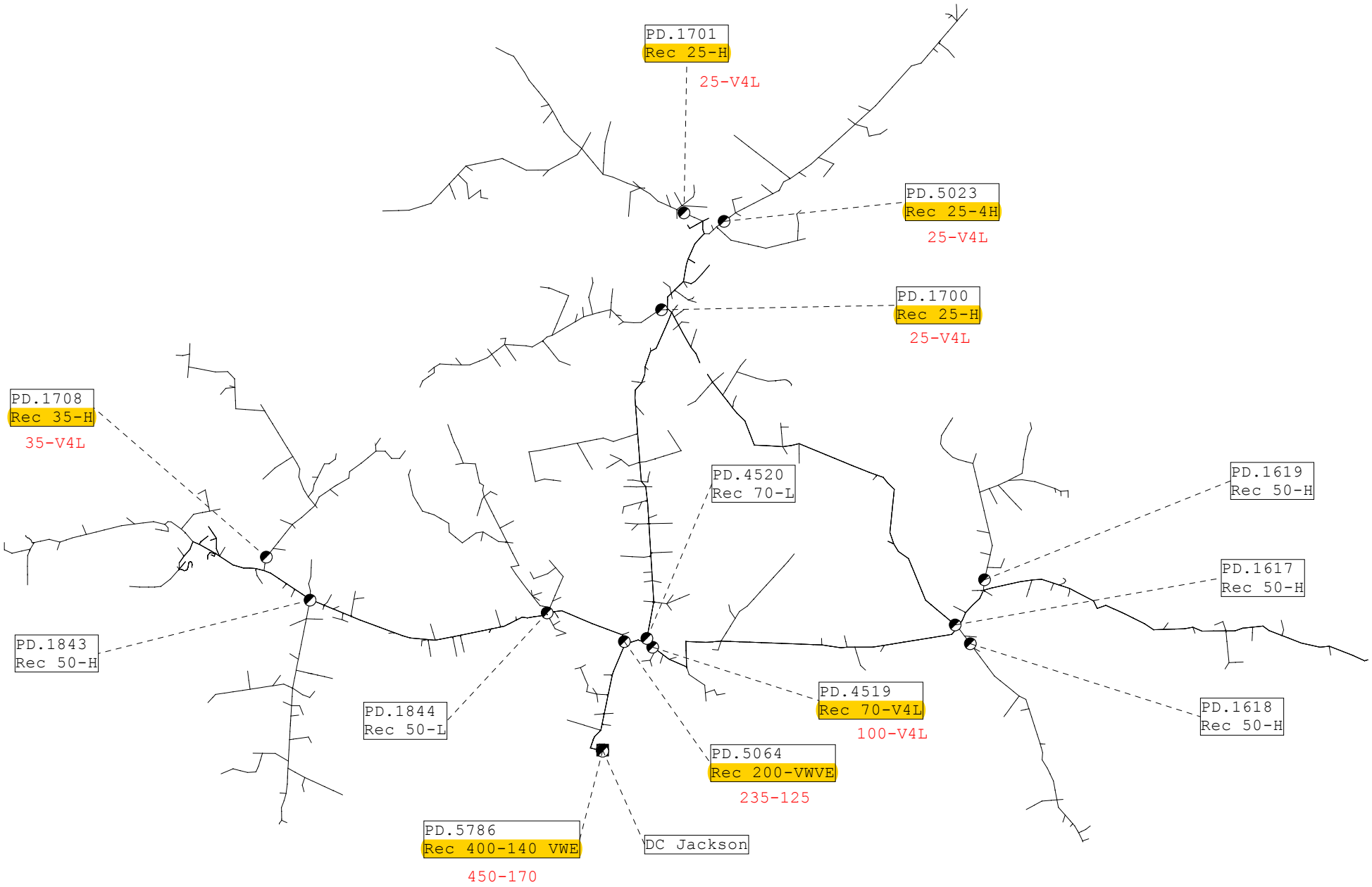
DC Jackson Substation
Clark's Pool

PowerServices



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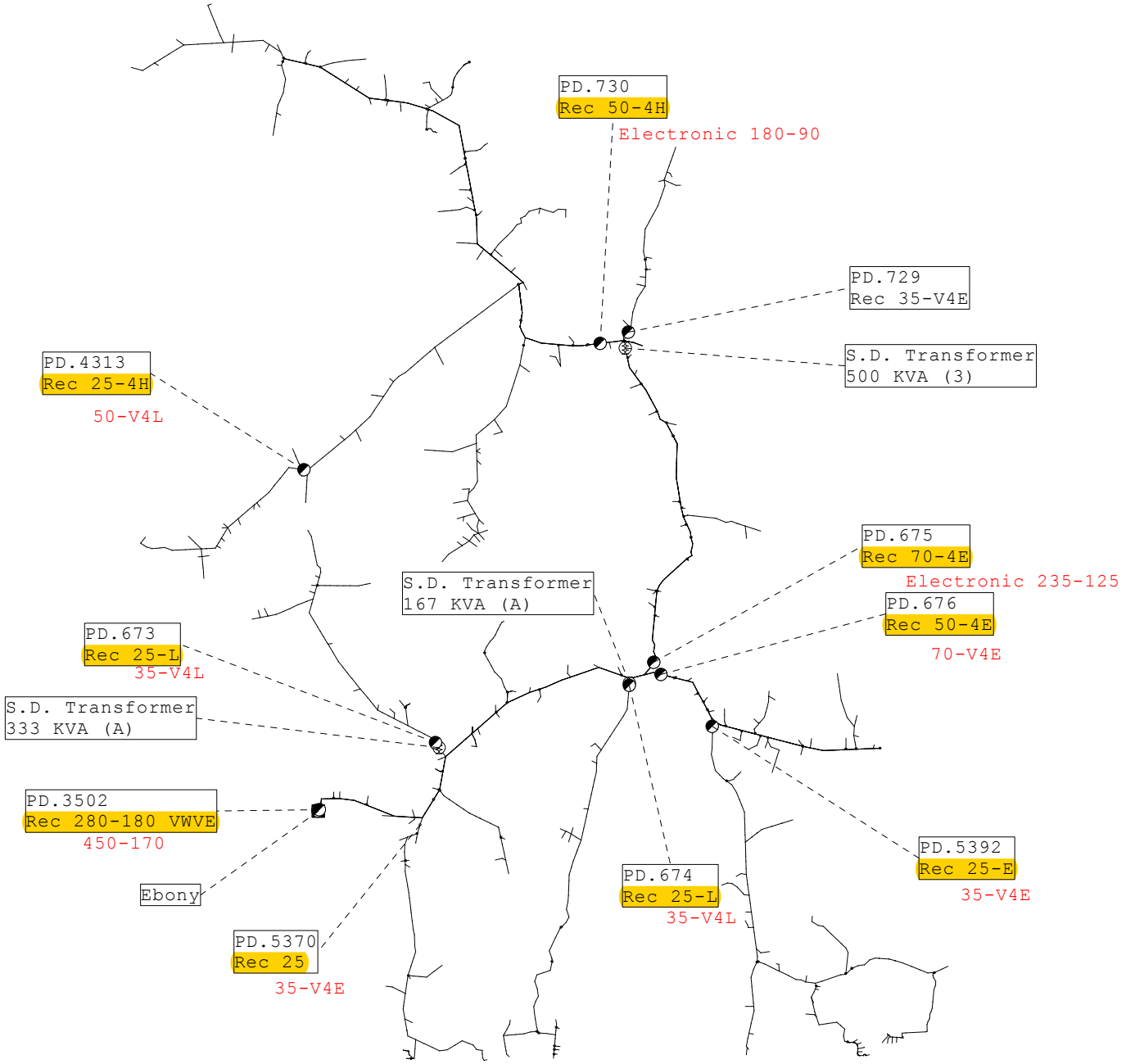
2015 Sectionalizing Study

DC Jackson Substation
Morgans Mill

PowerServices



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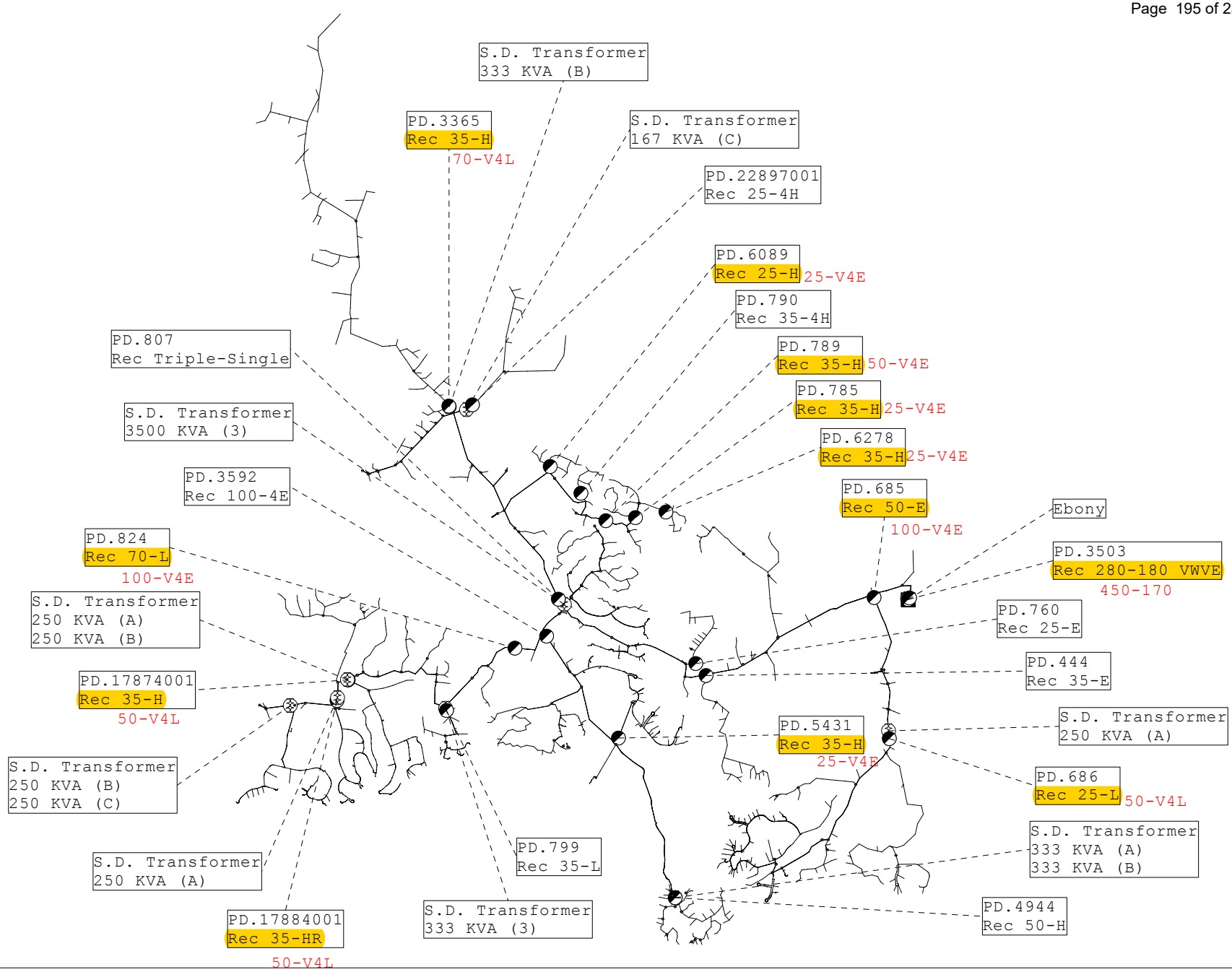
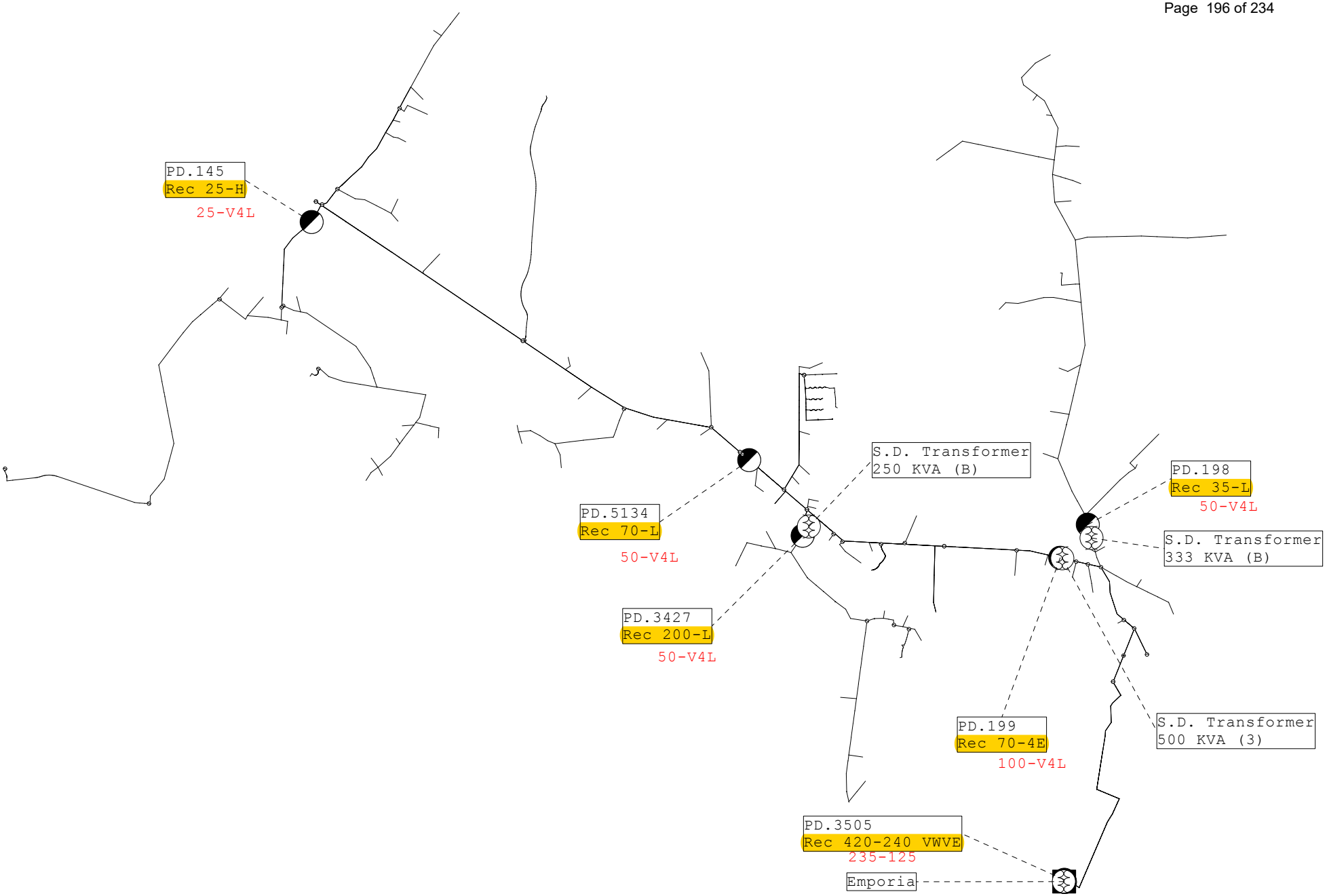
Ebony Substation
Ebony

PowerServices


S.D. Transformer
333 KVA (B)
PD.3365
Rec 35-H
70-V4L
S.D. Transformer
167 KVA (C)
PD.22897001
Rec 25-4H
PD.6089
Rec 25-H
25-V4E
PD.790
Rec 35-4H
PD.807
Rec Triple-Single
PD.789
Rec 35-H
50-V4E
S.D. Transformer
3500 KVA (3)
PD.785
Rec 35-H
25-V4E
PD.6278
Rec 35-H
25-V4E
PD.3592
Rec 100-4E
PD.685
Rec 50-E
100-V4E
Ebony
PD.824
Rec 70-L
100-V4E
PD.3503
Rec 280-180 VWVE
450-170
S.D. Transformer
250 KVA (A)
250 KVA (B)
PD.760
Rec 25-E
PD.444
Rec 35-E
PD.17874001
Rec 35-H
50-V4L
S.D. Transformer
250 KVA (A)
PD.5431
Rec 35-H
25-V4E
S.D. Transformer
250 KVA (B)
250 KVA (C)
PD.686
Rec 25-L
50-V4L
S.D. Transformer
333 KVA (A)
333 KVA (B)
PD.799
Rec 35-L
S.D. Transformer
250 KVA (A)
PD.4944
Rec 50-H
PD.17884001
Rec 35-HR
50-V4L
S.D. Transformer
333 KVA (3)



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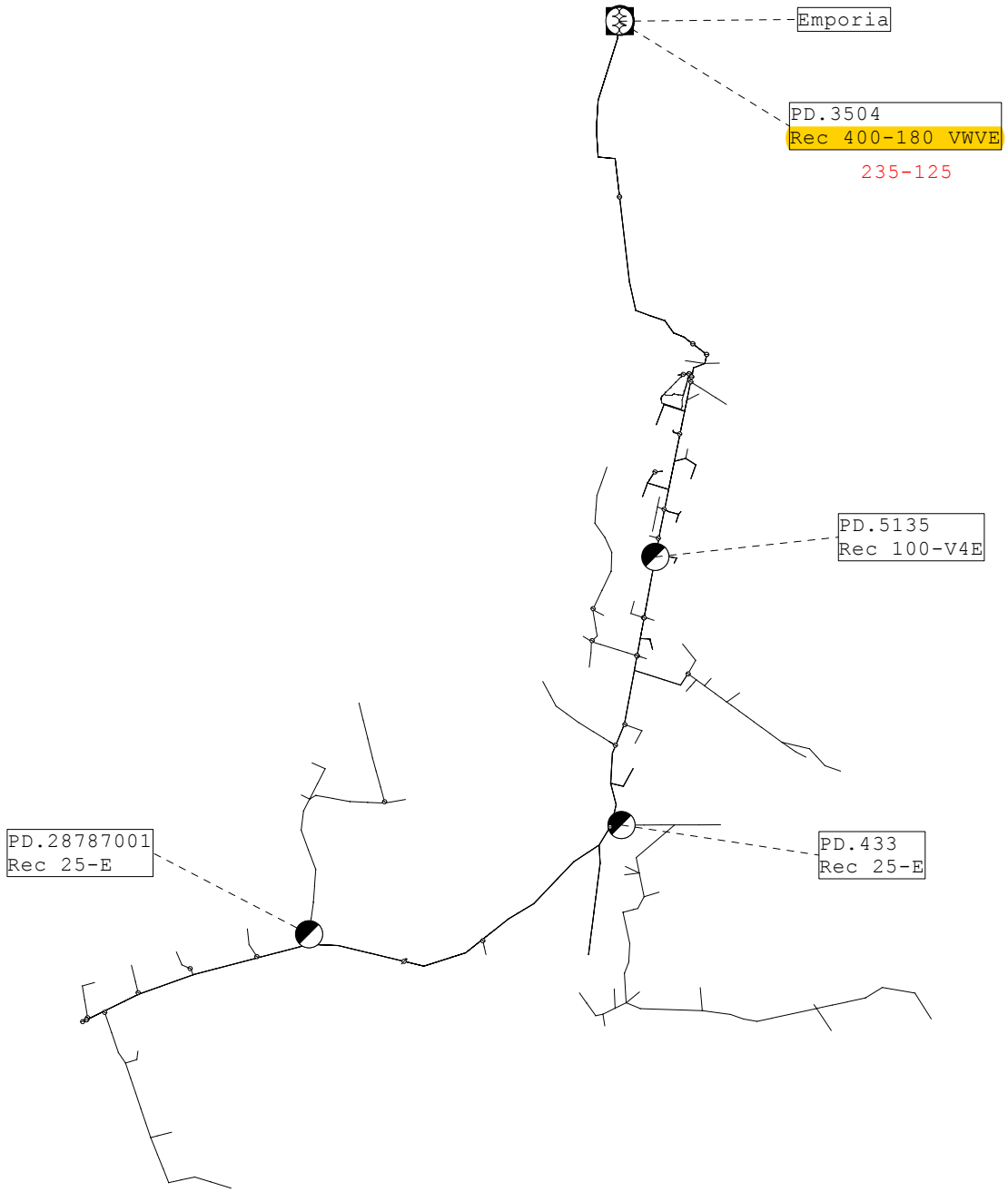
2015 Sectionalizing Study

Emporia Substation
301 South

PowerServices



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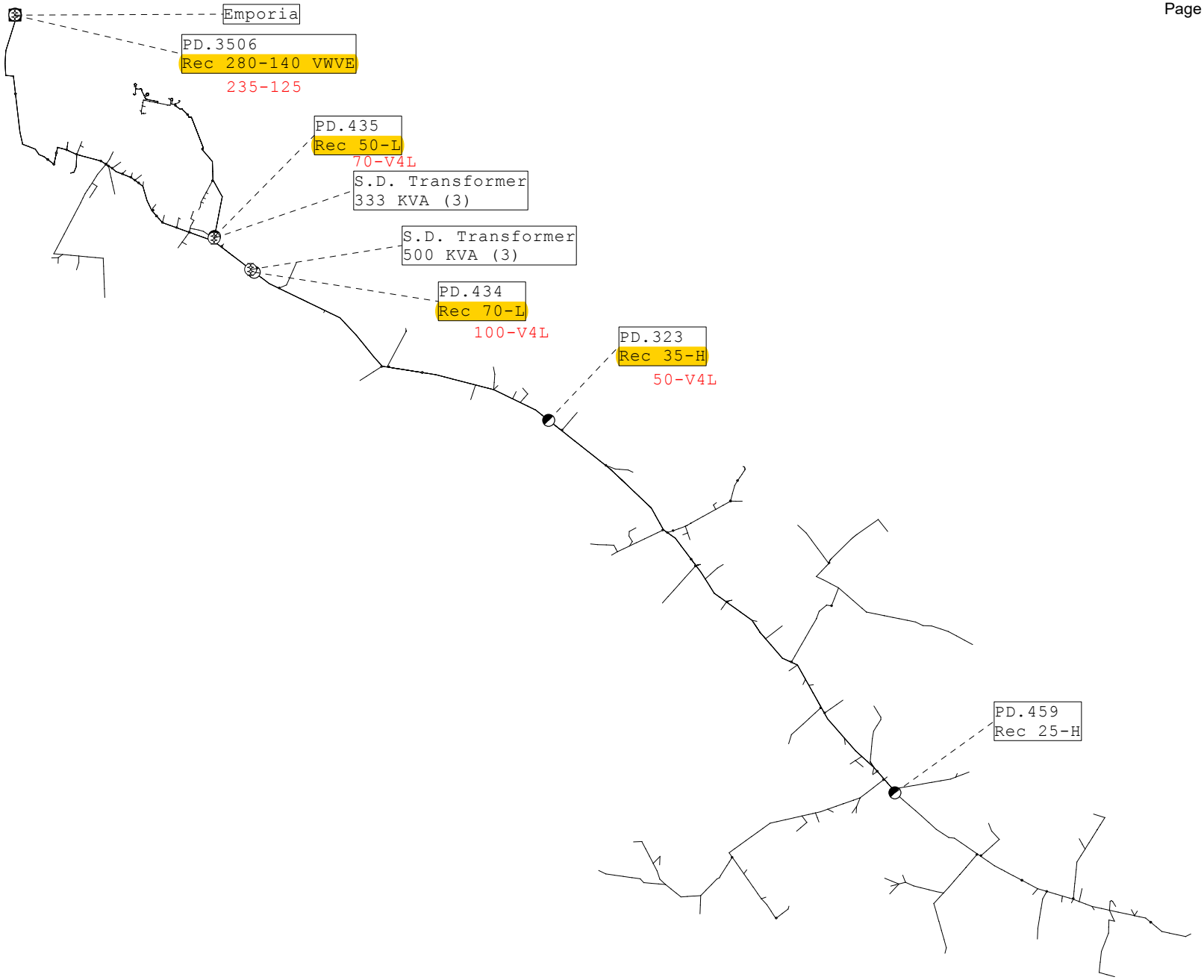
2015 Sectionalizing Study

Emporia Substation
301 South

PowerServices



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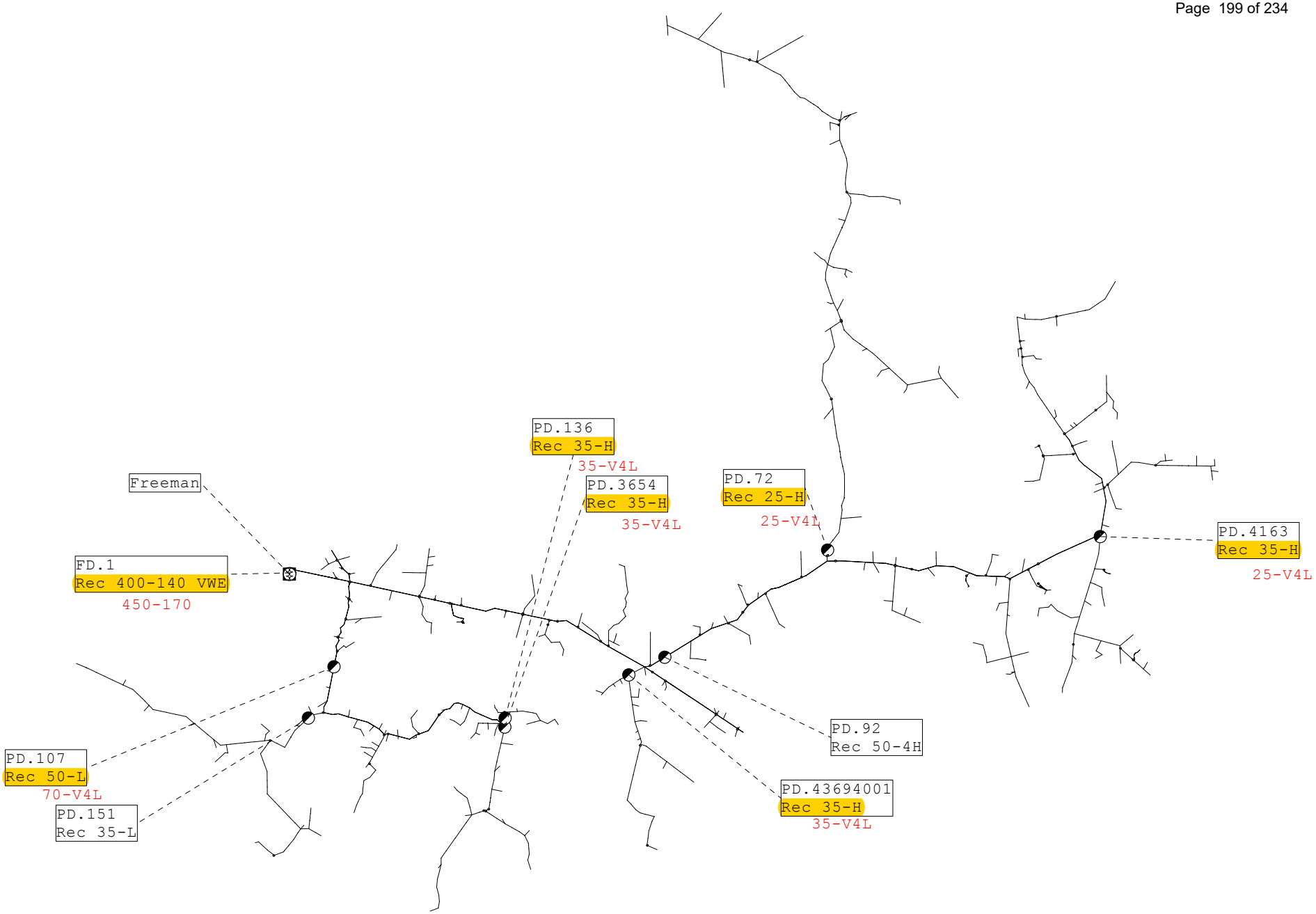
2015 Sectionalizing Study

Emporia Substation
Low Ground Road

PowerServices



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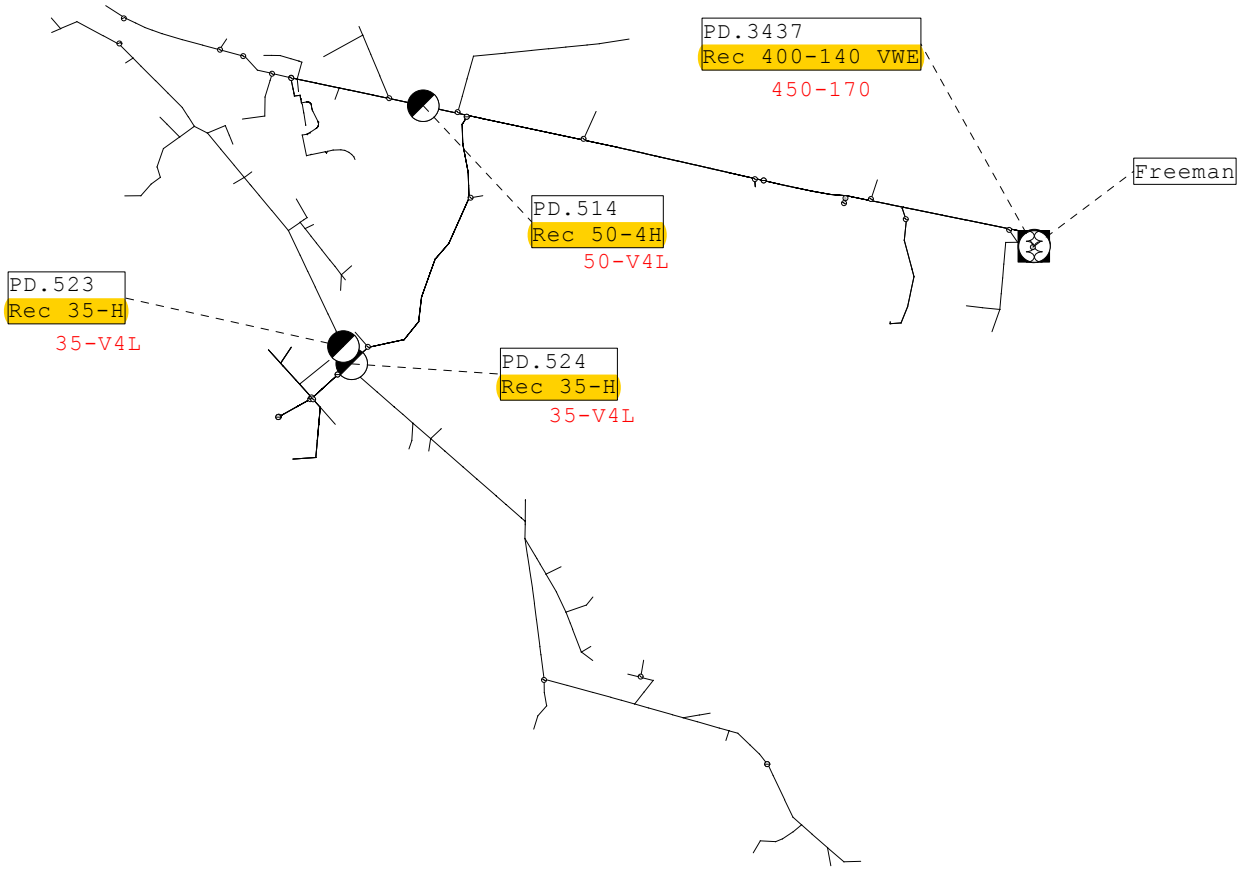
Freeman Substation
Pleasant Shade

PowerServices



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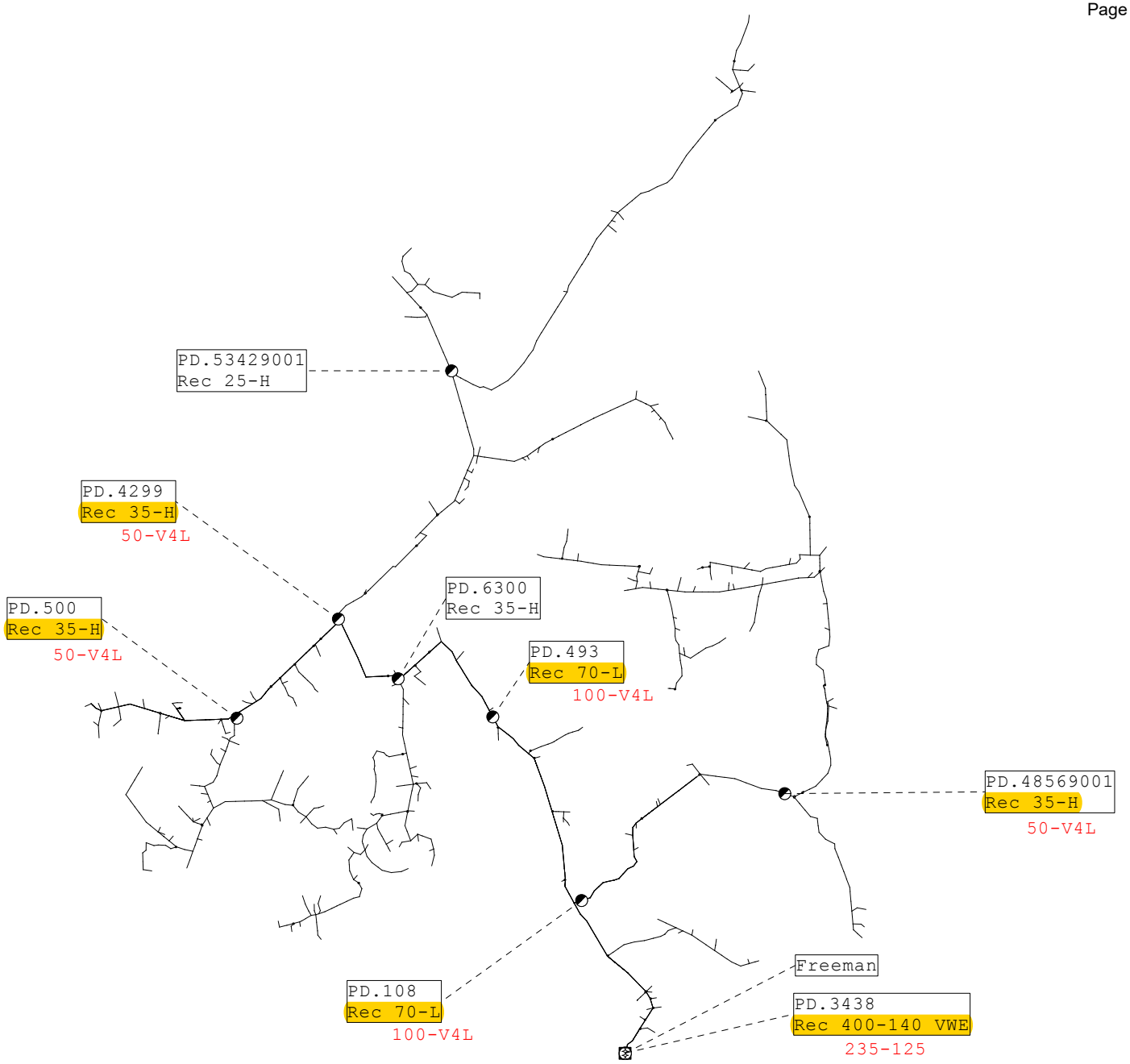
2015 Sectionalizing Study

Freeman Substation
Rock Quarry

PowerServices



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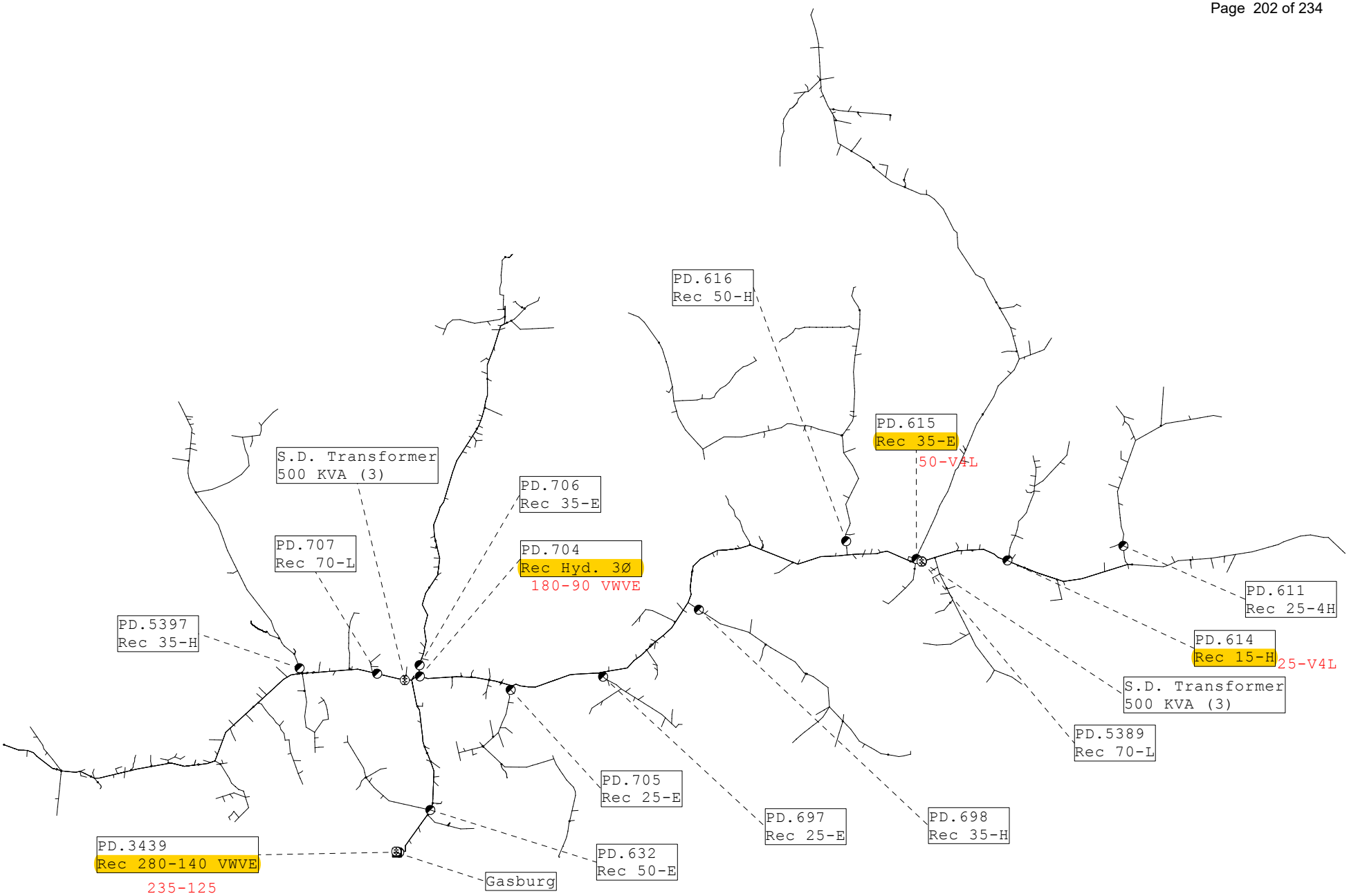
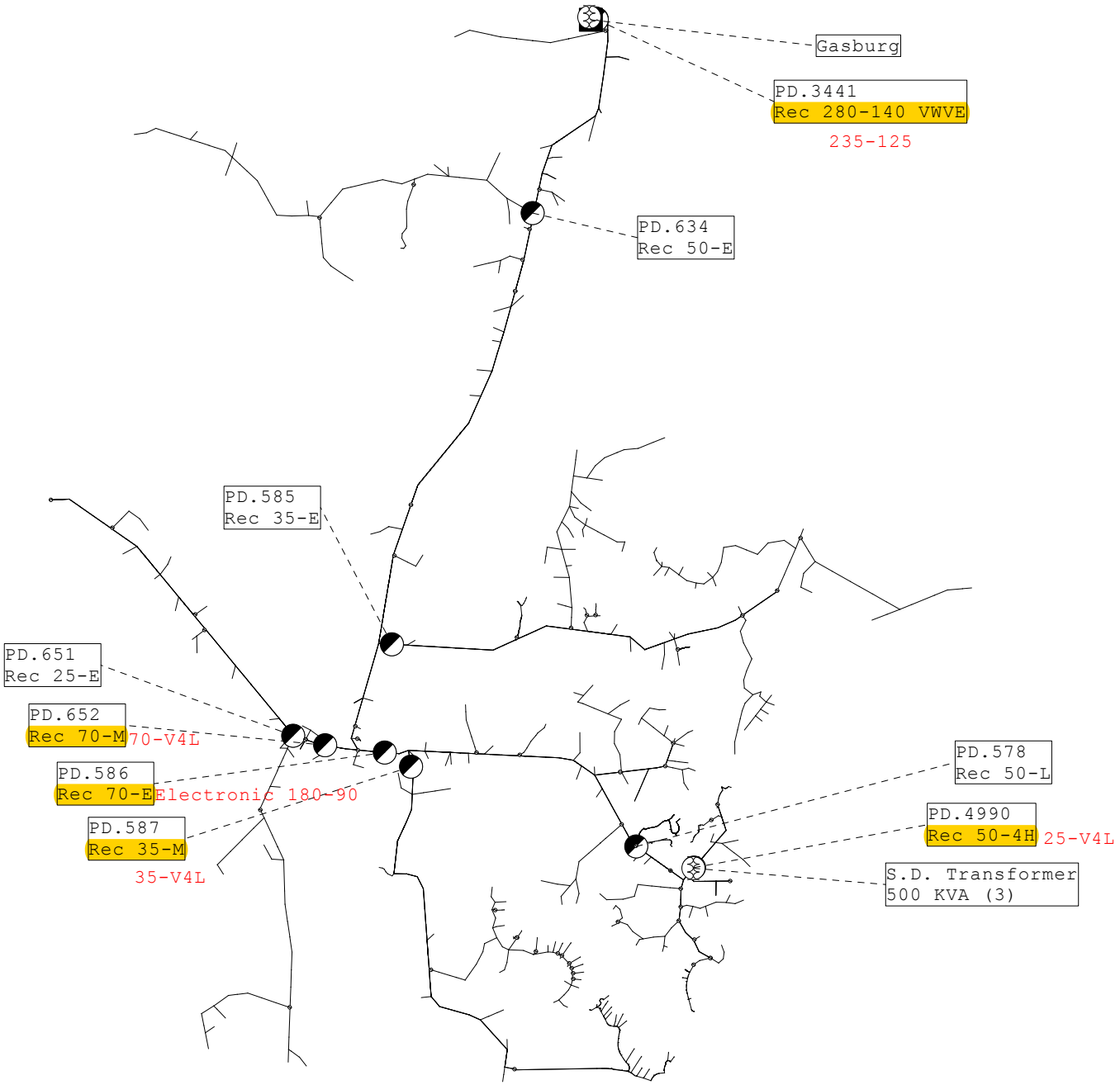
2015 Sectionalizing Study

Freeman Substation
Smokey Ordinary

PowerServices


PD.616
Rec 50-H
PD.615
Rec 35-E
50-V4L
S.D. Transformer
500 KVA (3)
PD.706
Rec 35-E
PD.707
Rec 70-L
PD.704
Rec Hyd. 3Ø
180-90 VWVE
PD.5397
Rec 35-H
PD.611
Rec 25-4H
PD.614
Rec 15-H
25-V4L
S.D. Transformer
500 KVA (3)
PD.5389
Rec 70-L
PD.705
Rec 25-E
PD.697
Rec 25-E
PD.698
Rec 35-H
PD.3439
Rec 280-140 VWVE
235-125
PD.632
Rec 50-E
Gasburg



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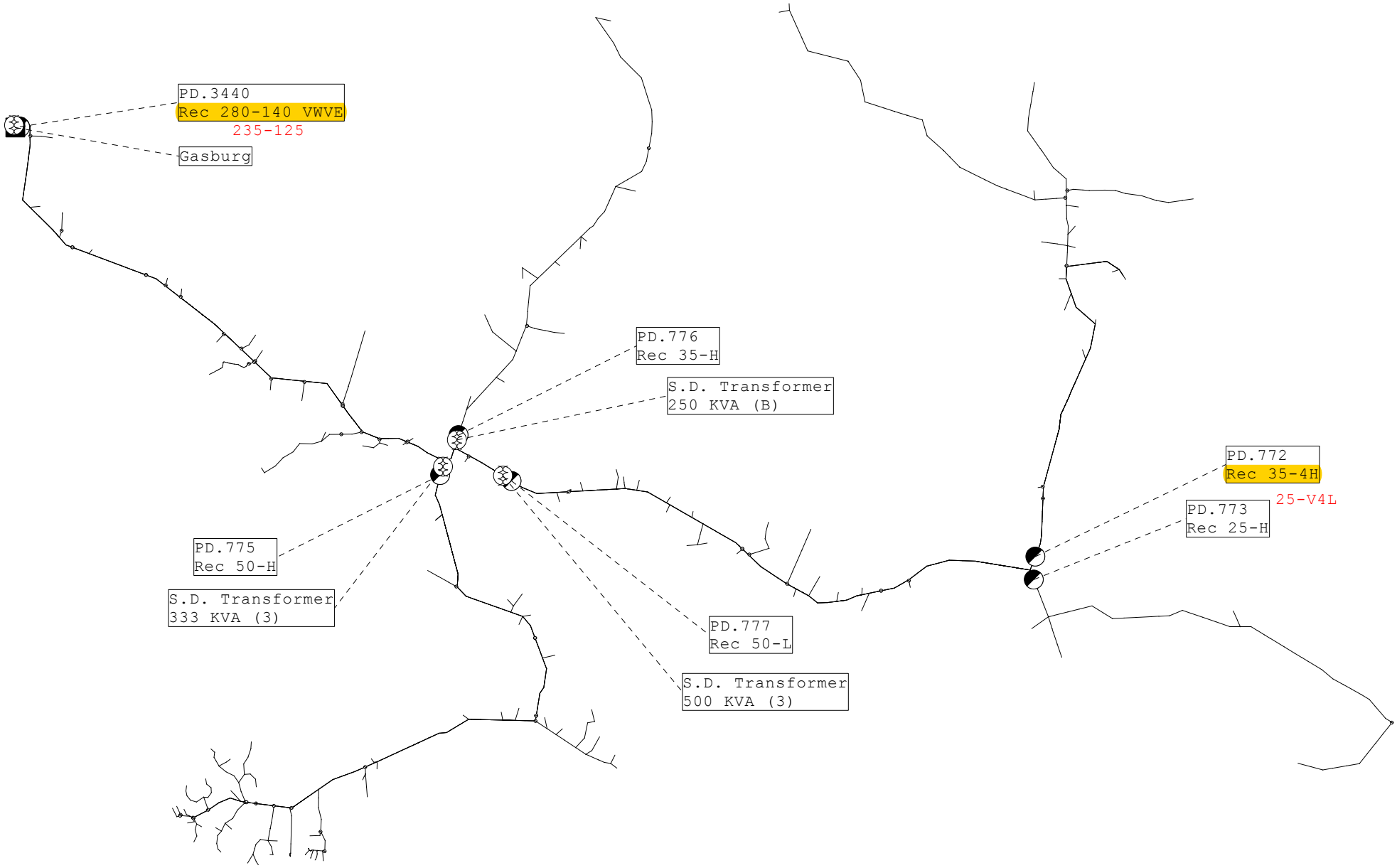
2015 Sectionalizing Study

Gasburg Substation
Gasburg

PowerServices



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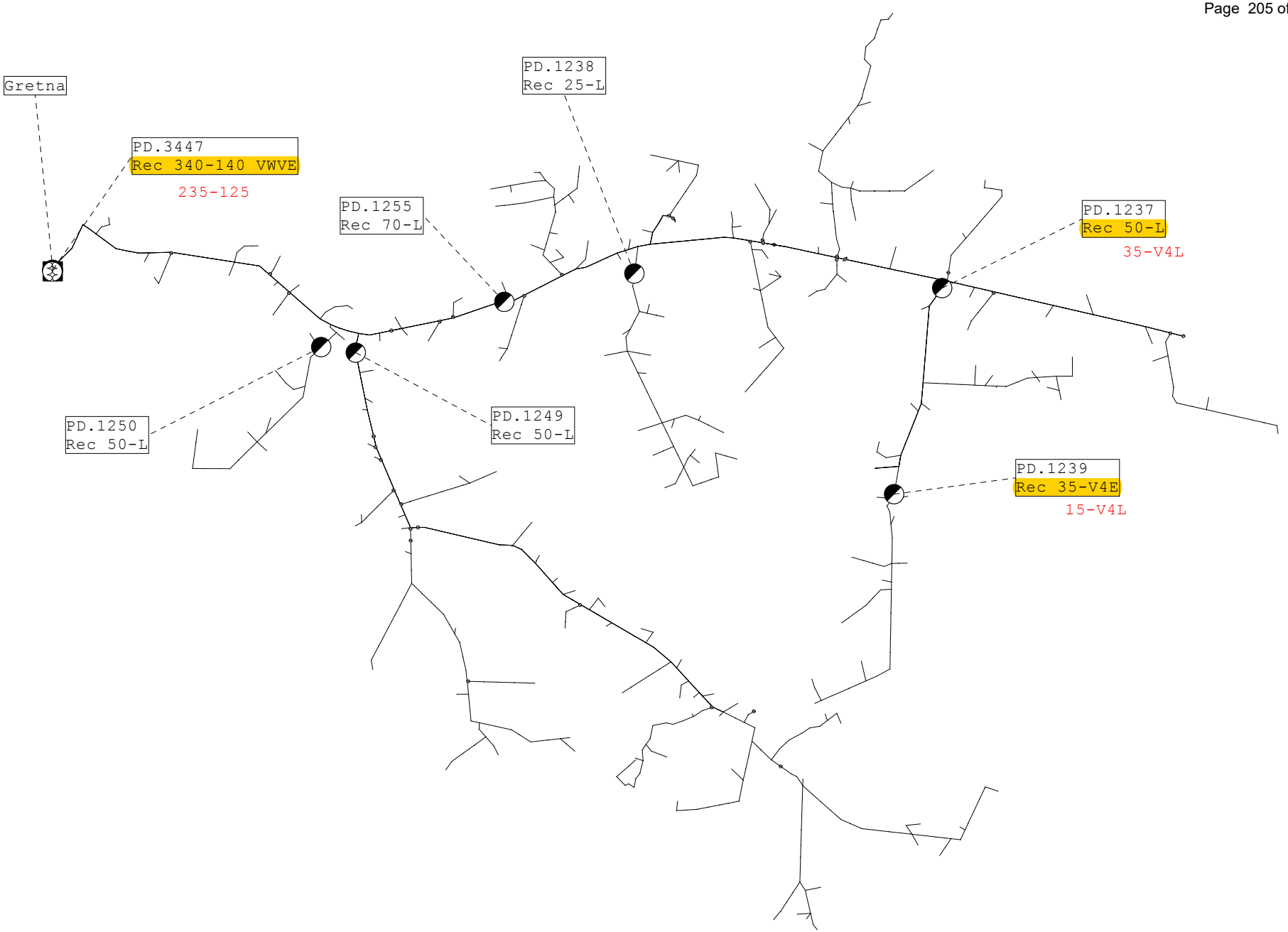
Gasburg Substation
Valentines

PowerServices



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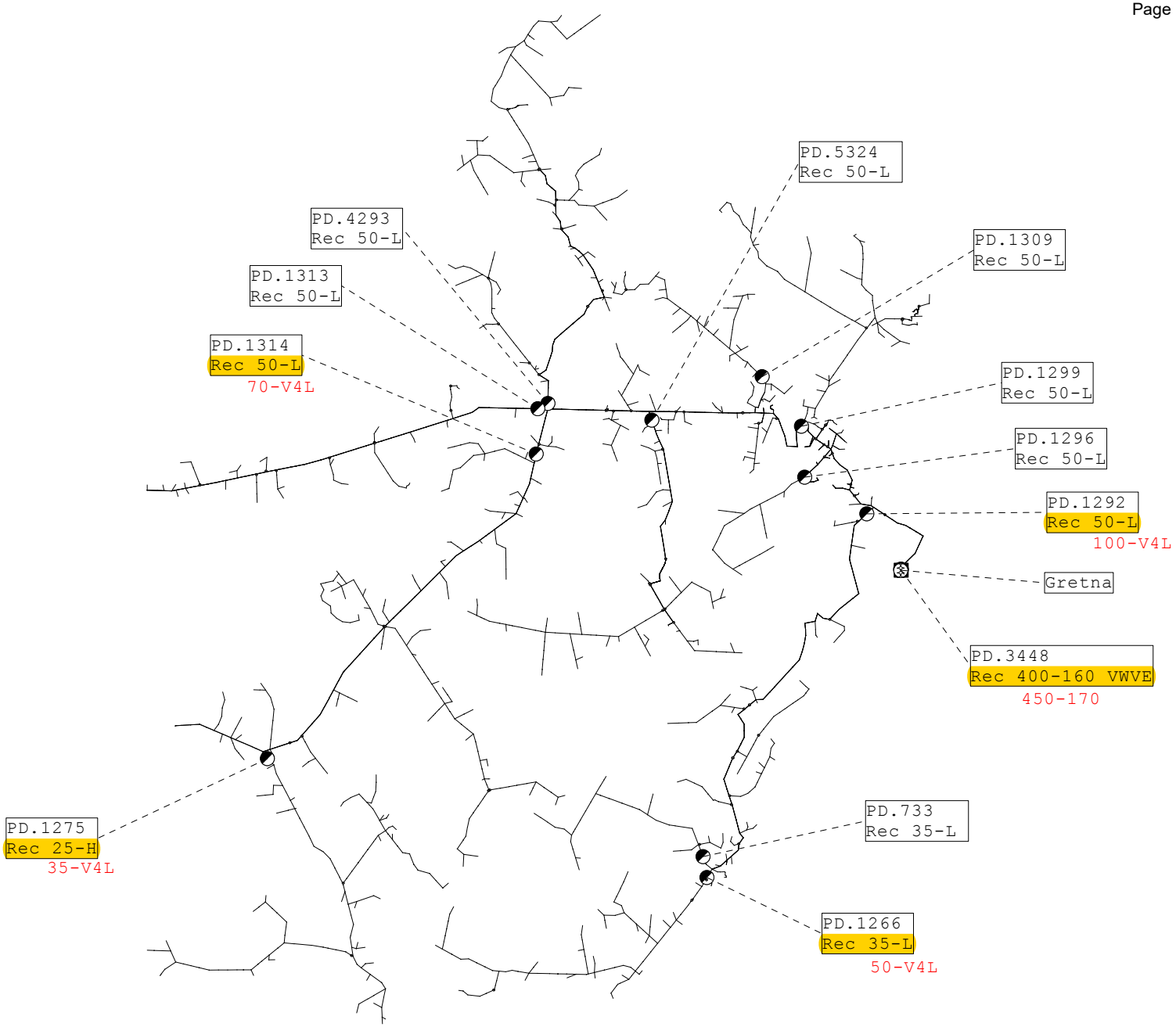
2015 Sectionalizing Study

Gretna Substation
40 East

PowerServices



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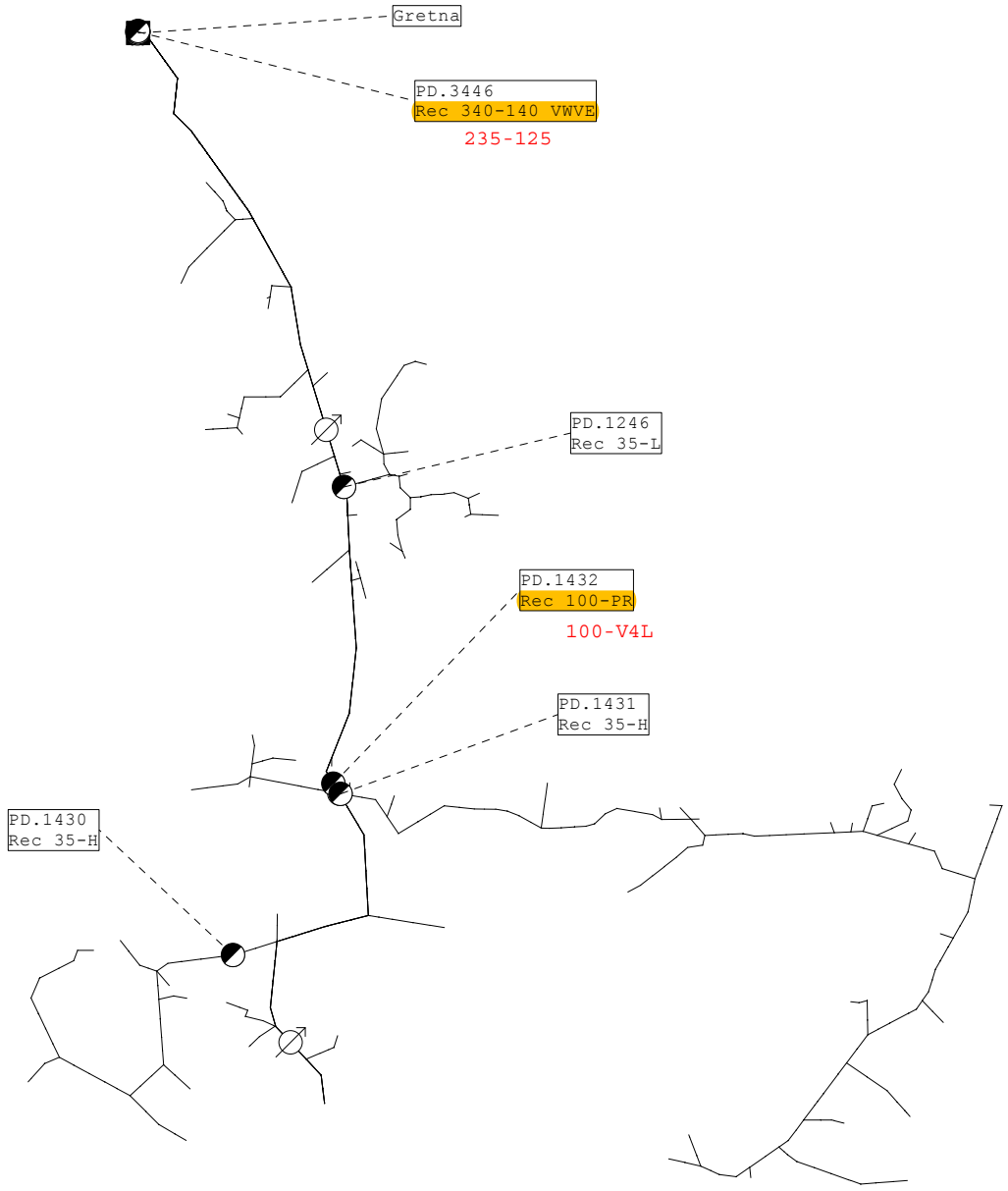
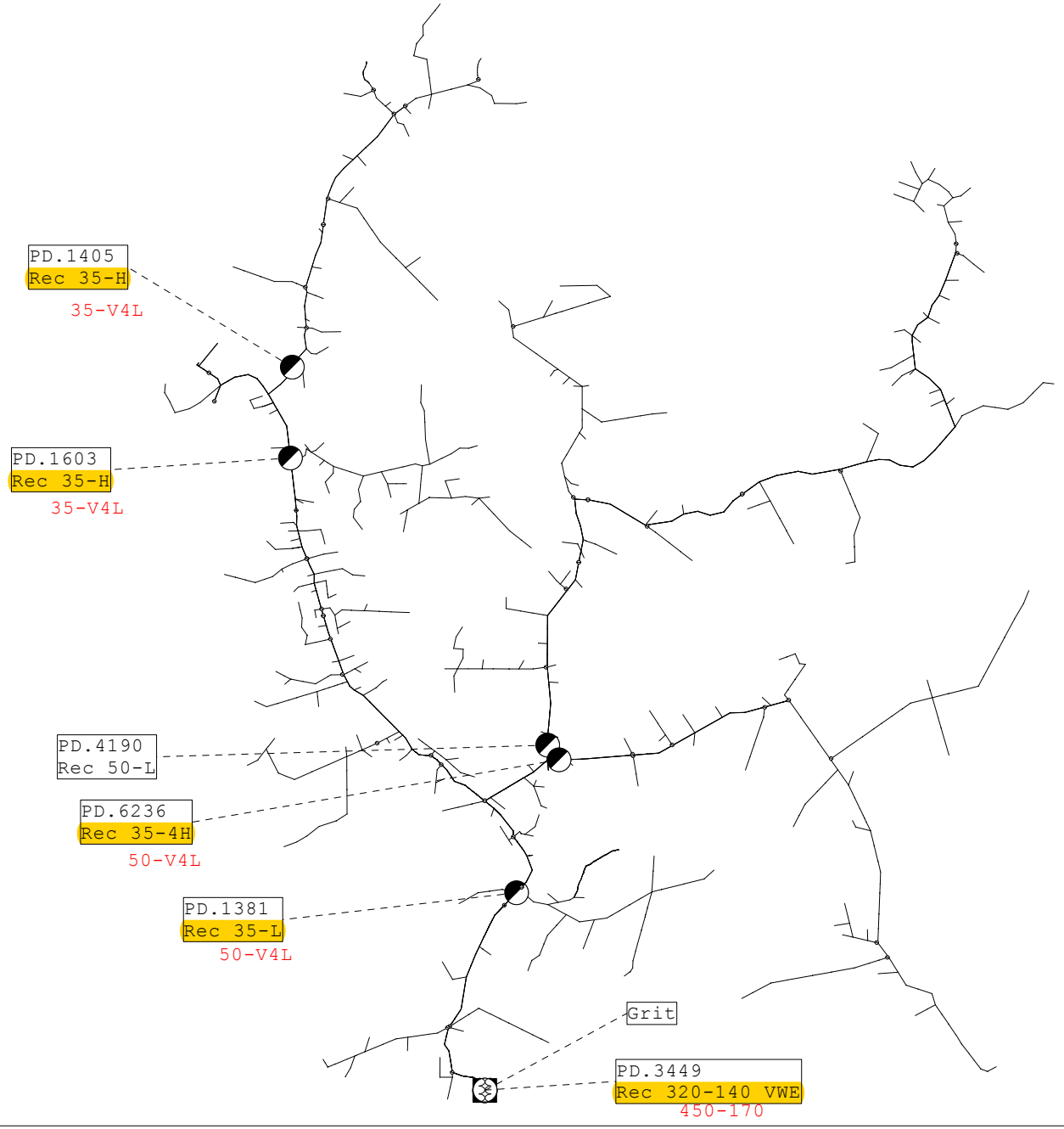
Gretna Substation
40 West

PowerServices


Gretna
PD.3446
Rec 340-140 VWVE
235-125
PD.1246
Rec 35-L
PD.1432
Rec 100-PR
100-V4L
PD.1431
Rec 35-H
PD.1430
Rec 35-H



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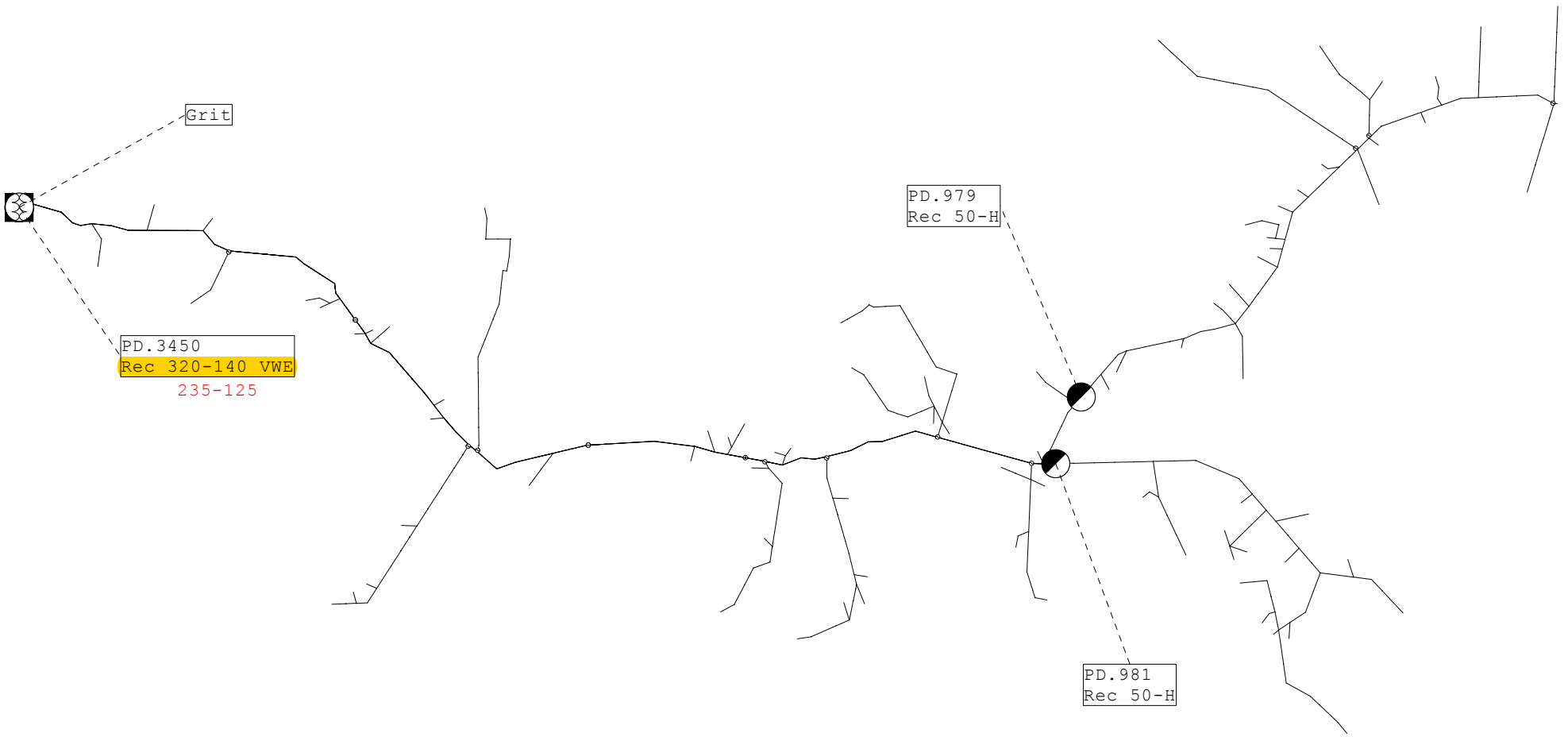
2015 Sectionalizing Study

Grit Substation
Grit

PowerServices



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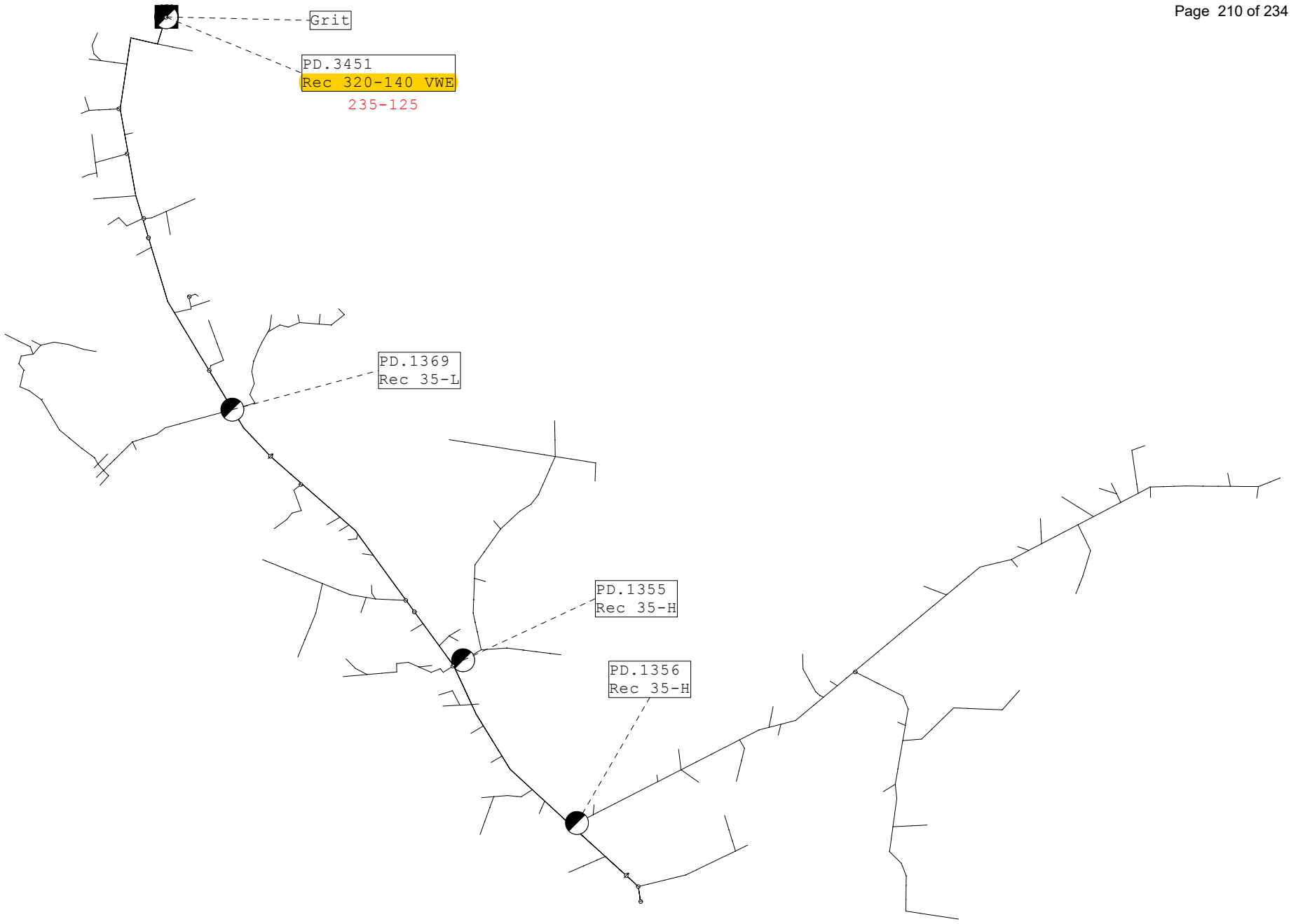
2015 Sectionalizing Study

Grit Substation
Level Run

PowerServices



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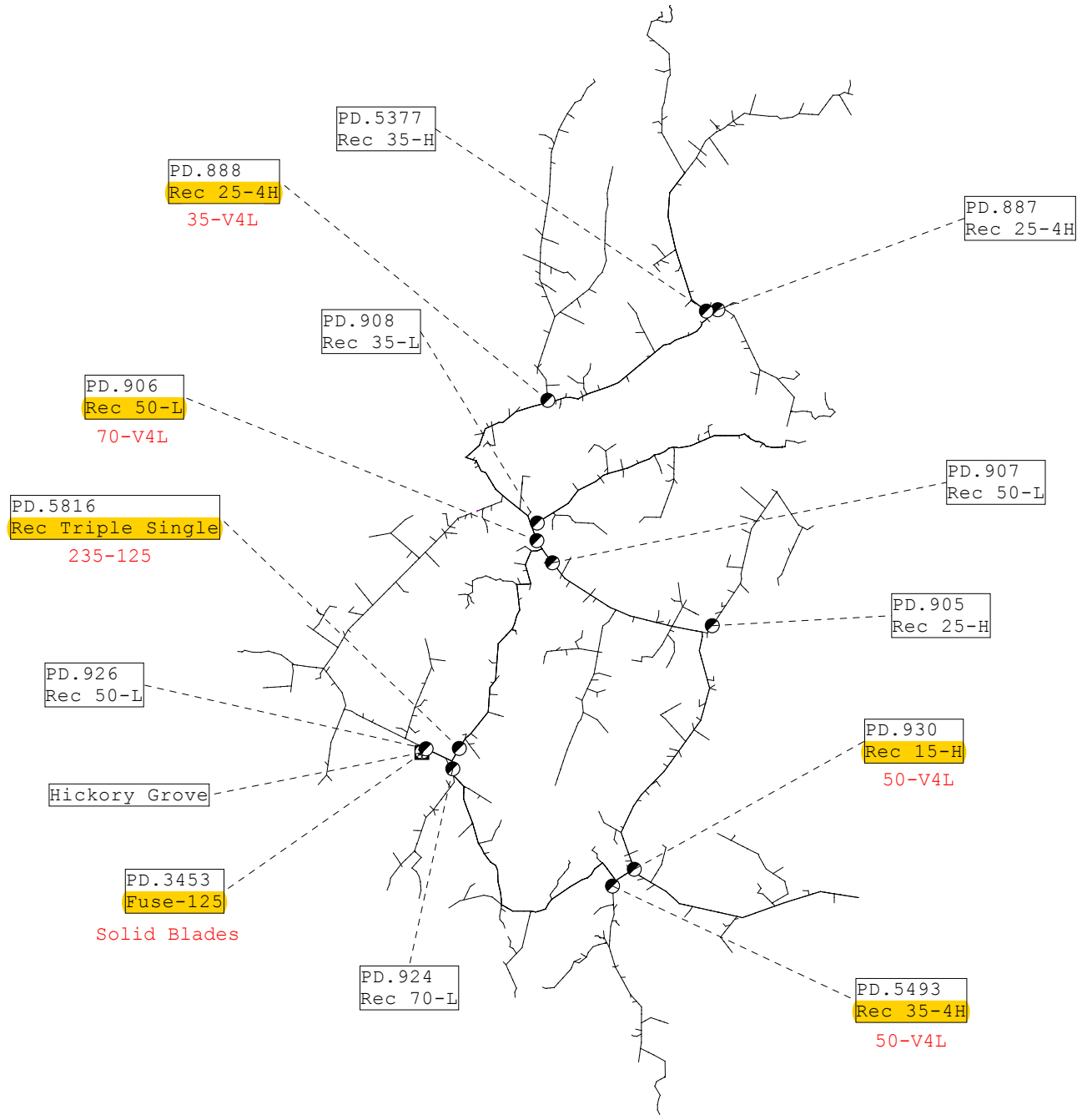
2015 Sectionalizing Study

Grit Substation
Renan

PowerServices



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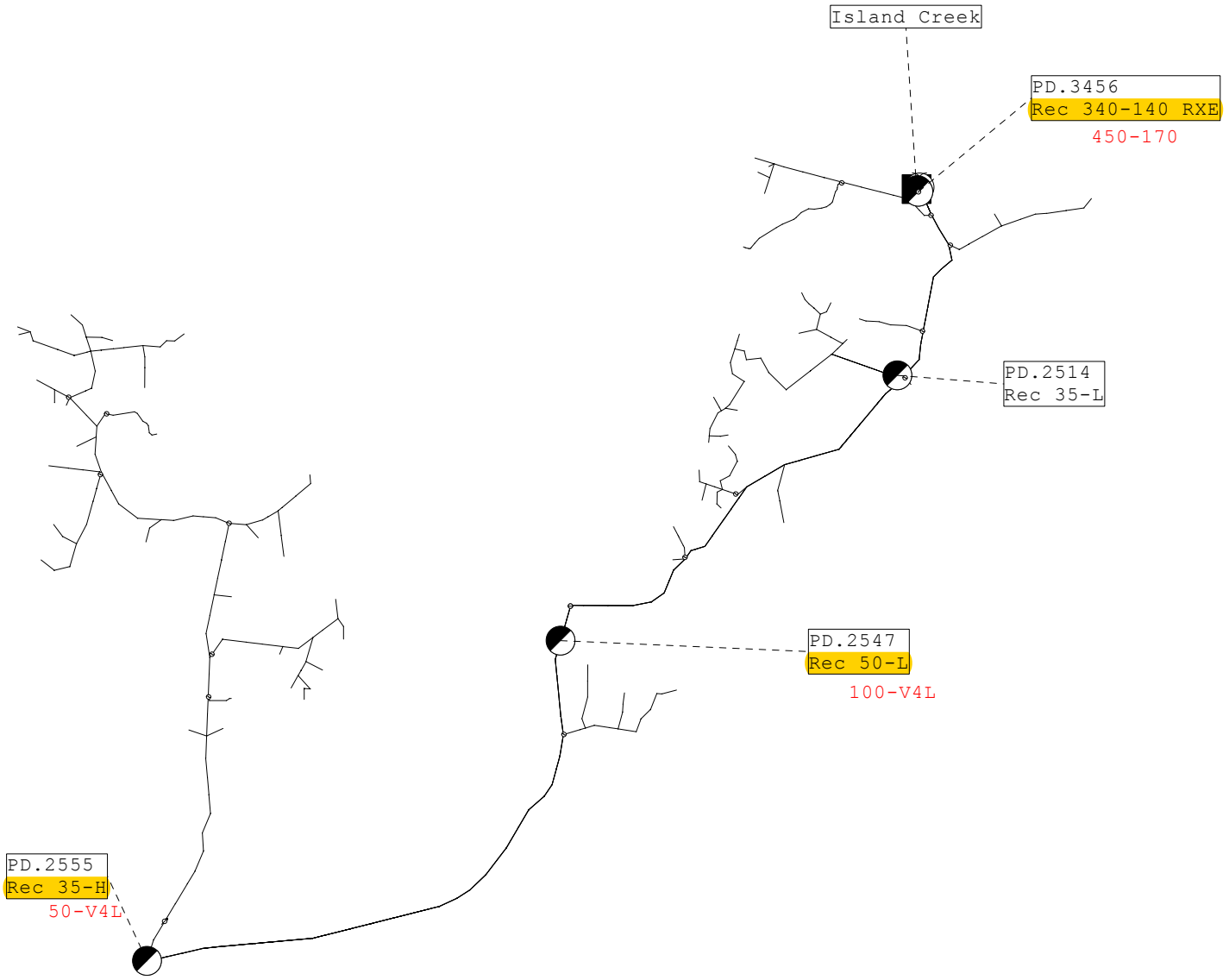
2015 Sectionalizing Study

Hickory Grove Substation
Hickory Grove

PowerServices



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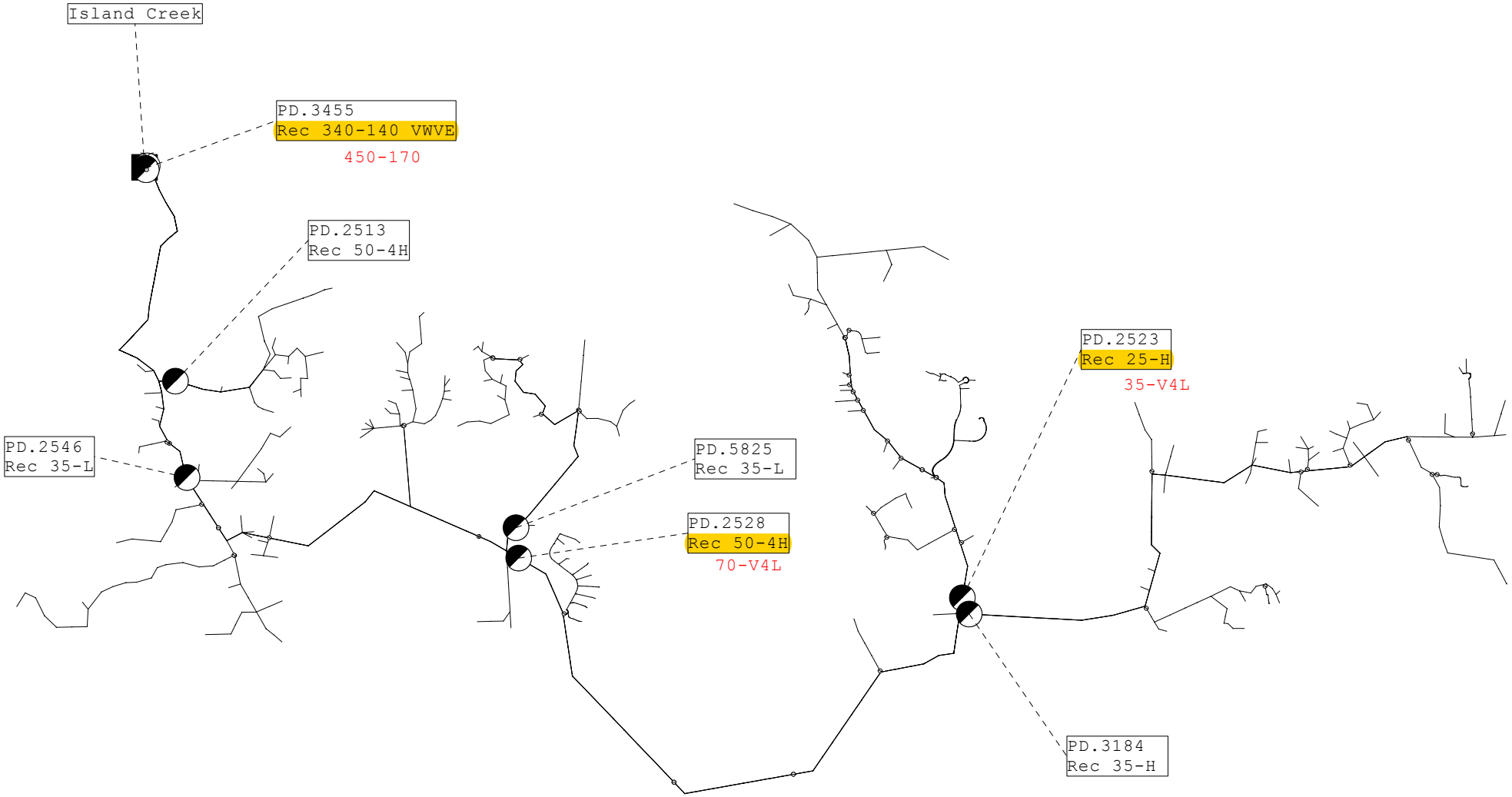
Island Creek Substation
Ceder Grove

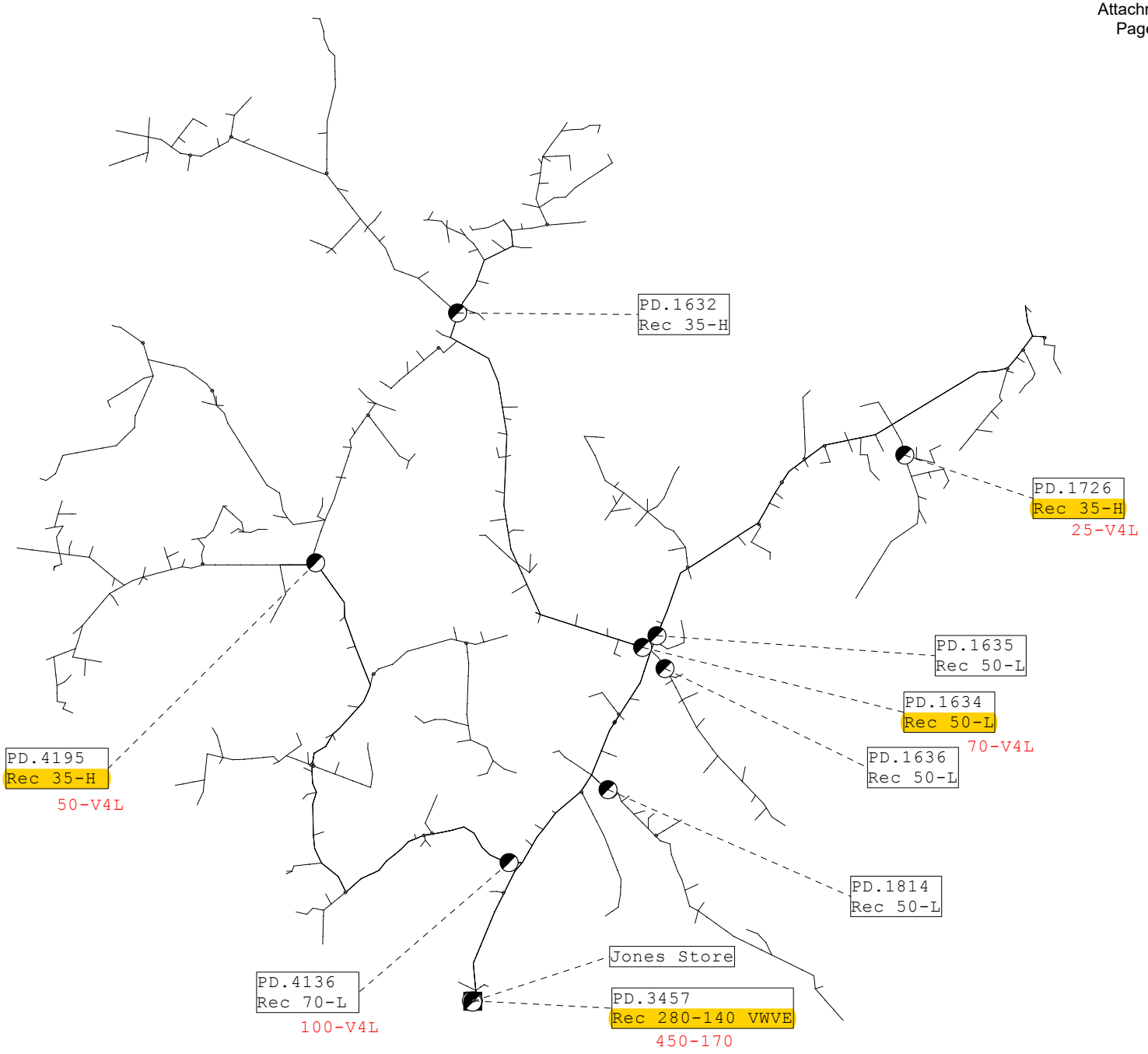
PowerServices



[redacted] n izing Study

Island Creek Substation
Ponderosa

PowerServices



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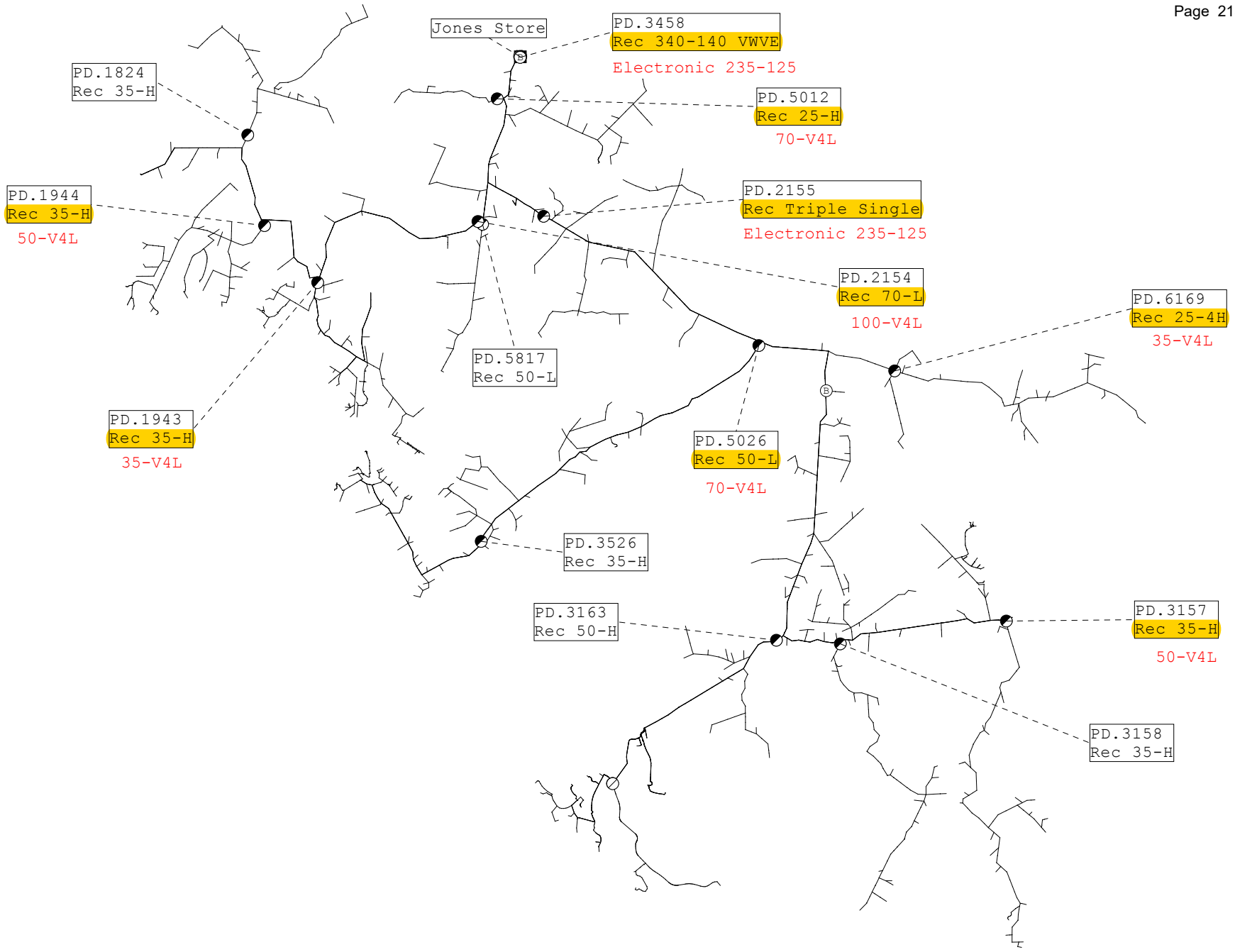
Jones' Store Substation
Chase City

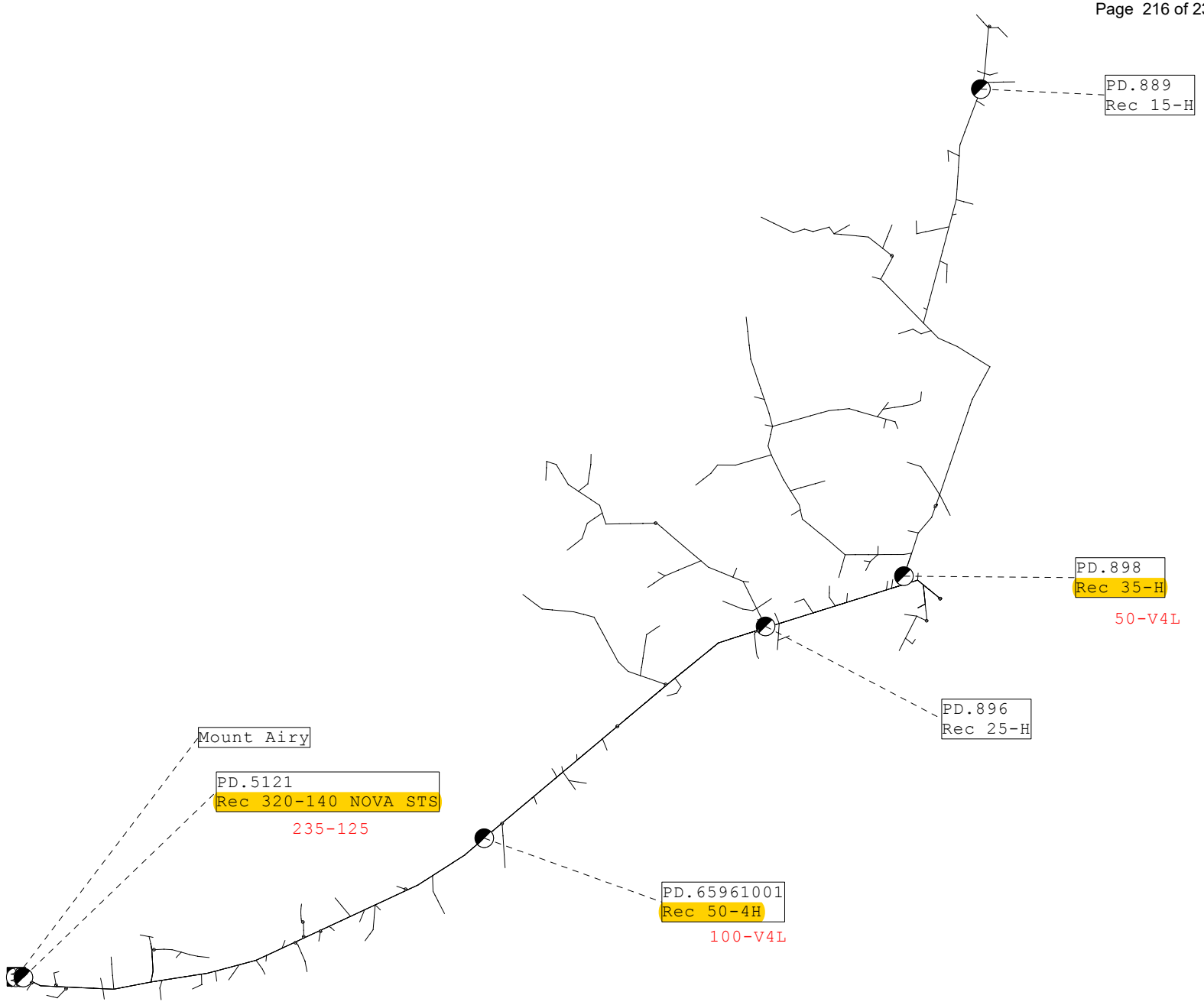
PowerServices



[redacted]
2015 Sectionalizing Study

Jones Store Substation
Finchley

PowerServices



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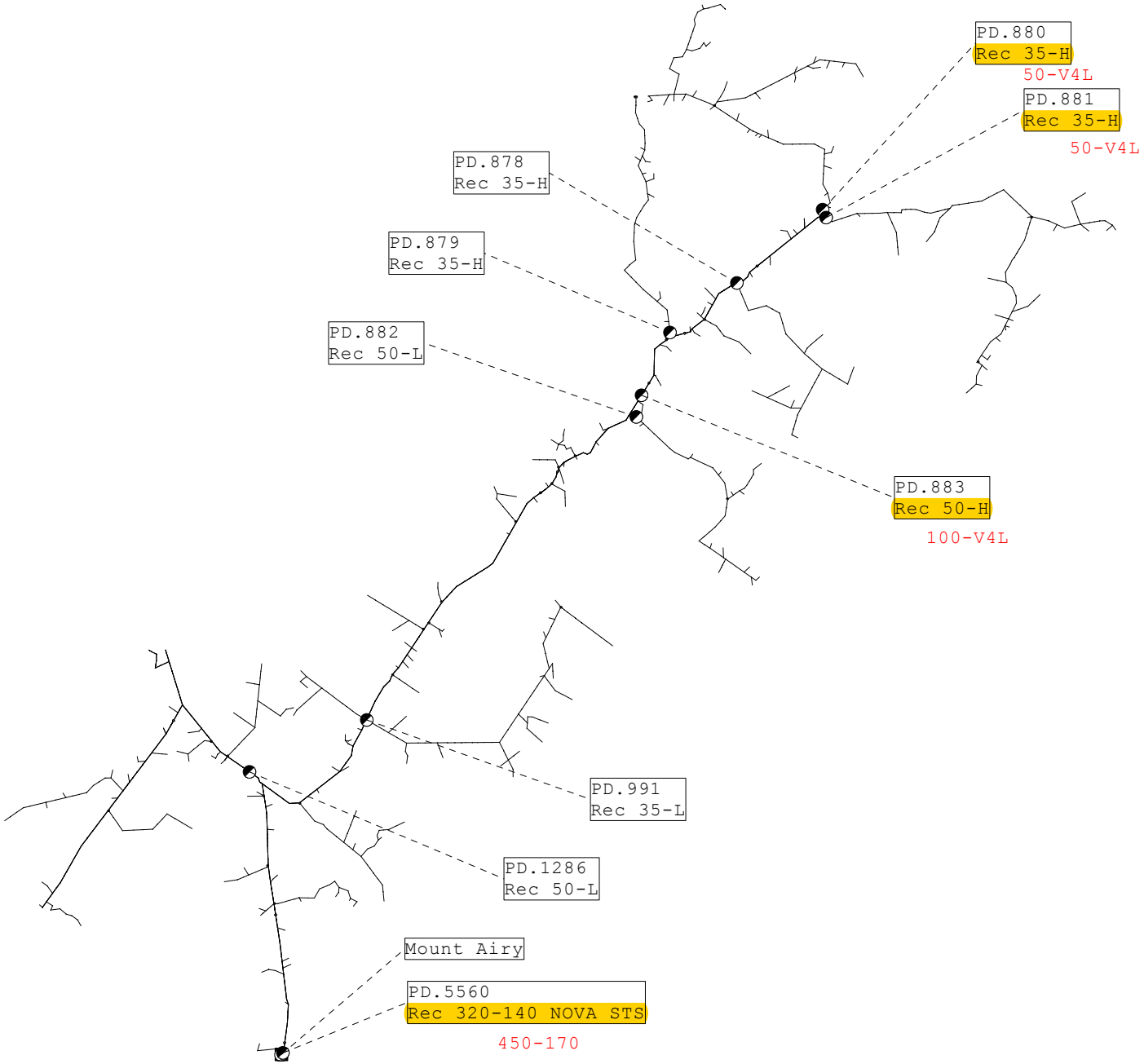
2015 Sectionalizing Study

Mount Airy Substation
40 East

PowerServices



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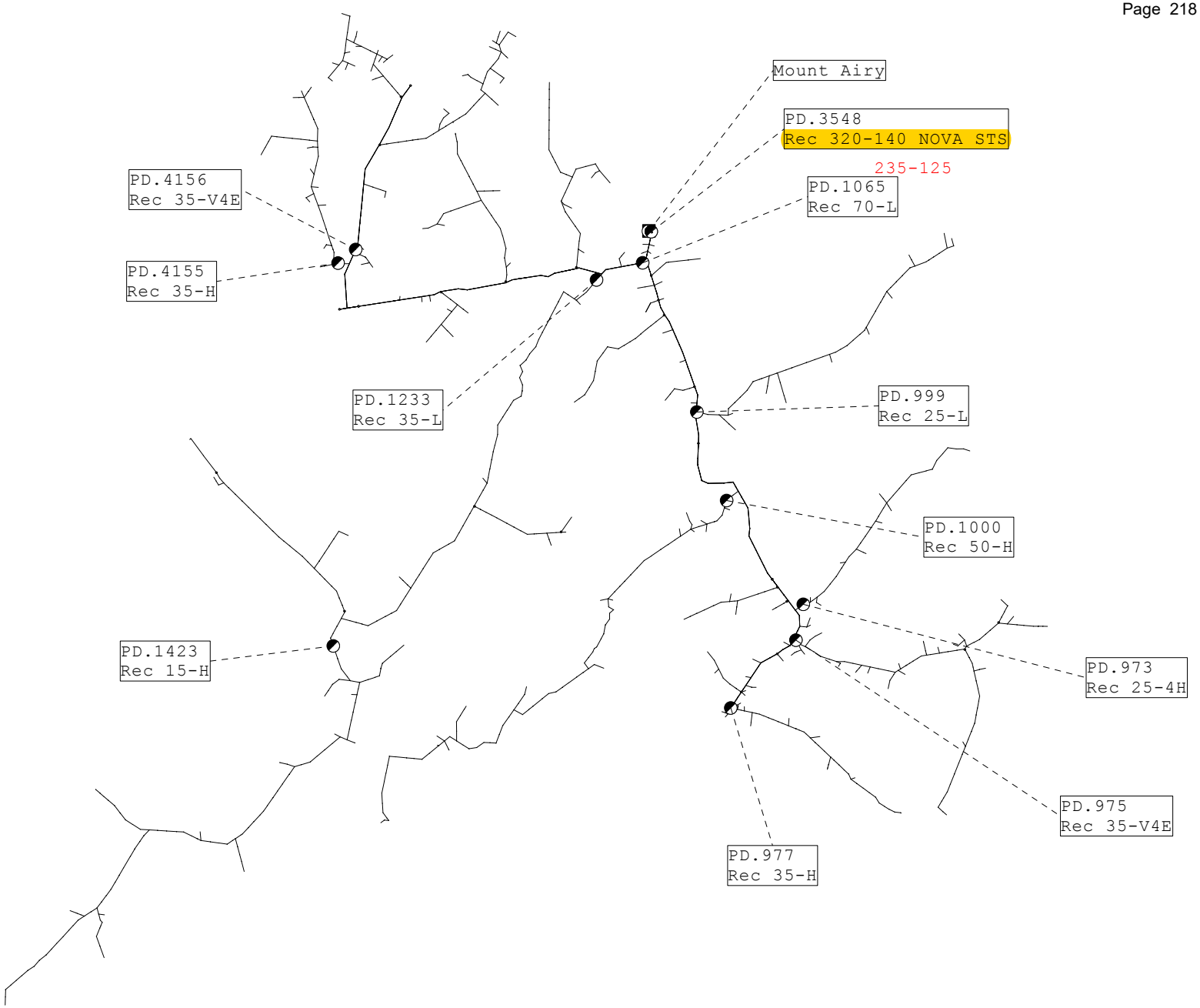
2015 Sectionalizing Study

Mount Airy Substation
Renan

PowerServices



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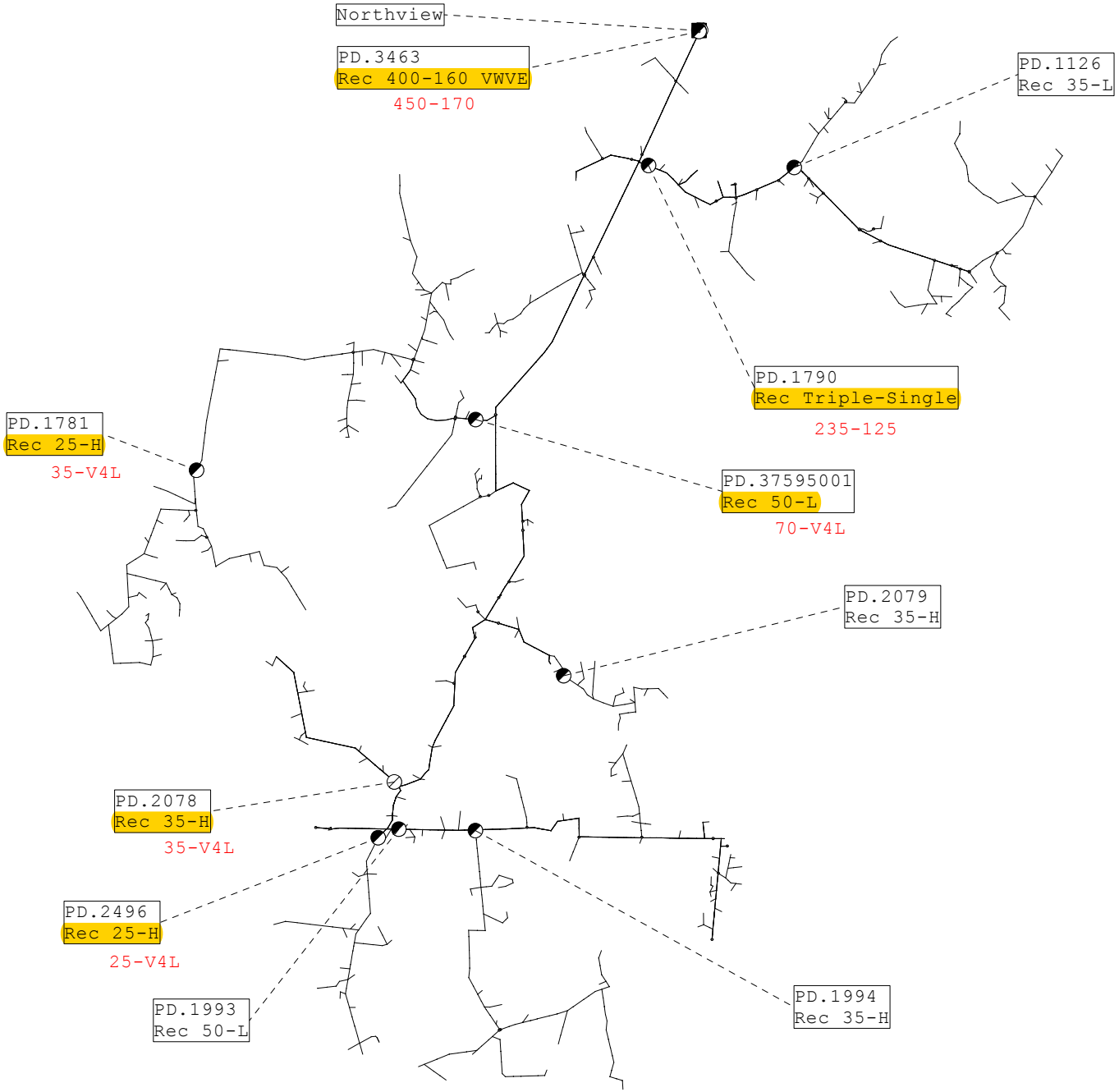
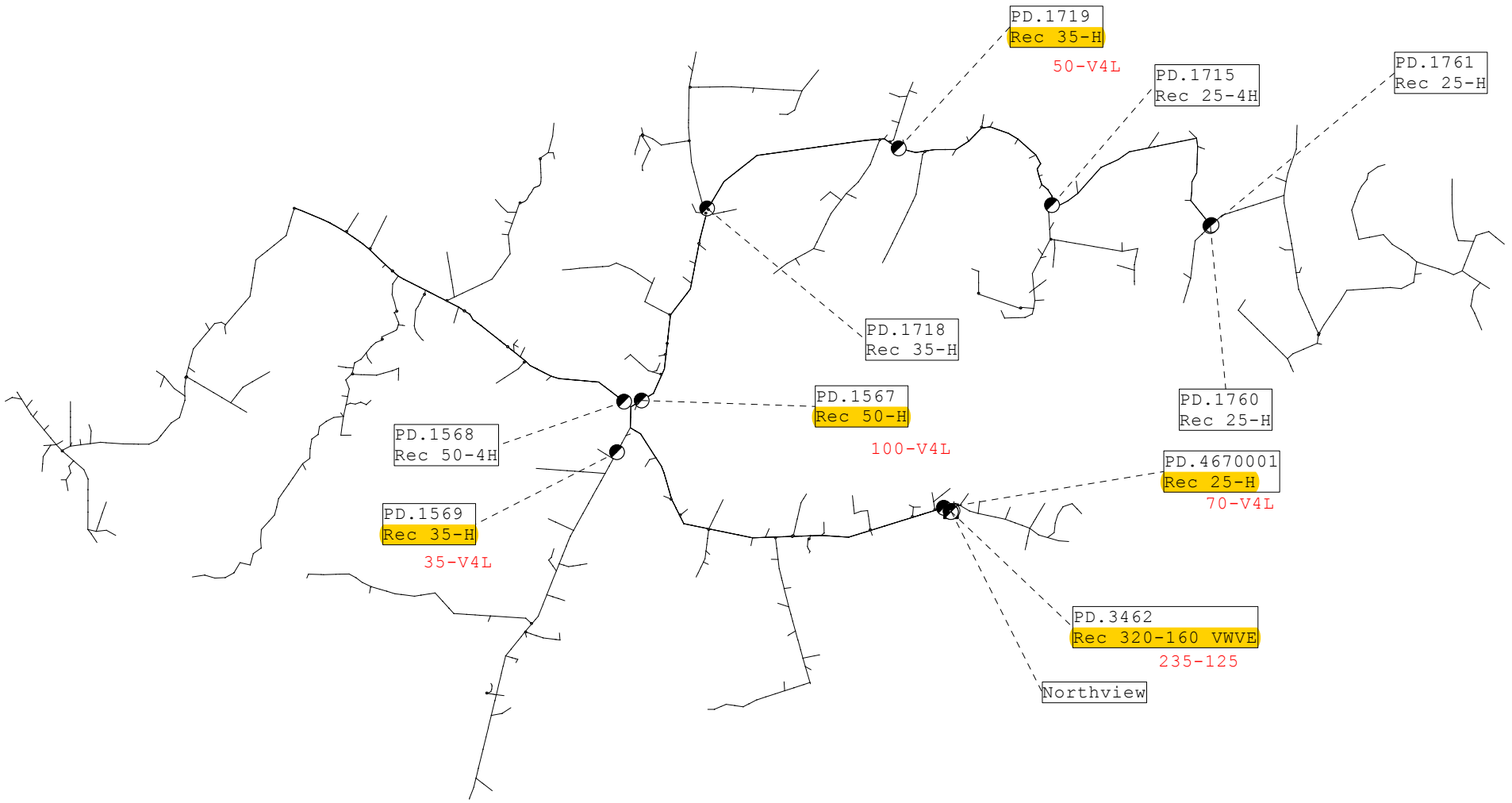
2015 Sectionalizing Study

Mount Airy Substation
Riceville

PowerServices

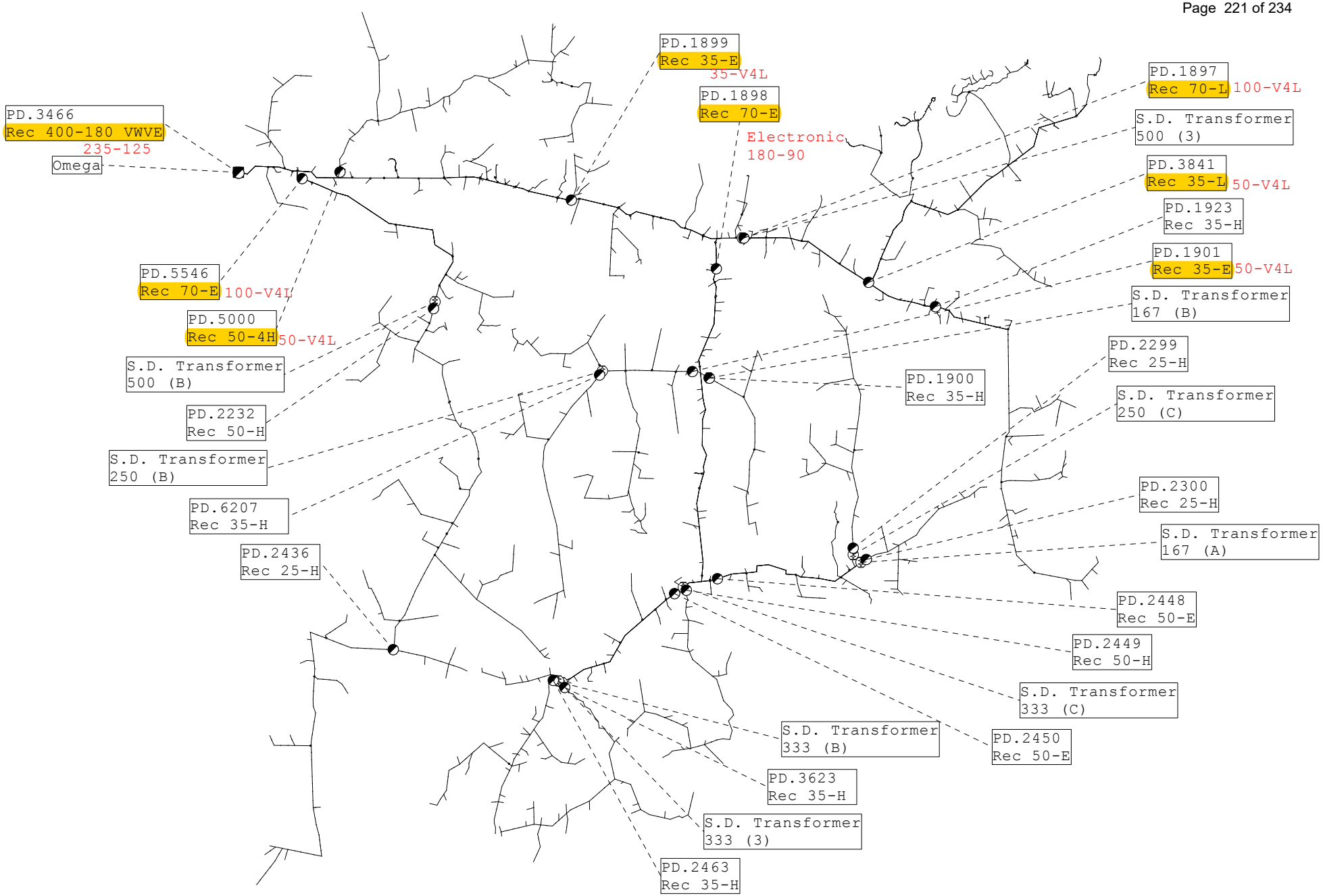

Northview
PD.3463
Rec 400-160 VWVE
450-170
PD.1126
Rec 35-L
PD.1790
Rec Triple-Single
235-125
PD.1781
Rec 25-H
35-V4L
PD.37595001
Rec 50-L
70-V4L
PD.2079
Rec 35-H
PD.2078
Rec 35-H
35-V4L
PD.2496
Rec 25-H
25-V4L
PD.1993
Rec 50-L
PD.1994
Rec 35-H

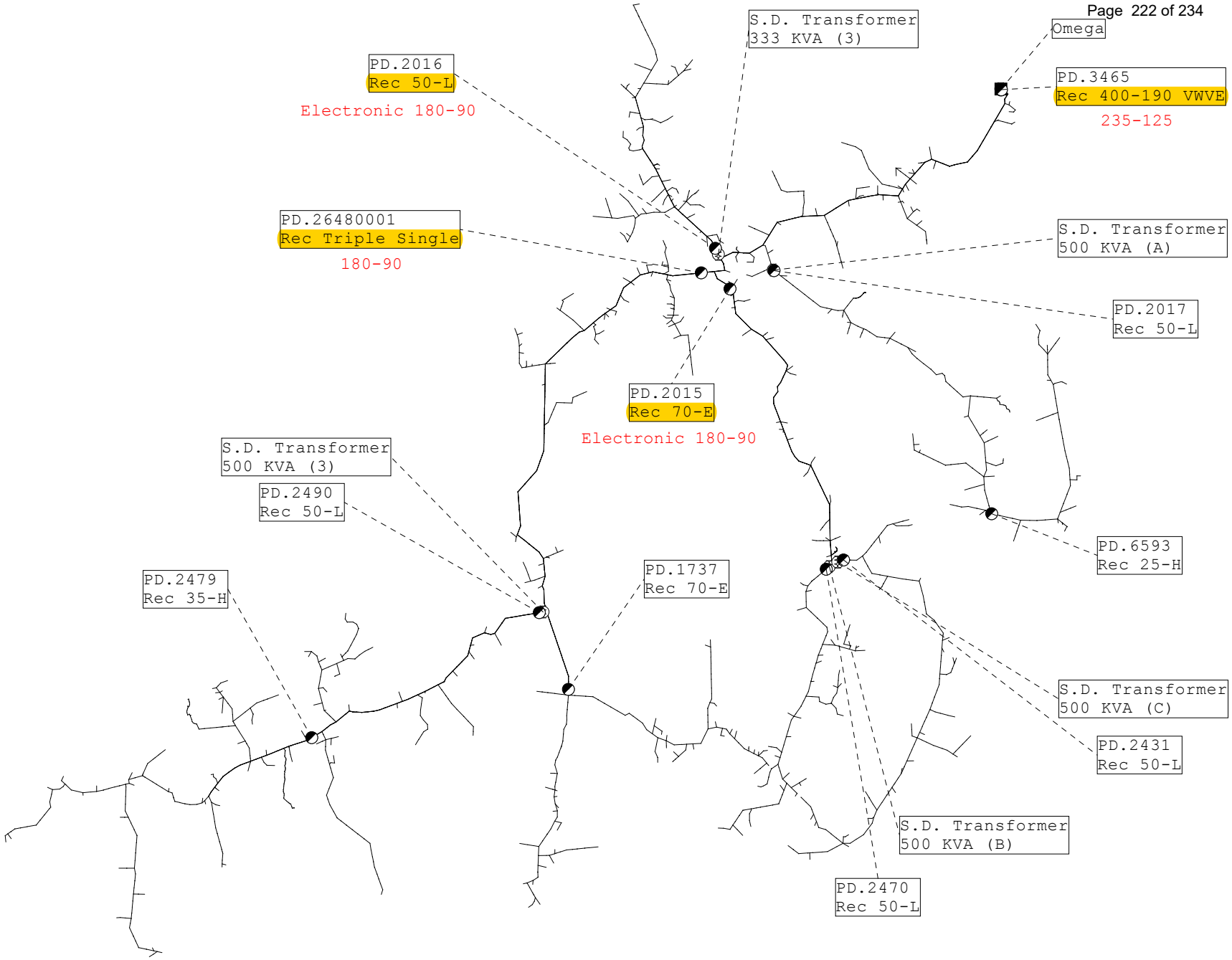


[redacted] 2015 Sectionalizing Study

Northview Substation
Union Level

PowerServices

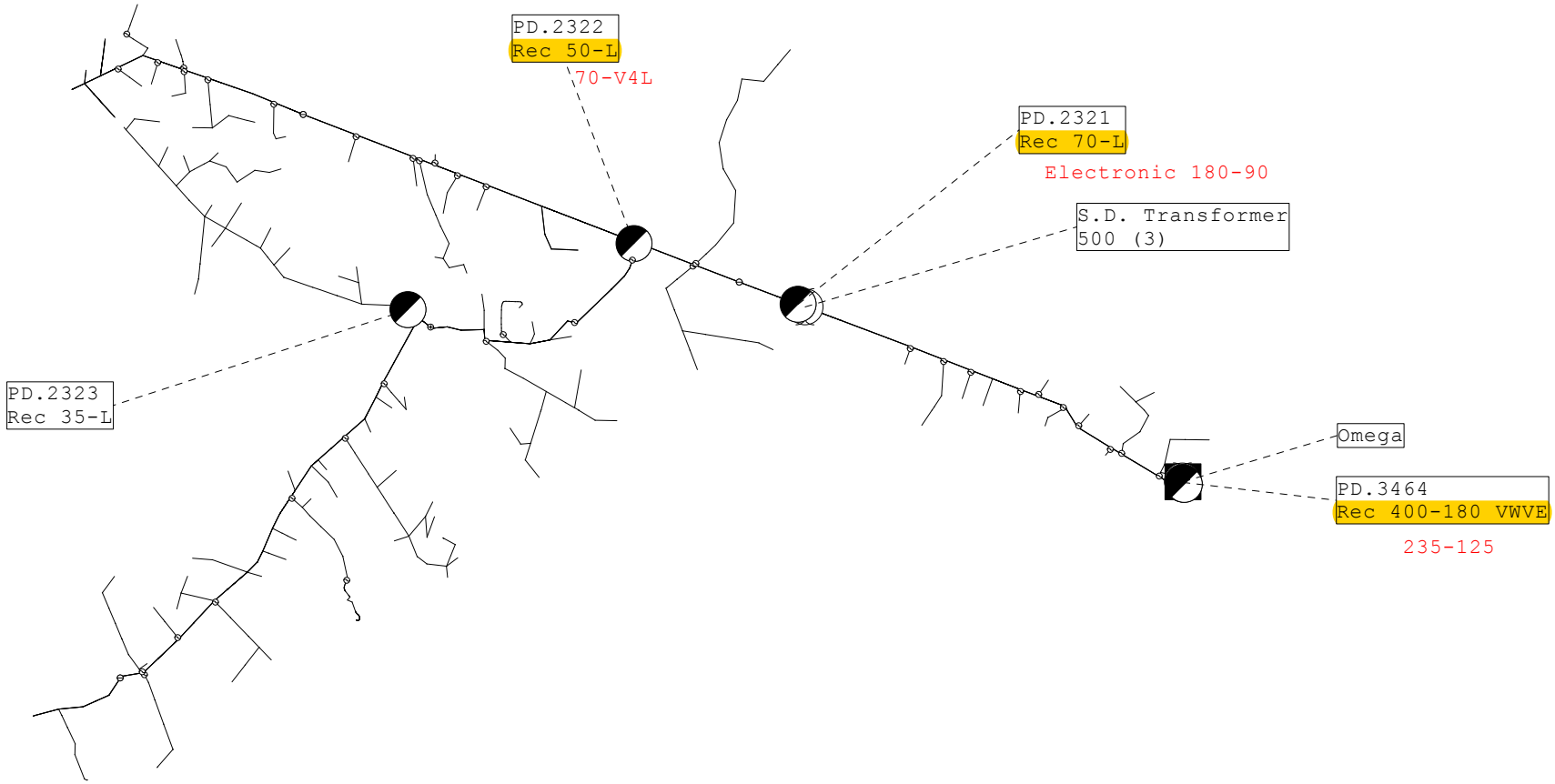

PD.3466
Rec 400-180 VWVE
235-125
Omega
PD.1899
Rec 35-E
35-V4L
PD.1898
Rec 70-E
Electronic
180-90
PD.1897
Rec 70-L 100-V4L
S.D. Transformer
500 (3)
PD.3841
Rec 35-L 50-V4L
PD.1923
Rec 35-H
PD.1901
Rec 35-E 50-V4L
S.D. Transformer
167 (B)
PD.5546
Rec 70-E 100-V4L
PD.5000
Rec 50-4H 50-V4L
S.D. Transformer
500 (B)
PD.2232
Rec 50-H
S.D. Transformer
250 (B)
PD.6207
Rec 35-H
PD.2436
Rec 25-H
PD.1900
Rec 35-H
PD.2299
Rec 25-H
S.D. Transformer
250 (C)
PD.2300
Rec 25-H
S.D. Transformer
167 (A)
PD.2448
Rec 50-E
PD.2449
Rec 50-H
S.D. Transformer
333 (C)
PD.2450
Rec 50-E
S.D. Transformer
333 (B)
PD.3623
Rec 35-H
S.D. Transformer
333 (3)
PD.2463
Rec 35-H



[redacted]
2015 Sectionalizing Study

Omega Substation
Lewis Cole

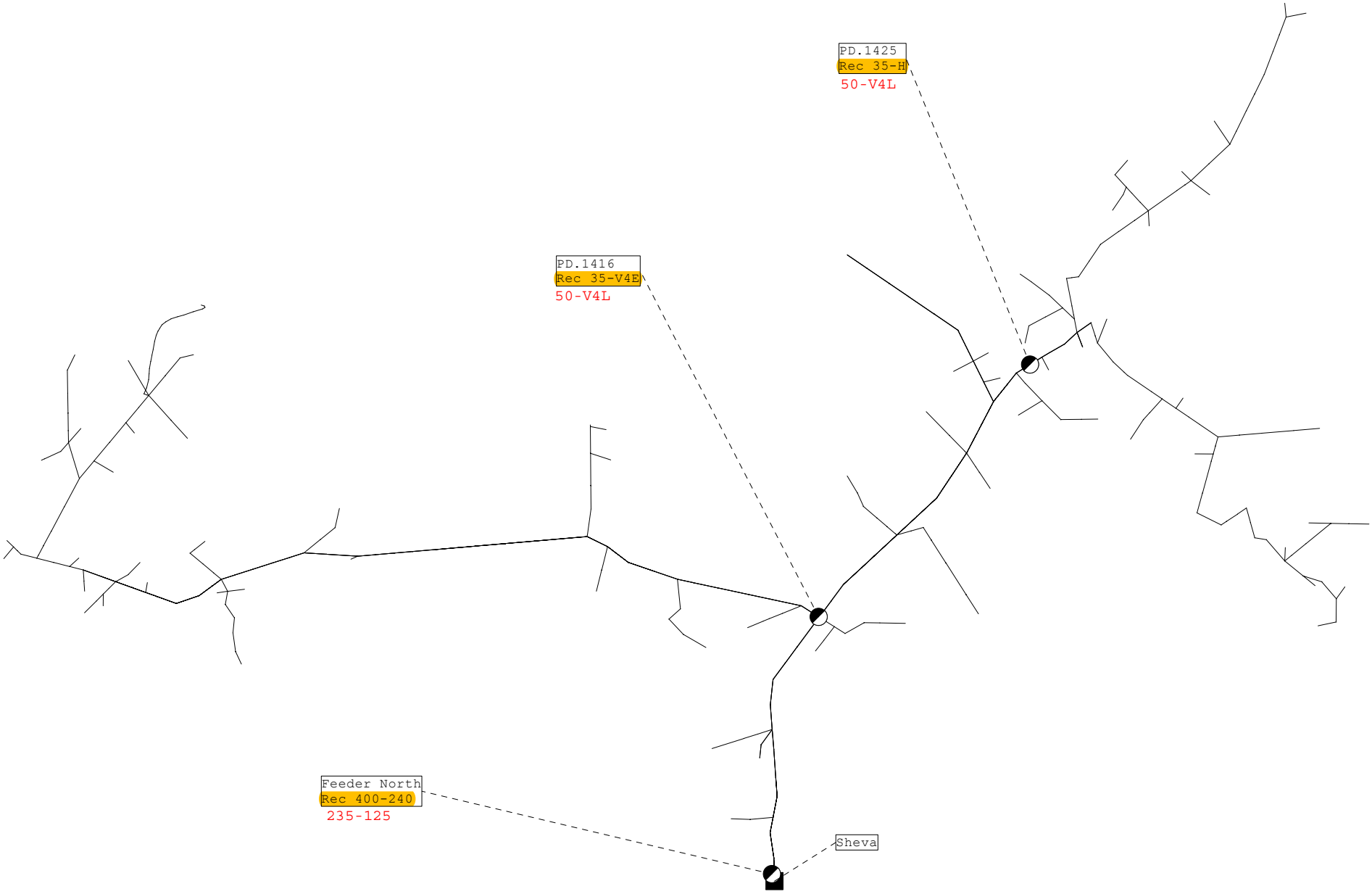
PowerServices



[redacted] 2015 Sectionalizing Study

Omega Substation
South Boston

PowerServices



[redacted] 2016 Sectionalizing Study

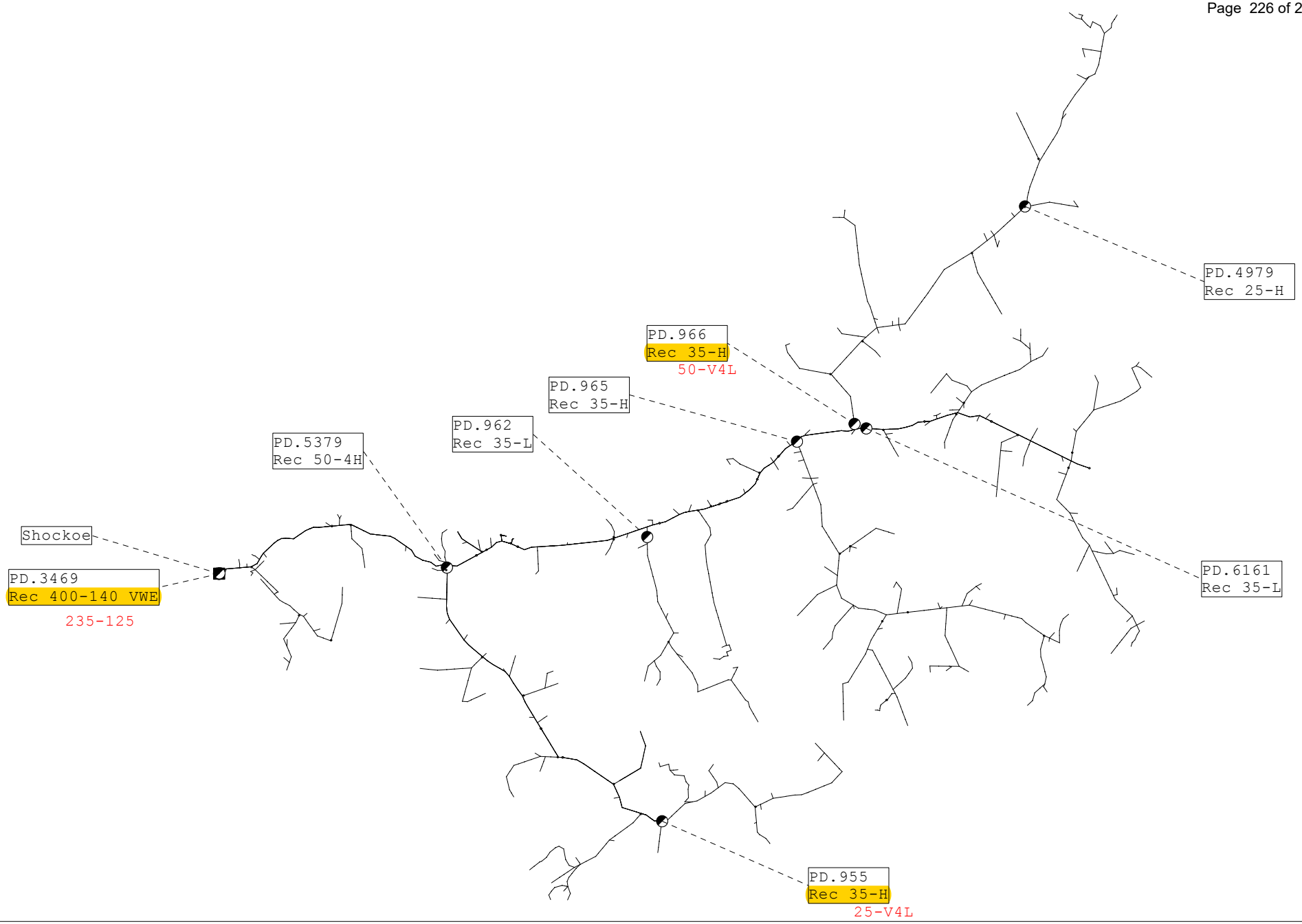
Sheva Substation
North

PowerServices

[redacted] n izing Study

Sheva Substation
South

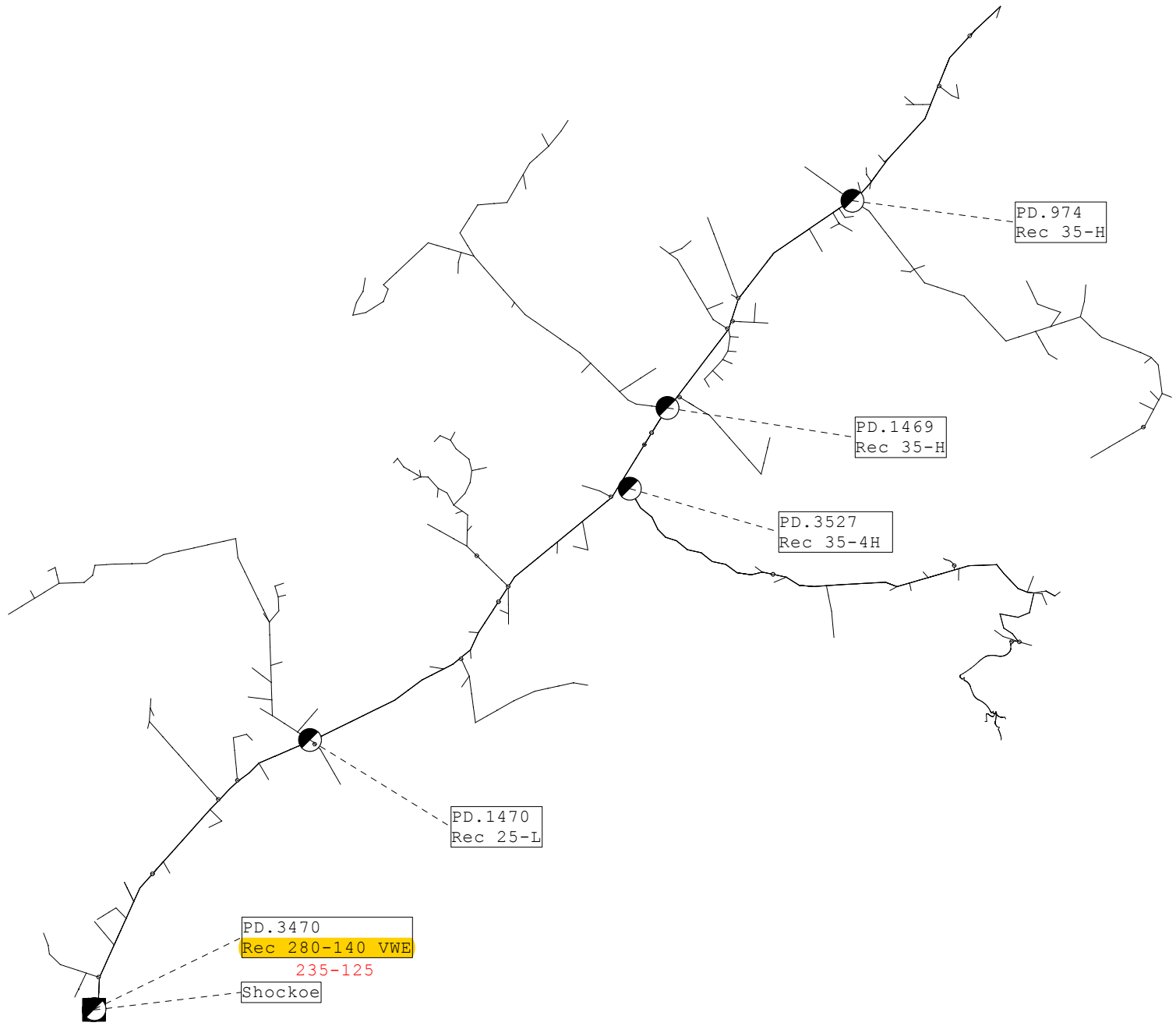
PowerServices



[redacted] n izing Study

Shockoe Substation
832 East

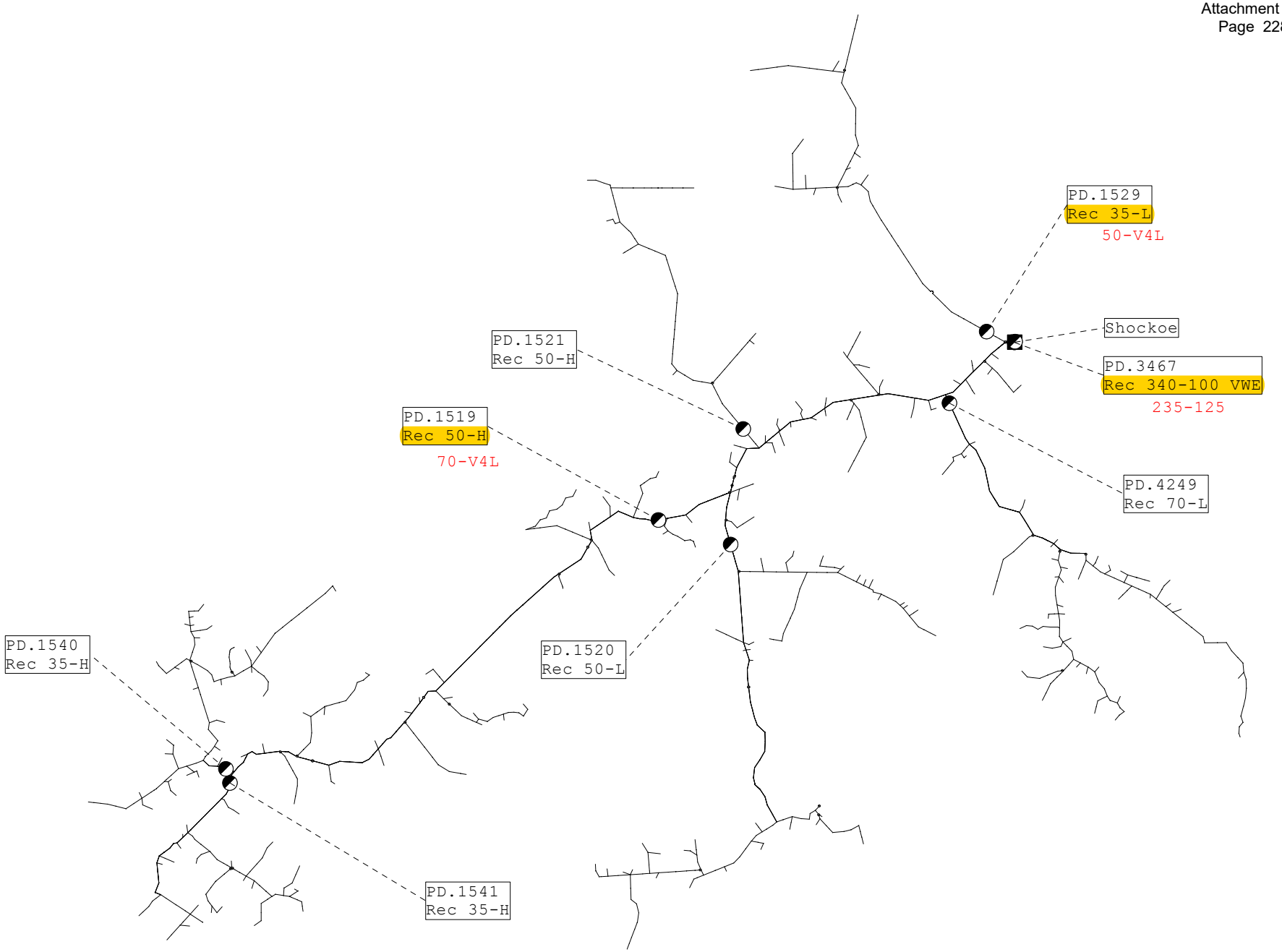
PowerServices



[redacted] n izing Study

Shockoe Substation
Java

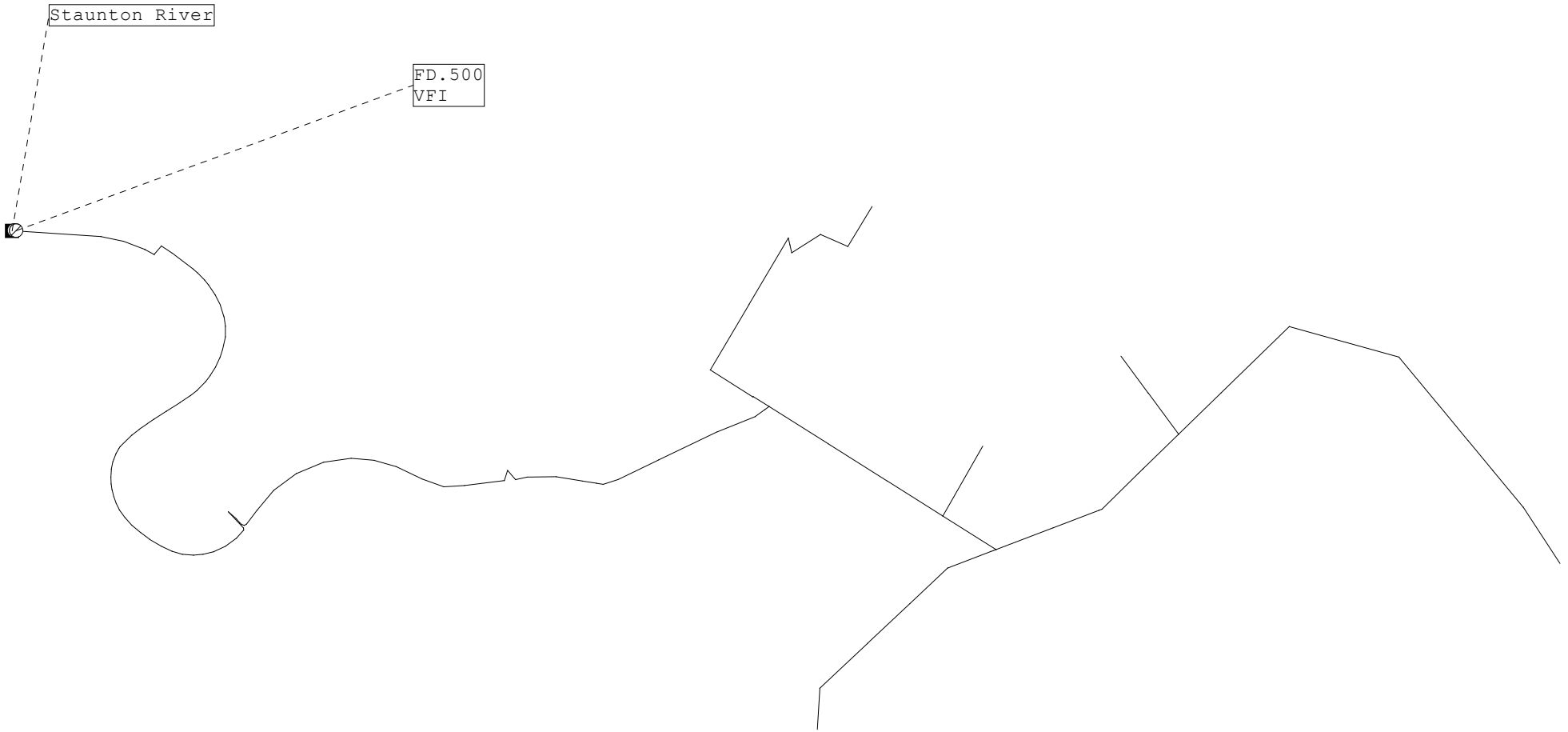
PowerServices

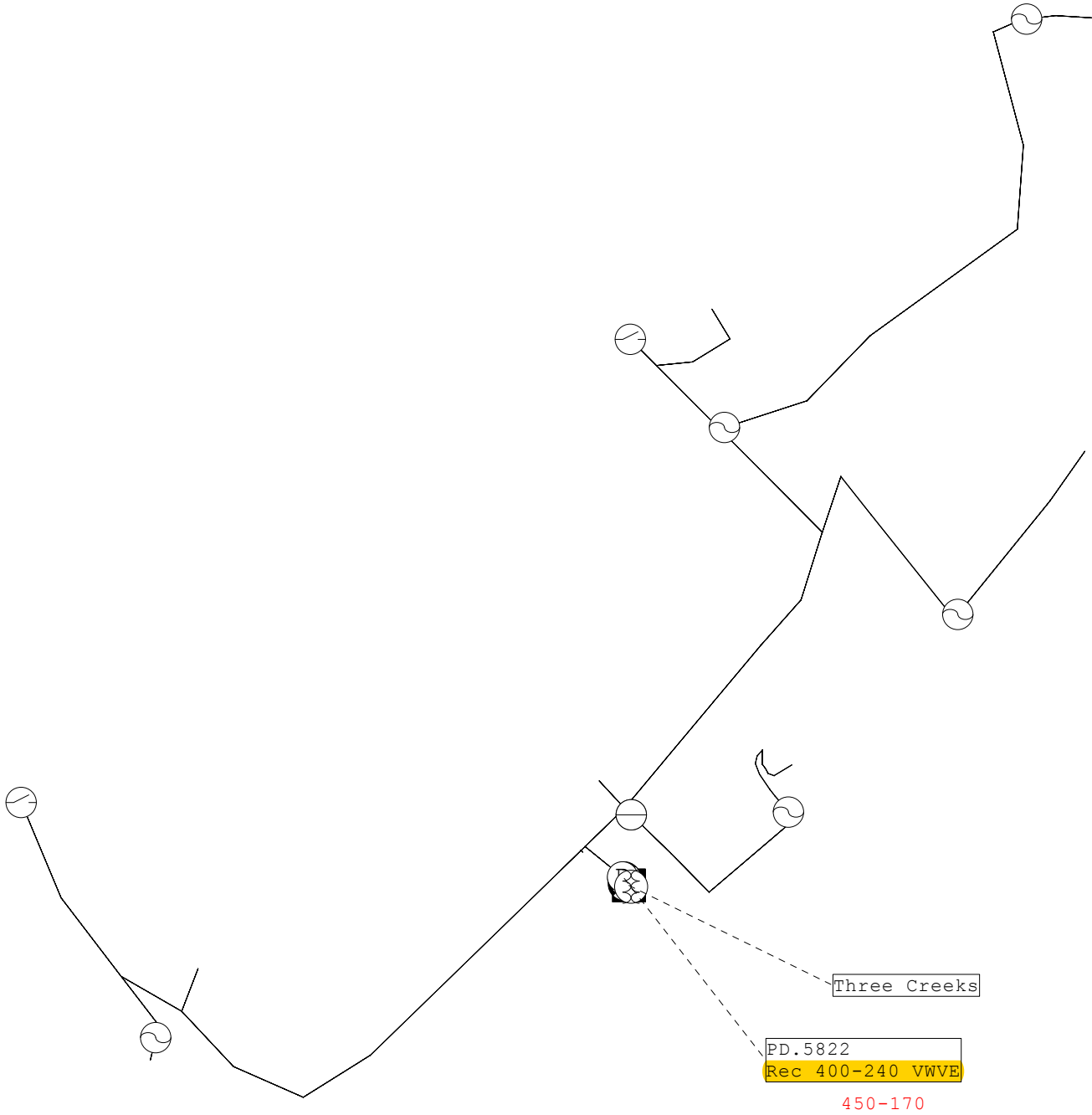


[redacted] [redacted]
2015 Sectionalizing Study

Shockoe Substation
Spring Garden

PowerServices


Staunton River
FD.500
VFI



[redacted]
2015 Sectionalizing Study

Three Creeks Substation
Industry Parkway Garden

PowerServices

SOURCE IMPEDANCE

[redacted] Substation Bus Impedances From [redacted] 01092014.txt

Transmission and Distribution Bus Impedances
01/2014 System Conditions
All impedances are in per unit @ 100 MVA and all currents are in amperes at bus KV
Revised: 01-08-2014

[redacted]

BARNES JUNCTION DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0122	0.0656	0.0368	0.1276	7524	5663

BEECHWOOD DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0261	0.0855	0.0745	0.1905	5616	3932

BELFIELD DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0149	0.0654	0.0353	0.1219	7485	5772

BLACK BRANCH DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0114	0.0610	0.0387	0.1262	8090	5890

BOYDTON DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0121	0.0709	0.0422	0.1225	6980	5527

BRINK DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0220	0.0812	0.0762	0.2094	5968	3854

BURLINGTON DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00 #1 L36	0.0082	0.0561	0.0126	0.0761	8855	7905
115.00 #2 L193	0.0114	0.0609	0.0184	0.0885	8103	7028

CLARKSVILLE DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0119	0.0615	0.0192	0.0904	8015	6919

CLIMAX DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG

[redacted] Substation Bus Impedances From [redacted] 01092014.txt

69.00	0.0156	0.1373	0.0324	0.1455	6055	5908

CRYSTAL HILL DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0047	0.0381	0.0298	0.0867	13078	8989

EBONY DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0419	0.1352	0.1168	0.3695	3547	2246

EMPORIA DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0111	0.0574	0.0272	0.0993	8587	6855

FREEMAN DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0203	0.0943	0.0508	0.1872	5205	3894

GASBURG DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
69.00	0.2111	0.5110	0.3134	0.9580	1513	1188

GRETNA DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
69.00	0.0452	0.2874	0.1898	0.6608	2876	1981

GRIT DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0151	0.0633	0.0480	0.1462	7715	5307

HICKORY GROVE DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0241	0.1066	0.1343	0.3267	4594	2643

HUBER DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0042	0.0353	0.0240	0.0730	14123	10231

JONES STORE DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0123	0.0692	0.0376	0.1476	7143	5146

[redacted]Substation Bus Impedances From [redacted]01092014.txt

KERR DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0093	0.0594	0.0298	0.1010	8350	6692

MOUNT AIRY DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
69.00	0.1152	0.5012	0.4136	1.4162	1627	1003

NORTHVIEW DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0266	0.1185	0.1227	0.3391	4134	2500

OMEGA DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
115.00	0.0100	0.0595	0.0290	0.1273	8321	5997

SHOCKOE DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
69.00	0.0663	0.3205	0.2306	0.7316	2557	1768

STAUNTON RIVER DP

BUS VOLTAGE (KV)---	R1	X1	R0	X0	I-3P	I-PG
12.50	6.4748	5.5968	6.4467	5.4995	540	541

Rhode Island Energy 1-6

Request:

Systemwide Fault Current Availability Protective Device Coordination Study
For any utilities known by the Division or its consultants to have completed a systemwide fault current availability protective device coordination study, please provide the timing of when such a study was done, the square mile territory the study examined, number of distribution circuits within that area, customer base size within that area, and other relevant supply and system characteristics. And, if permissible, please provide utility name and contact information.

Response:

The Division's Consultant has performed hundreds of these studies and reviewed many others completed by utilities. The Division's Consultant began preparing fault current, sectionalizing and protective coordination studies for electric utilities in the early 1970s. He began testifying in courts and at regulatory commissions in 1976, including on reliability, protective coordination and system sectionalizing. The consultant has also taught courses on protective coordination to utility groups and attended courses on protective coordination presented by Westinghouse Electric Corporation, ABB, Cooper Power Systems and others, such as presented by Georgia Tech. Therefore, the following list of utilities is representative of these utility studies and not intended to be inclusive of every utility study completed or reviewed by the Division's Consultant. Additionally, the Division's Consultant prepared these studies for some of the listed utilities on more than one occasion over the course of his 55-year career. Most of the studies were completed for utilities serving geographic areas as large and larger than the state of Rhode Island. The Division's Consultant knows that the roughly 900 plus electric cooperatives in the United States have been performing systemwide sectionalizing and protective coordination studies in compliance with the standards of the Rural Utilities Service (formerly Rural Electrification Administration) since the 1960s on a regular and routine basis every 5 to 10 years. These requirements have been in place for decades and enforced by RUS and as part of the construction work plan and loan application process. It is not unusual for electric cooperatives to serve much larger geographic areas than the state of Rhode Island, and electric cooperatives have even acquired investor-owned utility territories in some states. While in 1949 when they were being originally formed they were small and considered unsophisticated; today they are among some of the most sophisticated utilities in the country and are serving large metropolitan areas and wide areas of very large and rapidly growing states. In many of the hundreds of litigated matters for which the Division's Consultant has testified, protective coordination studies were considered the standard of care. *Attachment RIE 1-6 Div Response* is a partial representative list of the utilities known to the Division's Consultant.

Prepared by or under the supervision of: Gregory L. Booth, PE

Gregory L. Booth, PE
Protective Coordination Study Experience

Partial List of Historical Electric Utility Clients - Protective Coordination Study Prepared

An asterisk in the State column represents a utility with a service territory larger than Rhode Island Energy.

	Client Name	City	State	Approx. Territory Area (Sq. Mi.)
1.	A&N Electric Cooperative	Parksley	VA*	560
2.	Adams Electric Cooperative	Gettysburg	PA*	
3.	Albemarle Electric Membership Corporation	Hertford	NC*	
4.	Apex, Town of	Apex	NC	
5.	Ayden, Town of	Ayden	NC	4
6.	BARC Electric Cooperative	Millboro	VA*	1,650
7.	Bennettsville, City of	Bennettsville	SC	
8.	Blue Ridge Electric Cooperative	Pickens	SC*	
9.	Blue Ridge Electric Membership Corporation	Lenoir	NC*	
10.	Brunswick Electric Membership Corporation	Shallotte	NC*	
11.	Cape Hatteras Electric Membership Corporation	Buxton	NC	
12.	Carteret Craven Electric Cooperative	Morehead City	NC*	
13.	Central Electric Cooperative, Inc.	Parker	PA	
14.	Central Electric Membership Corporation	Sanford	NC	
15.	Central Virginia Electric Cooperative	Lovingston	VA*	
16.	Claverack Rural Electric Cooperative	Wysox	PA*	
17.	Clayton, Town of	Clayton	NC	
18.	Community Electric Cooperative	Windsor	VA	
19.	Craig-Botetourt Electric Cooperative	New Castle	VA	4,000
20.	C&T Enterprises		PA*	
21.	Danville, City of	Danville	VA	
22.	Davidson Water Cooperative	Welcome	NC	
23.	Delaware County Electric Cooperative	Delhi	NY	
24.	Delaware Electric Cooperative	Greenwood	DE	1,075
25.	Edgecombe Martin County Electric Membership Corp.	Tarboro	NC	
26.	EnergyUnited	Statesville	NC*	
27.	Farmville, Town of	Farmville	NC	3
28.	Four County Electric Membership Corporation	Burgaw	NC*	
29.	Fox Islands Electric Cooperative	Vinalhaven	ME	
30.	French Broad Electric Membership Corporation	Marshall	NC*	
31.	Georgia Power	Union City	GA*	
32.	Greenville Utilities	Greenville	NC	
33.	Greer, SC Comm. Of Public Works	Greer	SC	
34.	Halifax Electric Membership Corporation	Enfield	NC	

	Client Name	City	State	Approx. Territory Area (Sq. Mi.)
35.	Harkers Island Electric Membership Corporation	Harkers Island	NC	
36.	Haywood Electric Membership Corporation	Waynesville	NC	
37.	Joe Wheeler Electric Membership Corporation	Trinity	AL*	
38.	Jones-Onslow Electric Membership Corporation	Jacksonville	NC*	
39.	Kinston, City of	Kinston	NC	18
40.	Lewes, DE Board of Public Works	Lewes	DE	
41.	Louisburg, Town of	Louisburg	NC	
42.	Mecklenburg Electric Cooperative	Chase City	VA*	1,650
43.	New Bern, City of	New Bern	NC	30
44.	Northern Neck Electric Cooperative	Warsaw	VA	
45.	Northern Virginia Electric Cooperative	Gainesville	VA*	
46.	Northwestern Rural Electric Cooperative Association	Cambridge Springs	PA*	1,800
47.	Otsego Electric Cooperative	Hartwick	NY	
48.	Piedmont Electric Membership Corporation	Hillsborough	NC	600
49.	Pitt & Greene Electric Membership Corporation	Farmville	NC	
50.	Prince George Electric Cooperative	Waverly	VA	
51.	PWC of the City of Fayetteville	Fayetteville	NC	150
52.	Rappahannock Electric Cooperative	Fredericksburg	VA*	
53.	Rocky Mount, City of	Rocky Mount	NC	45
54.	Sandhills Utility Services, LLC	Red Springs	NC	
55.	Shenandoah Valley Electric Cooperative	Mt. Crawford	VA*	
56.	SMECO	Hughesville	MD*	
57.	Smithfield, Town of	Smithfield	NC	
58.	Somerset Rural Electric Cooperative	Somerset	PA	1,100
59.	South River Electric Membership Corporation	Dunn	NC	
60.	Southern Maryland Electric Cooperative	Hughesville	MD	
61.	Southport, City of	Southport	NC	
62.	Southside Electric Cooperative	Crewe	VA	8,500
63.	Steuben Rural Electric Cooperative	Bath	NY	
64.	Sussex Rural Electric Cooperative	Sussex	NJ	90
65.	Talquin Electric Cooperative, Inc.	Quincy	FL	
66.	Tarboro, Town of	Tarboro	NC	
67.	Tri-County Rural Electric Cooperative	Mansfield	PA*	5,000
68.	United Electric Cooperative	DuBois	PA	
69.	Valley Rural Electric Cooperative	Huntington	PA	
70.	Wake Electric Membership Corporation	Wake Forest	NC*	
71.	Wake Forest, Town of	Wake Forest	NC	15
72.	Washington, City of	Washington	NC	
73.	Wellsboro Electric Company	Wellsboro	PA	200

Partial List Electrical Utility Clients -Reviewed Protective Coordination Study as Part of Litigated Matter

	Client Name	City	State
1.	Alabama Power Company (a Southern Company)	Birmingham	AL
2.	Carolina Power & Light (Now Duke Energy)	Raleigh	NC
3.	Delmarva Power (an Exelon Company)	Wilmington	DE
4.	Duke Energy *(among the largest electric utilities in U.S.)*	Charlotte	NC
5.	Emera	Bangor	ME
6.	Centerpoint	Houston	TX
7.	Eversource	Hartford	CT
8.	First Energy	Akron	OH
9.	Georgia Power (a Southern Company)	Atlanta	GA
10.	Kansas City Power & Light	Kansas City	MO
11.	Madison Gas & Electric	Madison	WI
12.	Ohio Edison (A FirstEnergy Company)	Akron	OH
13.	Pacific Gas & Electric	San Francisco	CA
14.	Potomac Electric Power Company (an Exelon Company)	Washington	DC
15.	Progress Energy (now Duke Energy)	Raleigh	NC
16.	WE Energies	Milwaukee	WI
17.	Westar	Kansas City	MO

Rhode Island Energy 1-7

Request:

Systemwide Fault Current Availability Protective Device Coordination Study
What additional information would a systemwide fault current availability protective device coordination study provide over what the Company does as explained in response to Division 1-23 for purposes of identifying recloser locations?

Response:

The response to Division 1-23 fell short of meeting any systemwide or even individual feeder protective coordination study parameters. The deficiencies are significant and should be addressed by applying parameters outlined in protective coordination courses and IEEE standards. These courses and associated manuals are offered by companies such as Cooper Power Systems, and provide excellent criteria to be considered when performing a study. The following is a partial list of the important elements that were missing from the RIE information provided:

a) The protective coordination guidelines and philosophy including, but is not limited to, coordination schemes, high impedance relay analysis and application philosophy, fuse protection scheme (fuse save or fuse sacrifice), and all other device philosophies and equipment type applications (such as reclosers, Cooper 6C or other controls or SEL relay types, maximum and minimum fuse application, and others).
b) System CYME model, including power flow data and loading.
c) CYME model with maximum and minimum fault currents, including three-phase, line to line and ground fault with and without added fault impedance (such as 30 or 40 ohm rule).
d) System feeder maps from CYME model showing location of proposed device changes.
e) Existing system feeder maps with all existing devices located.
f) Types of devices and settings for devices at each existing location, and the time current coordination curve for each of these devices.
g) Proposed time current characteristic curves including transformer damage curves, available fault current, devices protecting high side of substation equipment, substation bus, substation low side equipment and at each device on each distribution feeder circuit.
h) Historical fault data for each feeder.
i) Peak load data and projected peak load data imposed on each protective device, both existing and proposed.
j) Source impedance at each transmission delivery point and substation high side.
k) Fault current data minimum and maximum imposed on each existing and proposed protective device.

Prepared by or under the supervision of: Gregory L. Booth, PE

Rhode Island Energy 1-8

Request:

Systemwide Fault Current Availability Protective Device Coordination Study
What would be the Division's expectations in terms of how much a systemwide fault current availability protective device coordination study would cost for the Company to perform and how long it would take to complete?

Response:

If performed by an experienced engineering firm or internal personnel, and with RIE's timely compilation and delivery of requisite data, the Division would expect a systemwide protective coordination study would take approximately three to six months to complete at a cost of between $50,000 and $100,000.

Prepared by or under the supervision of: Gregory L. Booth, PE

Rhode Island Energy 1-9
Page 1 of 2

Request:

Systemwide Fault Current Availability Protective Device Coordination Study
What is the Division's consultant's experience with microprocessor protective device relays? Please explain how capabilities of a microprocessor relay change coordination study analysis?

Response:

The Division's Consultant has been performing studies, applying microprocessor-based relays, and performing the field installation and testing of relays for decades. Throughout his career, he has prepared protective coordination studies, designed relay applications and schemes in substations and on circuits, installed relays, and tested relays including entire substation relay schemes. He was also responsible for the relay design, installation and testing group at three consulting firms providing these services to hundreds of electric utilities. His designs have included automatic transfer schemes and self-healing (FLISR) circuit designs and installations.

He began preparing fault current, sectionalizing and protective coordination studies for electric utilities in the early 1970s. He began testifying in courts and at regulatory commissions in 1976. Therefore, the following list of utilities is representative of the utility studies and not intended to include every utility. Additionally, he prepared these studies for some of these utilities on more than one occasion, and some multiple times over the course of providing consulting services for over 55 years to some of these utilities. The Division's Consultant has designed, installed, managed installation, tested and managed testing, and completed inspections and full assessment of designs of microprocessor relay schemes, including for new substations (transmission to transmission and transmission to distribution) for his entire 55 plus year career on projects through 2019.

The Division's Consultant was applying microprocessor relays from the outset of these relays becoming available including, but not limited to, Westinghouse, General Electric, Cooper Power Systems, Eaton Corporation, Basler, Schweitzer Electric Laboratories (SEL), Siemens, and others. These have included overcurrent relays, high impedance fault detection relays, transformer relays, differential relays, and distribution and transmission relaying up to and including 230,000-volt systems. The coordination study analysis does not change with the application of microprocessor relays. Microprocessor relaying allows for a significantly greater diversity in settings and coordination options, including application of high impedance fault detection for tree wire and other applications. The microprocessor relay affords a nearly infinite array of time current coordination curves and coordination options which are not available with electromechanical relays, hydraulic circuit reclosers and even many of the earlier vintages of electronic reclosers.

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Response (Continued):

These relays afford a large array of setting options, such as the capability that when a device is set on non-reclose for hot line work it will automatically select alternative settings with lower current pickup levels and faster speeds to enhance arc flash protection for line workers. Microprocessor relays can enhance both fuse save and fuse sacrifice schemes, and allow for much more sophisticated coordination between upstream and downstream protection devices. It is even possible with microprocessor relays to have different devices inform each other. Furthermore, these relays can provide an increased level of load data and create event recordings which allow for more sophisticated analysis after the fact of fault events. They can only be applied properly after the completion of a detailed protective coordination study.

Prepared by or under the supervision of: Gregory L. Booth, PE

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Request:

Systemwide Fault Current Availability Protective Device Coordination Study
Consider a distribution feeder having the configuration detailed in the diagram below. Assume there are 3000 customers evenly distributed on the 3 mainline branches. Five feeder circuit breaker lockouts involving outages to all 3000 customers are attributable to system faults that occur at the locations identified and are due to a mix of root causes (tree contact, motor vehicle accidents, equipment deterioration, etc.).

(i) With the information provided, could the Division's consultant propose a location for a pole top sectionalizing recloser that would reduce the number of customers interrupted in the event of future faults at similar locations?

(ii) If no location can be appropriately identified, please provide the additional data required to justify the need for a sectionalizing recloser and to determine its appropriate placement. For each additional data set required, please detail the incremental value realized in considering such data.

[See next page for diagram]

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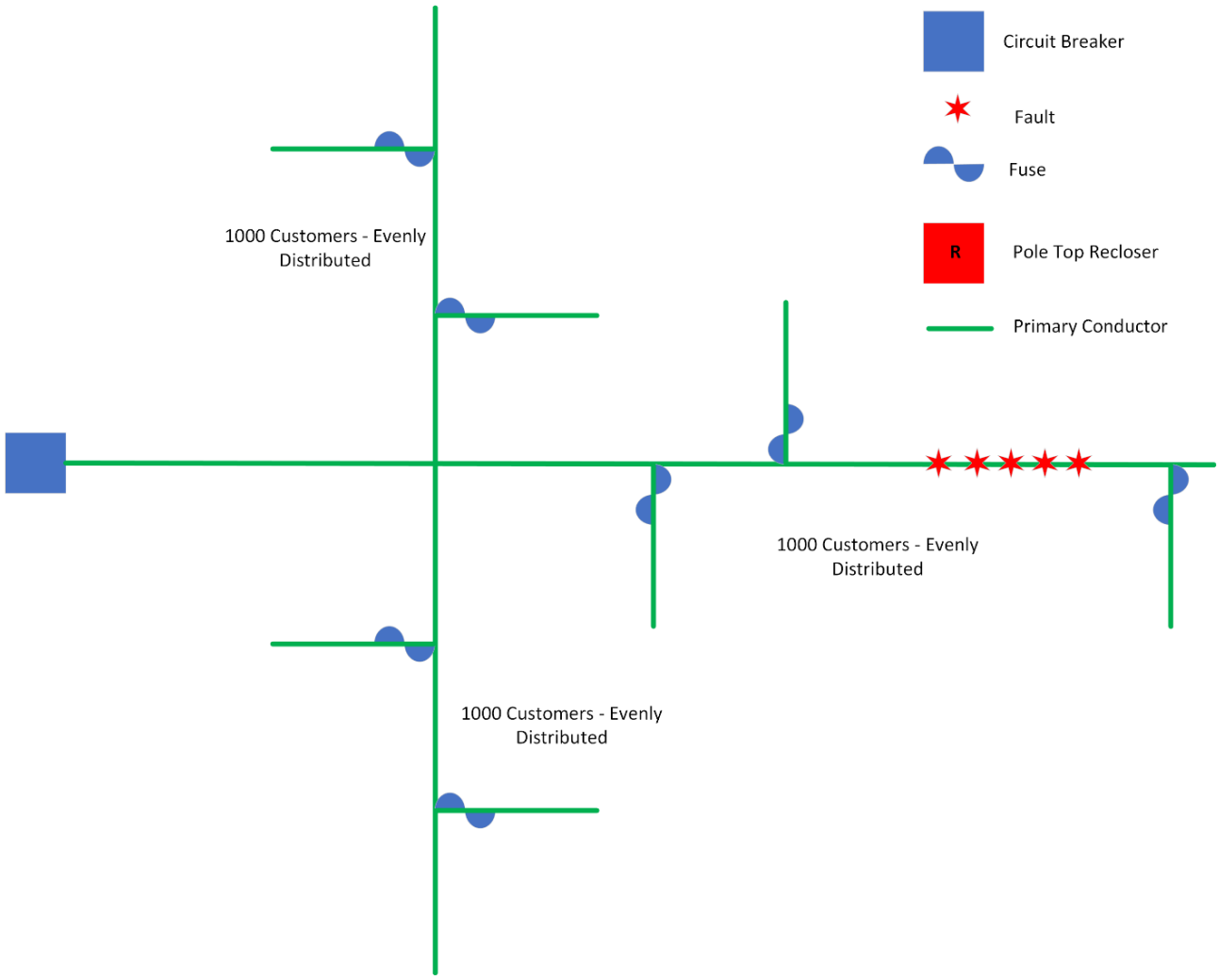

Response:

This series of hypothetical questions lacks a significant amount of information required to perform a complete protective coordination study. Minimum data required includes:

a) The utility's protective coordination guidelines and philosophy (such as fuse sacrifice scheme).
b) The complete CYME model for the circuit.
c) The time current coordination curves for each device plotted together.
d) The fault current study providing 3-phase, line to line and phase to ground maximum and minimum fault current levels throughout the entire circuit.

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Response (Continued):

e) The detailed settings for each existing protective device, including breaker/relays, circuit reclosers, fuses, and line sectionalizers.
f) The protective device selection and settings is part of a comprehensive study.
g) The list of data shown in response to 1-7.

RIE currently utilizes a fuse sacrifice scheme. That means the fuse blows and de-energizes a fault before a breaker or circuit recloser operates. Thus, I would need all the fuse sizes, relay settings and other protective device details on the feeder, and fault currents, none of which were provided. It is very likely a circuit recloser could not be installed on the line between the substation breaker and fuses and coordinate with the devices. That is the very reason a protective coordination study which includes Time Current Coordination curves is required before making decisions regarding how many reclosers are needed to enhance the system.

If all of this information is not considered, the recloser would be improperly located or mis-coordinated and fail to perform the intended system protection functions, thus rendering it a useless installation. Of course, even a properly located recloser may fail to appreciably reduce outages. Using the Nasonville outage as an example, if the recloser installed between the circuit breaker and the line fault had properly cleared the fault, a portion of the faulted circuit would have experienced an outage as opposed to the entire circuit. Because of the fuse sacrifice scheme used by the Company, it is more likely than not that the addition of reclosers would not result in adequate or appropriate coordination with the existing devices while maintaining the fuse sacrifice scheme or, alternatively, it may well create false or unnecessary operations. The Company often applies a 240 ampere ground trip pick-up setting at substations while utilizing 100 and 140 ampere fuses on laterals (these fuses blow at approximately 200 and 280 amps, respectively). While maintaining the integrity and coordination required by a fuse sacrifice scheme, it would be extremely difficult to add reclosers and achieve appropriate time current coordination. This question illustrates exactly why a protective coordination study is required in advance of making decisions regarding the number and locations for recloser additions.

Prepared by or under the supervision of: Gregory L. Booth, PE

Rhode Island Energy 1-11

Request:

Reliability and System Performance
In a situation when a system planning criteria violation has been identified and a recommended solution has been developed and vetted against alternatives, what would be the expectation of the Division for the Company to implement that solution? In that case, would the Division consider the preferred solution to be a proactive or reactive investment?

Response:

Each criteria violation has a different specific set of parameters to be considered, including whether the violation rises to a level warranting immediate or near-term action, or if the violation remains within an acceptable risk tolerance. There is never one generic answer, but rather answers for each set of specifics. Preferred solutions could be either proactive or reactive. Again, the specifics of each decision balances many factors, including affordability and the ability to accomplish the work.

The South Street Substation project is an excellent example of how 100 plus year old equipment was able to be maintained and operated within a reasonable risk tolerance many years beyond the availability of replacement breakers or parts. Eventually, the overall analysis reached the point when a complete substation rebuild became appropriate. This same method of analysis should take place for each system component, and there must be a balance of risk and affordability and safety and reliability. For South Street Substation an argument could have been made decades before the rebuild that 80- or 100-year-old breakers were unsafe and therefore the station would have required rebuild 20 to 30 years sooner than it was rebuilt. History now shows how the balance of the issues was appropriate and rushing into a rebuild based on a single criteria violation would not have been prudent. Therefore, the Company's question does not recognize the need for a case-by-case assessment as has been performed for all previous ISR Plans.

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Rhode Island Energy 1-12

Request:

Reliability and System Performance
In the past year there were 124 circuit breaker lockouts in the Company's service territory that interrupted an average of 2,042 customers. Is it the Division's expectation that adding reclosers will reduce the number of customers interrupted by these events? If no, please explain.

Response:

This question can only be appropriately answered after a comprehensive protective coordination study is performed. It is assumed that the question is based on 124 substation feeder circuit breakers. Theoretically, if a circuit recloser was placed on each impacted circuit one mile from the substation breaker and the fault event creating the outage was between the substation feeder circuit breaker and the added circuit recloser, then there would not be a reduced number of customers interrupted. This is the very reason for performing a comprehensive protective coordination study before simply randomly adding circuit reclosers to the system. Furthermore, adding circuit reclosers to the system could create coordination issues which may make the reliability worse and not better, and this is particularly true when a system is designed with a fuse sacrifice scheme. The Company's question is generic, however there is not an appropriate generic answer. Rather the answer requires assessment and study of all the specifics. In fact, for the question asked there may be different responses for different feeders.

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