



Dominion[®]

Rebuttal Testimony, Exhibits and Schedules of Virginia Electric and Power Company

Before the State Corporation
Commission of Virginia

Surry-Skiffes Creek 500 kV
Transmission Line

Skiffes Creek-Wheaton 230 kV
Transmission Line

Skiffes Creek 500 kV-230 kV-115 kV
Switching Station

Application No. 257

Case No. PUE-2012-00029

Filed: March 14, 2013

PUBLIC VERSION

VOLUME VI OF VI

Revised Study #	Study Year	Units Retired ⁶	Critical System Condition ⁵	Proposed Projects Included	Study
Alternative Analysis^{2,3,4}					
<u>Alternatives Studied</u>					
500 kV Proposed - Surry to Skiffes Creek 500 kV Overhead					
Alternative A - Single Circuit 230 kV UG Line based on 1000 MVA					
Alternative B - Double Circuit 230 kV UG Line based on 1000 MVA					
1	2015	All retirements	No CSC	Base ⁷	500 kV Proposed ⁹
2	2015	All retirements	SU2	Base ⁷	500 kV Proposed ⁹
3	2015	All retirements	No CSC	Base ⁷ + Project	500 kV Proposed ⁹
4	2015	All retirements	SU2	Base ⁷ + Project	500 kV Proposed ⁹
5	2015	All retirements	SU1	Base ⁷	230 kV Alternatives ⁹
6	2015	All retirements	No CSC	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV Alternatives ⁹
7	2015	All retirements	SU1	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV Alternatives ⁹
8	2021	All retirements	No CSC	Base ⁷	500 kV Proposed
9	2021	All retirements	SU2	Base ⁷	500 kV Proposed
10	2021	All retirements	No CSC	Base ⁷ + Project	500 kV Proposed
11	2021	All retirements	SU2	Base ⁷ + Project	500 kV Proposed
12	2021	All retirements	SU1	Base ⁷	230 kV Alternatives
13	2021	All retirements	No CSC	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV Alternatives
14	2021	All retirements	SU1	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV Alternatives
Generation Alternative Analysis^{2,3,4}					
<u>Special Study Condition</u>					
Yorktown Unit 3 to be used as proxy generation to study two 230 kV UG alternatives					
<u>Alternatives Studied</u>					
Alternative A - Single Circuit 230 kV UG Line based on 1000 MVA					
Alternative B - Double Circuit 230 kV UG Line based on 1000 MVA per circuit					
15	2015	All retirements	No CSC	Base ⁷	230 kV + Generation ^{8,9}
16	2015	All retirements	SU1	Base ⁷	230 kV + Generation ^{8,9}
17	2015	All retirements	No CSC	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV + Generation ^{8,9}
18	2015	All retirements	SU1	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV + Generation ^{8,9}
19	2021	All retirements	No CSC	Base ⁷	230 kV + Generation ⁸
20	2021	All retirements	SU1	Base ⁷	230 kV + Generation ⁸
21	2021	All retirements	No CSC	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV + Generation ⁸
22	2021	All retirements	SU1	Base ⁷ + Alt. A/Alt. B/Alt. C ¹	230 kV + Generation ⁸
Analysis of Proposed 500 kV Without Retirements^{2,3,4}					
<u>Alternatives Studied</u>					
500 kV Proposed - Surry to Skiffes Creek 500 kV Overhead					
23	2021	No retirements	No CSC	Base ⁷	500 kV Proposed
24	2021	No retirements	SU2	Base ⁷	500 kV Proposed
25	2021	No retirements	No CSC	Base ⁷ + Project	500 kV Proposed
26	2021	No retirements	SU2	Base ⁷ + Project	500 kV Proposed

Notes This matrix of studies is the same as that provided in Company Witness Peter Nedwick's Rebuttal Schedule 2, without the notes. See Company Witness Nedwick's Rebuttal Schedule 2 for the notes associated with this matrix.



PUE-2012-00029

**2013 Power Flow Cases
Requested by Hearing Examiner**

Additional Analyses Conducted

- **500 kV Proposed - Surry to Skiffes Creek**
500 kV Overhead
- **Alternative A – Hybrid Single Circuit 230 kV**
UG Line based on 1000 MVA
- **Alternative B – Hybrid Double Circuit 230 kV**
UG Line based on 1000 MVA/circuit
- **Alternative C - Rebuild of Lines #214 and**
#263



Additional Analyses Conducted

- **Alternative A** – Hybrid Single Circuit 230 kV UG Line based on 1000 MVA Plus Generation
- **Alternative B** – Hybrid Double Circuit 230 kV UG Line based on 1000 MVA/circuit Plus Generation
- **Alternative C** - Rebuild of Lines #214 and #263 Plus Generation
- **Stand Alone Generation** – Add generation to Yorktown



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Assumptions

- **Consistent with Hearing Examiner's January 30 Ruling as set forth in Rebuttal Schedule 2 of Company Witness Nedwick's Rebuttal Testimony**

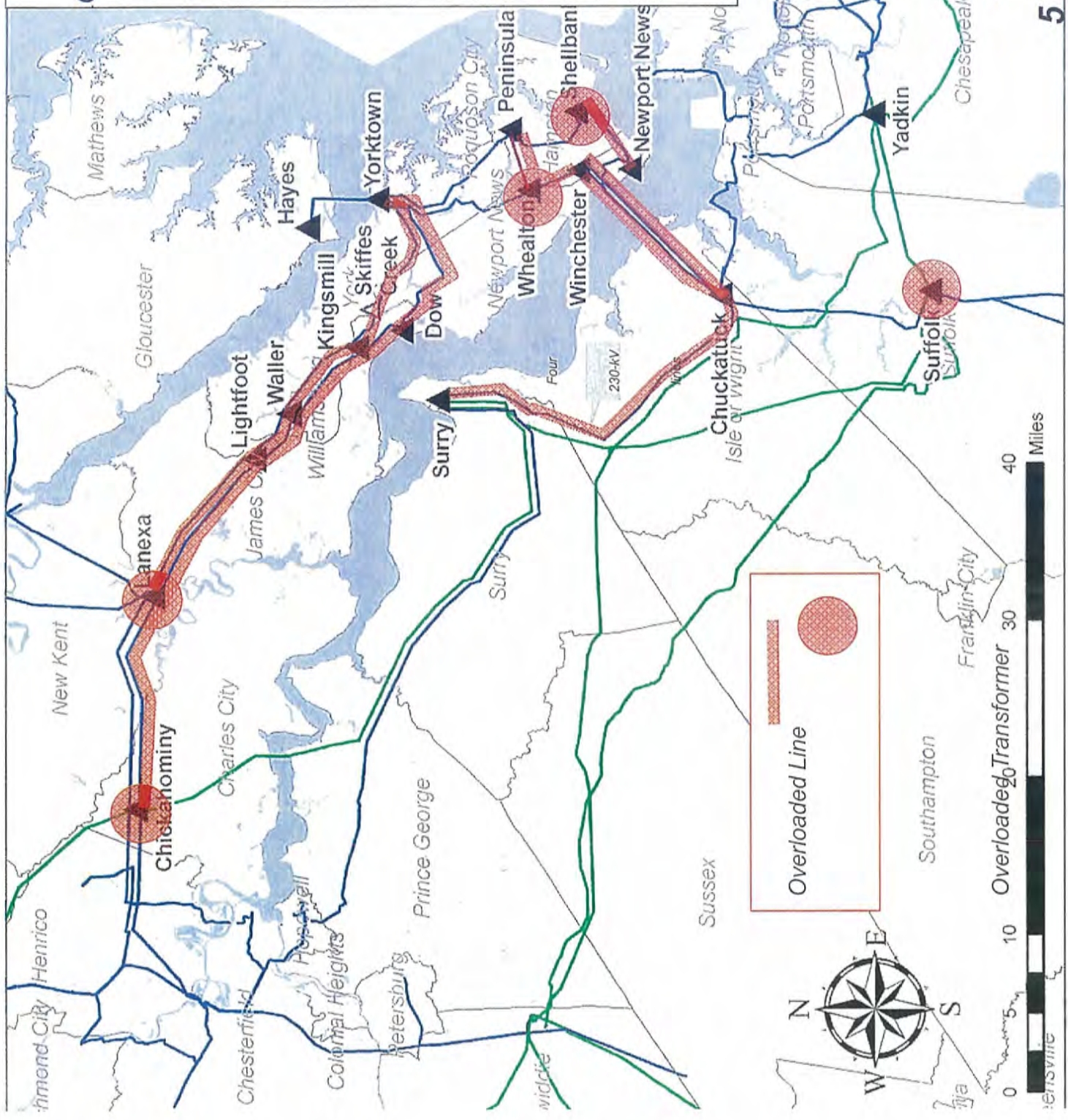


Summer 2015

Generation Retirements (Basecase)

Overloads:

- Line #2113 (Lanexa-Waller)
- Line #2102 (Chickahominy - Waller)
- Line #214 (Surry - Winchester)
- Line #263 (Chuckatuck - Nprt. News)
- Line #209 (Waller - Yorktown)
- Line #285 (Waller- Yorktown)
- Suffolk 500-230 kV Tx
- Line #34 (Lanexa-Yorktown)
- Line #99 (Peninsula - Wheelton)
- Wheelton 230-115 kV Tx
- Shellbank 230-115 kV Tx
- Line #234 (Wheelton - Winchester)
- Line #261 (Newport News - Shellbank)
- Chickahominy 500-230 kV Tx
- Lanexa 230-115 kV Tx
- Line #292 (Yorktown - Wheelton)
- Line #289 (Chuckatuck - Suffolk)
- Line #2076 (Birchwood - No. Neck)



Summer 2015

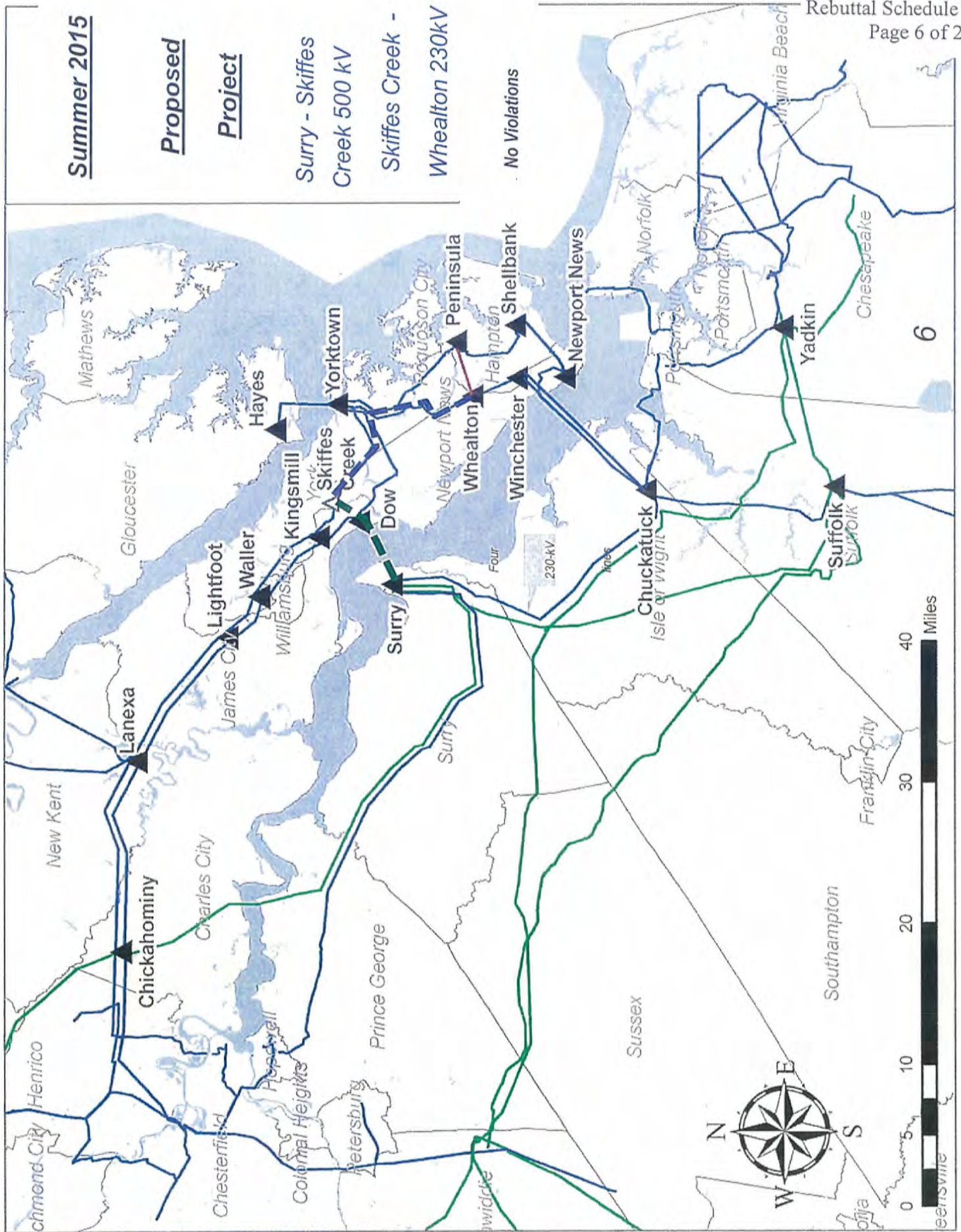
Proposed

Project

Surry - Skiffes
Creek 500 kV

Skiffes Creek -
Whealton 230kV

No Violations



Summer 2015

Alternative A

Hybrid Single

Circuit 230kV

UG

Violations:

Line #2113

(Lanexa-Waller)

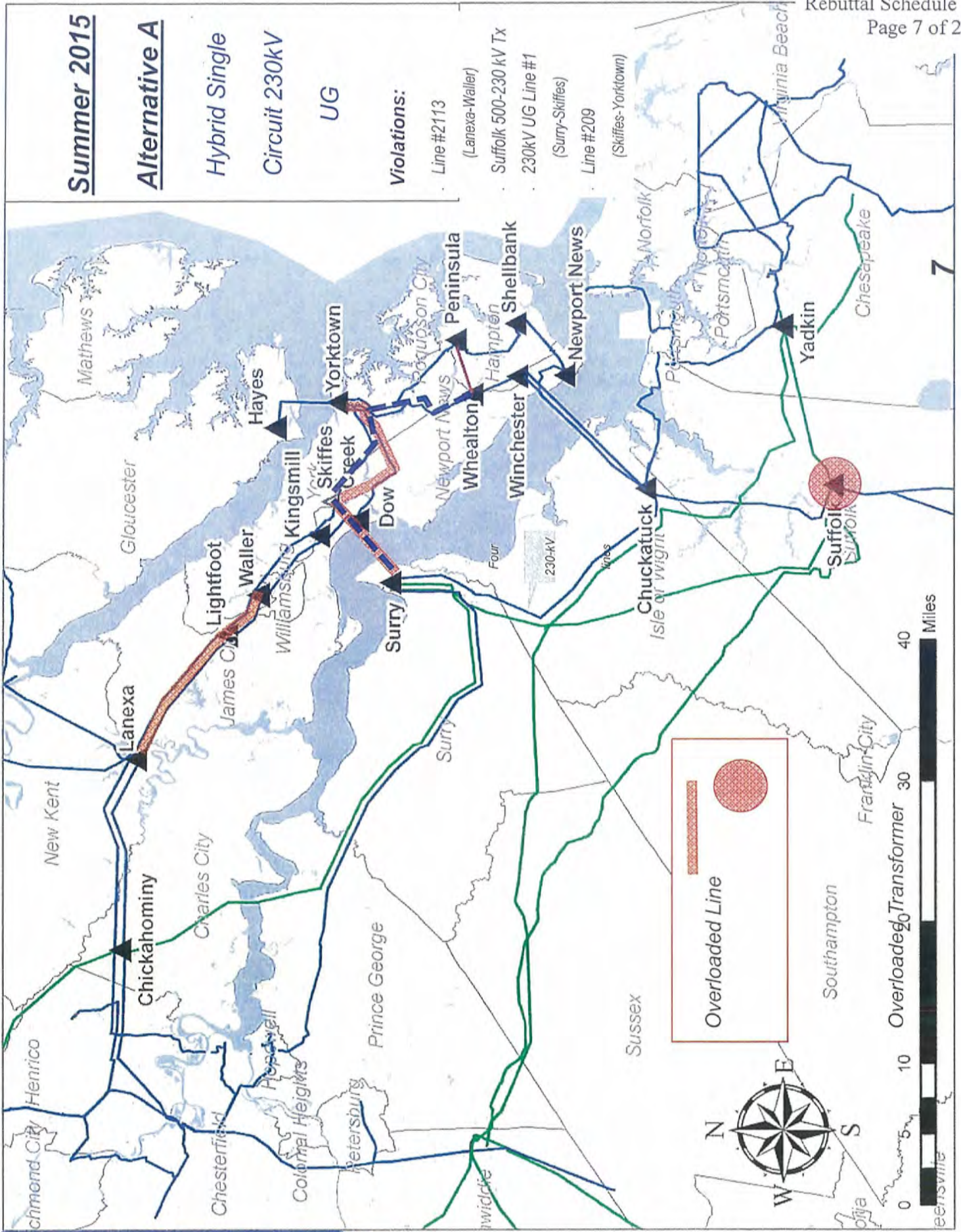
Suffolk 500-230 kV Tx

230kV UG Line #1

(Surrey-Skiffes)

Line #209

(Skiffes-Yorktown)



Summer 2015

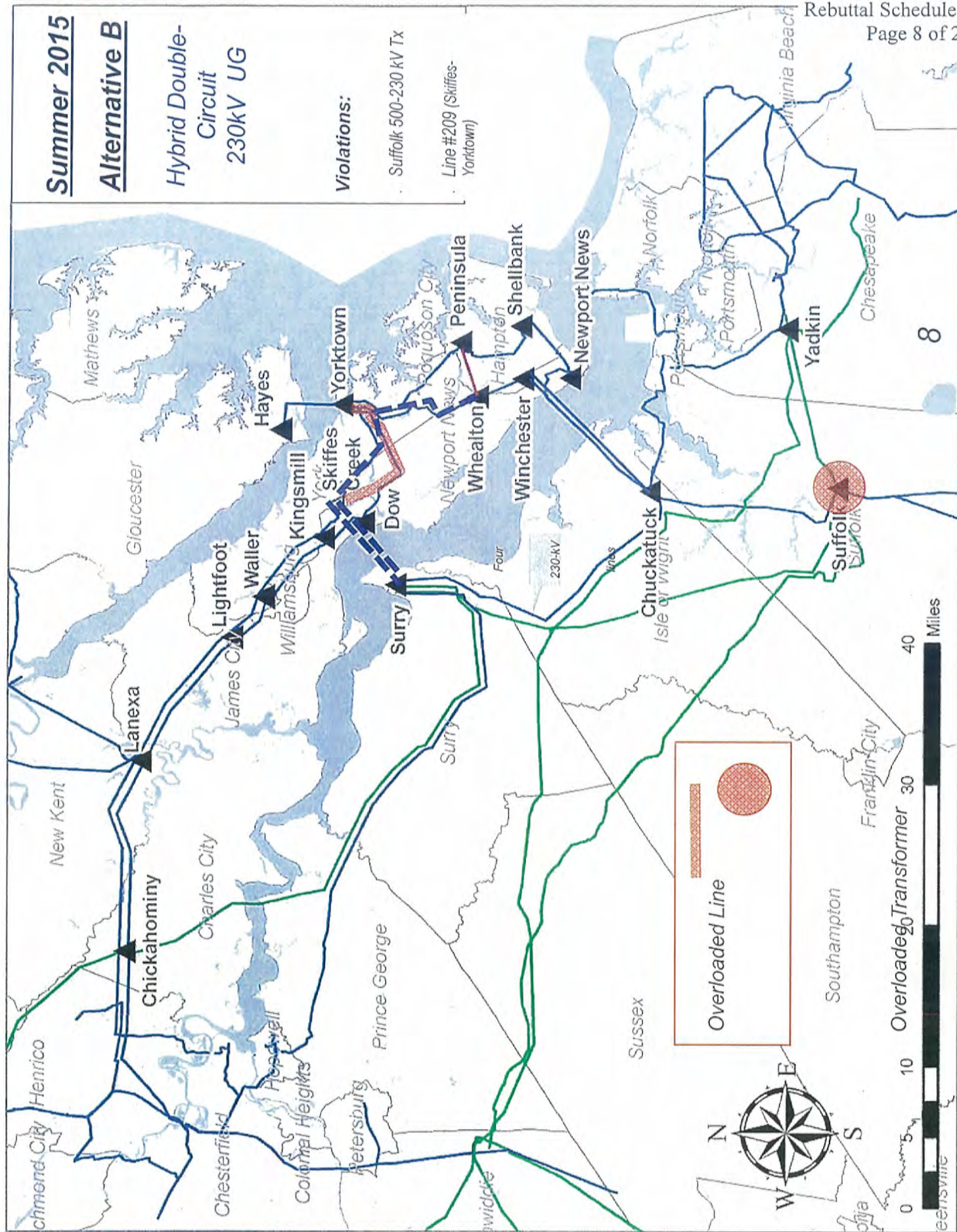
Alternative B

Hybrid Double-
Circuit
230kV UG

Violations:

Suffolk 500-230 kV Tx

Line #209 (Skiffes-Yorktown)



Summer 2015

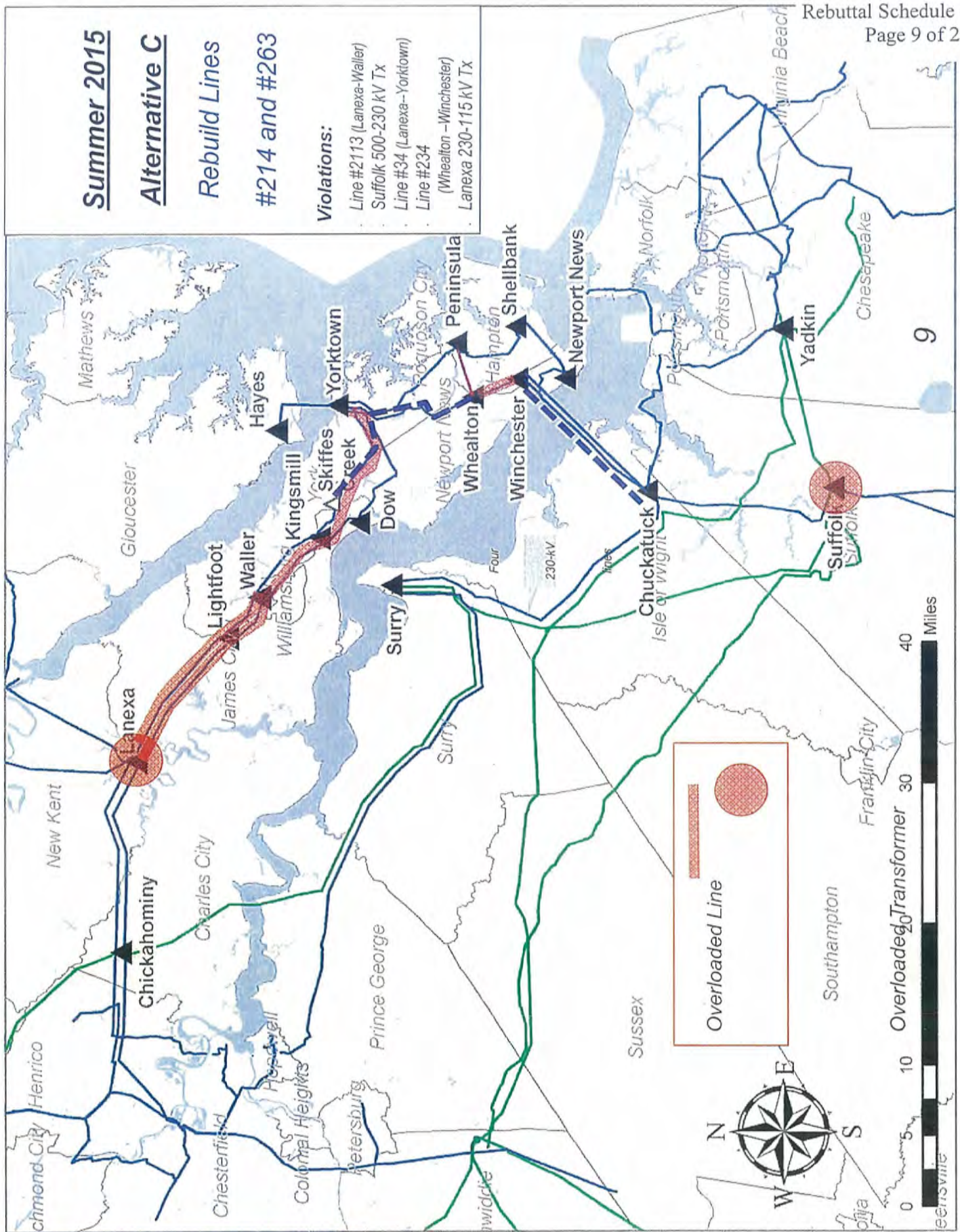
Alternative C

Rebuild Lines

#214 and #263

Violations:

- Line #2113 (Lanexa-Waller)
- Suffolk 500-230 kV Tx
- Line #34 (Lanexa-Yorktown)
- Line #234 (Wheaton -Winchester)
- Lanexa 230-115 kV Tx



Summer 2015

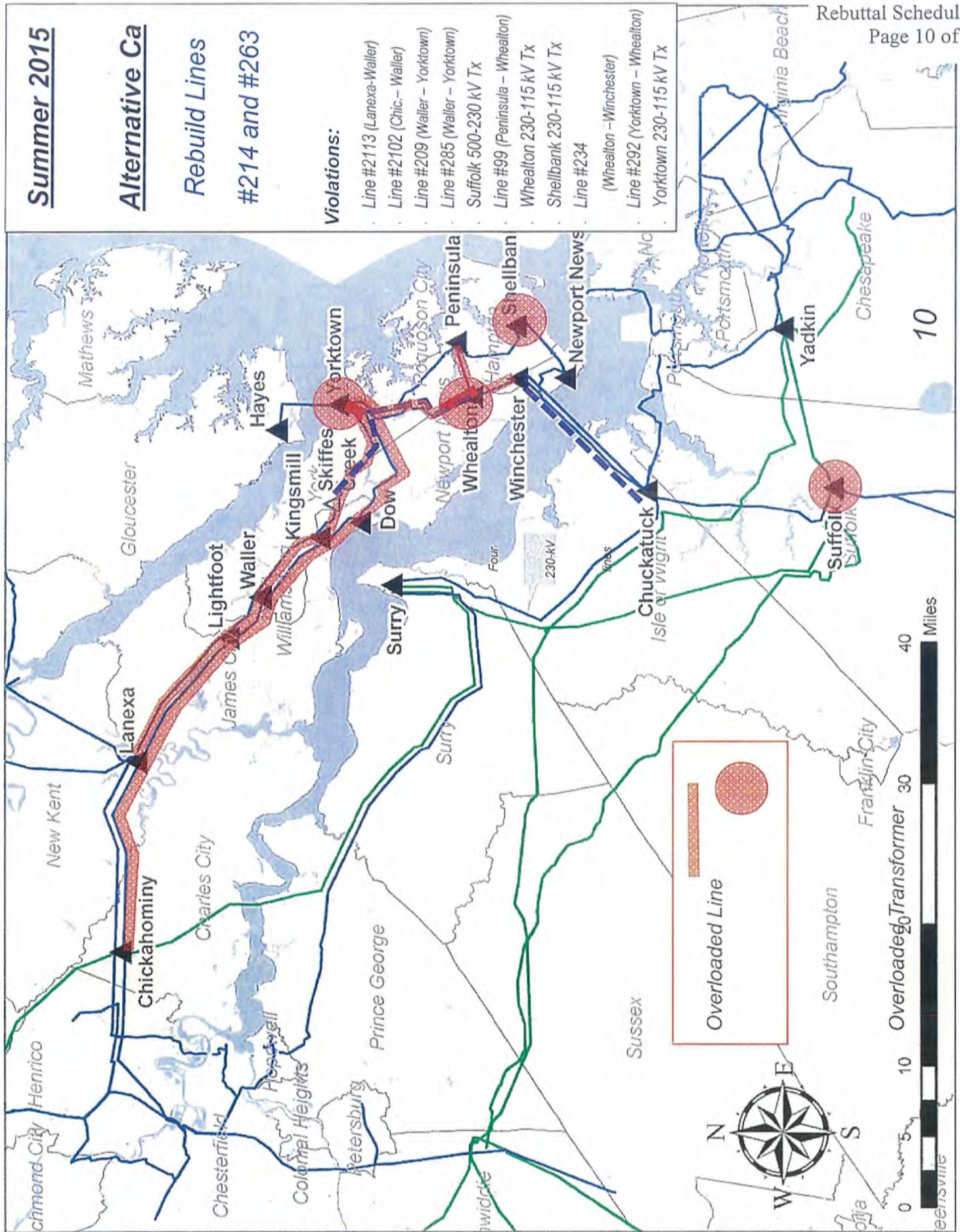
Alternative Ca

Rebuild Lines

#214 and #263

Violations:

- Line #2113 (Lanexa-Waller)
- Line #2102 (Chic. - Waller)
- Line #209 (Waller - Yorktown)
- Line #285 (Waller - Yorktown)
- Suffolk 500-230 kV Tx
- Line #99 (Peninsula - Wheelton)
- Wheelton 230-115 kV Tx
- Shellbank 230-115 kV Tx
- Line #234 (Wheelton - Winchester)
- Line #292 (Yorktown - Wheelton)
- Yorktown 230-115 kV Tx



Summary of Transmission Violations¹

Deficiency	Basecase	Alternate A	Alternate B	Alternate C	Alternate Ca	Proposed Project
Line # 2113 (Lanexa-Waller)	Yes	Yes		Yes	Yes	
Line 2102 (Chickahominy – Waller)	Yes			Yes	Yes	
Line #214 (Surry – Winchester)	Yes					
Line #263 (Chuckatuk – Newport News)	Yes					
Line #209 (Waller-Yorktown)	Yes			Yes	Yes	
Line #285 (Waller- Yorktown)	Yes				Yes	
Suffolk 500-230 kV Tx	Yes	Yes	Yes	Yes	Yes	
230 kV UG Line #1 (Surry - Skiffes)		Yes				

1. "Yes" means one or more NERC Reliability Violations in 2015 and/or 2021



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Summary of Transmission Violations¹

Deficiency	Basecase	Alternate A	Alternate B	Alternate C	Alternate Ca	Proposed Project
Line # 34 (Lanexa--Yorktown)	Yes			Yes		
Line # 58 (Lanexa--Yorktown)	Yes			Yes		
Line #209(Skiffes – Yorktown)		Yes	Yes			
Line #34(Skiffes – Yorktown)			Yes			
Line #99 (Peninsula – Whealton)	Yes			Yes	Yes	Yes
Whealton 230-115 kV Tx	Yes	Yes	Yes	Yes	Yes	
Shellbank 230-115 kV Tx	Yes			Yes	Yes	
Line #234 (Whealton – Winchester)	Yes			Yes	Yes	
Line #261(Newport News – Shellbank)	Yes					

1. "Yes" means one or more NERC Reliability Violations in 2015 and/or 2021



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Summary of Transmission Violations¹

Deficiency	Basecase	Alternate A	Alternate B	Alternate C	Alternate Ca	Proposed Project
Chickahominy 500-230 kV Tx	Yes					
Lanexa 230-115 kV Tx	Yes			Yes		
Line #292 (Yorktown – Whealton)	Yes				Yes	
Line #289 (Chuckatuk – Suffolk)	Yes					
Line #2076 (Birchwood – Northern Neck)	Yes					
Yorktown 230-115 kV Tx					Yes	
Skiffes Creek 230 kV SVC				Yes		

1. "Yes" means one or more NERC Reliability Violations in 2015 and/or 2021



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Basecase: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	1	No CSC	0	39	350	21
2015	2	SU2	0	62	N/A	N/A
2015	5	SU1	1	93	N/A	N/A
2021	8	No CSC	0	55	559	43
2021	9	SU2	0	49	N/A	N/A
2021	12	SU1	0	184	N/A	N/A

Proposed Project: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	3	No CSC	0	0	0	0
2015	4	SU2	0	0	N/A	N/A
2021	10	No CSC	0	0	2	0
2021	11	SU2	0	0	N/A	N/A

Alternative A: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	6A	No CSC	0	0	9	3
2015	7A	SU1	0	3	N/A	N/A
2021	13A	No CSC	0	9	113	7
2021	14A	SU1	0	1	N/A	N/A

Alternative B: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	6B	No CSC	0	1	4	0
2015	7B	SU1	0	2	N/A	N/A
2021	13B	No CSC	0	1	12	0
2021	14B	SU1	0	0	N/A	N/A

Alternative C: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	6C	No CSC	0	5	122	8
2015	7C	SU1	0	70	N/A	N/A
2021	13C	No CSC	0	12	182	13
2021	14C	SU1	0	39	N/A	N/A

Alternative Ca – Rebuild of Line #214 and #263 (Open L 34 & 58 System Reconfiguration): Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	6Ca	No CSC	0	3	84	8
2015	7Ca	SU1	0	5	N/A	N/A
2021	13Ca	No CSC	0	10	149	13
2021	14Ca	SU1	0	4	N/A	N/A



230 kV Alternative A + Generation: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	17A	No CSC	0	0	0	0
2015	18A	SU1	0	0	N/A	N/A
2021	21A	No CSC	0	0	0	0
2021	22A	SU1	0	0	N/A	N/A

Alternative requires 1,008 MW in 2015 and 1,449 MW (2 units min,
1 unit $\geq$ 87 MW) in 2021

230 kV Alternative B + Generation: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	17B	No CSC	0	0	0	0
2015	18B	SU1	0	0	N/A	N/A
2021	21B	No CSC	0	0	0	0
2021	22B	SU1	0	0	N/A	N/A

Alternative requires 159 MW in 2015 and 551 MW (2 units min, 1 unit $\geq$ 27 MW) in 2021



230 kV Alternative C + Generation: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	17C	No CSC	0	0	0	0
2015	18C	SU1	0	0	N/A	N/A
2021	21C	No CSC	0	0	0	0
2021	22C	SU1	0	0	N/A	N/A

Alternative requires 552 MW (2 units min, 1 unit $\geq$ 56 MW) in 2015
and 505 MW (2 units min, 1 unit $\geq$ 139 MW) in 2021

Stand-Alone Generation Option: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2015	15	No CSC	0	0	0	0
2015	16	SU1	0	0	N/A	N/A
2021	19	No CSC	0	0	0	0
2021	20	SU1	0	0	N/A	N/A

Alternative requires 620 MW (2 units min; lose 1 unit & maintain $\geq$ 295 MW) in 2015 and 620 MW (2 units min; lose 1 unit & maintain $\geq$ 295 MW) in 2021

Proposed Project Without Retirement: Number of Thermal Violations

Study Year	Study #	Critical System Condition	NERC TPL Category Tests			
			A (N-0)	B (N-1)	C (N-1-1 & Tower Line)	D
2021	23	No CSC	0	0	2	11
2021	24	SU2	0	4	N/A	N/A
2021	25	No CSC	0	0	0	0
2021	26	SU2	0	0	N/A	N/A



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CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 17:34 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT A
Case File X:\S2021\sum_2012(2013LF)_wpre_CSCNOSURRY230 Alt A.sav
Subsys File X:\S2021\dvp.sub
Monit File X:\S2021\vapsys.mon
Contn File X:\S2021\vapsys.con
Exclud File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314212	6FRRIVER	230	314222 6HANOVER	230	1	LN	778.1	576.9	797.0	97.6	291	314138 6MINE RD 230 314197 6LDYSMT1 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	1	LN	251.9	140.0	262.0	96.2	1101	314766 6LOUISA 230 314777 6S ANNA 230 1
314123	3WELLGTN	115	314141 3LIBERTY	115	1	LN	171.1	84.0	180.0	95.1	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314756	3DOUBLDY	115	314769 3ORANGE	115	1	LN	248.8	136.9	262.0	95.0	1101	314766 6LOUISA 230 314777 6S ANNA 230 1
242701	05LEESVI	138	314667 4ALTVSTA	138	1	LN	194.6	194.6	205.0	94.9	**	Base Case **
314461	3DEEPC46	115	314513 3YADKIN	115	1	LN	339.7	221.5	360.0	94.4	691	314449 6CHESAPK 230 314514 6YADKIN 230 1
314449	6CHESAPK	230	314514 6YADKIN	230	1	LN	680.5	546.2	722.0	94.3	707	314464 6DOZIER 230 314474 6GRENWCH 230 1
314391	6LIGH209	230	314415 6WALR209	230	1	LN	442.8	303.1	470.0	94.2	376	314214 6CHCKAHM 230 314390 6LIGH285 230 1
314449	6CHESAPK	230	314514 6YADKIN	230	1	LN	680.5	546.2	722.0	94.2	706	314464 6DOZIER 230 314465 6ELIZ R 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	1	LN	246.2	140.0	262.0	94.0	406	314232 6NO ANNA 230 314766 6LOUISA 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	1	LN	659.9	531.8	705.0	93.6	160	314057 6LAKERD 230 314074 6POSSUM 230 1

AC Bus Voltage Violations

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 17:35 <UOV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT A
Case File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt A.sav
Subsys File X:\S2021\vdvp.sub
Monit File X:\S2021\vdvpsys.mon
Contn File X:\S2021\vdvpsys.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upllimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.9353	0.9909	0.9300	1.0700	0.9414	1.0405	D	16	313810 6DAHLGREN 230 314131 6ARROLDS 230 1
314014	3CANNONB	115.0	345	353	0.8445	0.9984	0.9300	1.0700	0.9485	1.0484	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9070	0.9987	0.9300	1.0700	0.9488	1.0486	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	310MA172	115.0	345	353	0.9169	0.9664	0.9300	1.0700	0.9181	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.9366	1.0042	0.9300	1.0700	0.9540	1.0544	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	310MA197	115.0	345	353	0.8448	0.9975	0.9300	1.0700	0.9476	1.0474	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.9265	0.9980	0.9300	1.0700	0.9481	1.0479	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLGTH	115.0	345	353	0.9293	0.9688	0.9300	1.0700	0.9204	1.0173	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.9316	1.0004	0.9300	1.0700	0.9504	1.0505	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9275	0.9664	0.9300	1.0700	0.9181	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.8448	0.9970	0.9300	1.0700	0.9472	1.0469	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.8447	0.9977	0.9300	1.0700	0.9478	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GOWM172	115.0	345	353	0.9220	0.9674	0.9300	1.0700	0.9190	1.0158	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GOWM197	115.0	345	353	0.8451	0.9968	0.9300	1.0700	0.9470	1.0467	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.9265	0.9980	0.9300	1.0700	0.9481	1.0479	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9070	0.9987	0.9300	1.0700	0.9488	1.0486	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.9316	1.0004	0.9300	1.0700	0.9504	1.0505	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.9366	1.0042	0.9300	1.0700	0.9540	1.0544	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9363	0.9987	0.9300	1.0700	0.9488	1.0486	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	310MA172	115.0	345	353	0.9298	0.9664	0.9300	1.0700	0.9181	1.0147	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	310MA197	115.0	345	353	0.8778	0.9975	0.9300	1.0700	0.9476	1.0474	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MICR197	115.0	345	353	0.8778	0.9977	0.9300	1.0700	0.9478	1.0476	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8778	0.9987	0.9300	1.0700	0.9470	1.0467	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GOWM197	115.0	345	353	0.8778	0.9968	0.9300	1.0700	0.9470	1.0467	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314160	1 TX503	13.2	345	353	0.9363	0.9987	0.9300	1.0700	0.9488	1.0486	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314025	1 TX500	13.2	345	353	0.8981	0.9987	0.9300	1.0700	0.9488	1.0486	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	0.8981	0.9987	0.9300	1.0700	0.9488	1.0486	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	1.0818	0.9987	0.9300	1.0700	0.9488	1.0486	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314051	310MA197	115.0	345	353	0.9321	0.9975	0.9300	1.0700	0.9476	1.0474	D	152	314051 310MA197
314114	311NDNL	115.0	345	353	0.9281	0.9907	0.9300	1.0700	0.9412	1.0403	LD	186	314068 60X
314118	311NNIEV	115.0	345	353	0.9265	0.9933	0.9300	1.0700	0.9436	1.0429	LD	186	314068 60X
314167	30X	115.0	345	352	0.9266	1.0027	0.9300	1.0700	0.9526	1.0528	LD	186	314068 60X
314114	311NDNL	115.0	345	353	0.9265	0.9907	0.9300	1.0700	0.9412	1.0403	LD	261	314118 311NNIEV
314118	311NNIEV	115.0	345	353	0.9248	0.9933	0.9300	1.0700	0.9436	1.0429	LD	261	314118 311NNIEV
314122	350WEGO	115.0	345	353	0.9243	1.0011	0.9300	1.0700	0.9510	1.0511	D	265	314122 350WEGO
314049	310MA172	115.0	345	353	0.8954	0.9664	0.9300	1.0700	0.9181	1.0147	LD	266	314123 3WELGNT
314123	3WELGNT	115.0	345	353	0.8932	0.9688	0.9300	1.0700	0.9204	1.0173	LD	266	314123 3WELGNT
314147	3MICK172	115.0	345	353	0.8921	0.9664	0.9300	1.0700	0.9181	1.0147	LD	266	314123 3WELGNT
314157	360M172	115.0	345	353	0.8945	0.9674	0.9300	1.0700	0.9190	1.0158	LD	266	314123 3WELGNT
314122	350WEGO	115.0	345	353	0.9329	1.0011	0.9300	1.0700	0.9510	1.0511	D	269	314130 6BRISTER
314156	3BRISTER	115.0	345	353	0.9330	1.0049	0.9300	1.0700	0.9547	1.0551	D	269	314130 6BRISTER
313810	60AHLGREN	230.0	345	354	0.9302	0.9909	0.9300	1.0700	0.9414	1.0405	D	271	314131 6ARNOLDS
314131	6ARNOLDS	230.0	345	354	0.9297	0.9960	0.9300	1.0700	0.9462	1.0458	LD	271	314131 6ARNOLDS
314139	60AKGROV	230.0	345	354	0.9378	0.9907	0.9300	1.0700	0.9412	1.0402	D	271	314131 6ARNOLDS
313810	60AHLGREN	230.0	345	354	0.9244	0.9909	0.9300	1.0700	0.9414	1.0405	LD	273	314132 6BIRCHWD
314131	6ARNOLDS	230.0	345	354	0.9236	0.9960	0.9300	1.0700	0.9462	1.0458	LD	273	314132 6BIRCHWD
314139	60AKGROV	230.0	345	354	0.9326	0.9907	0.9300	1.0700	0.9412	1.0402	D	273	314132 6BIRCHWD
314175	6COMORN	230.0	345	354	0.9235	0.9968	0.9300	1.0700	0.9470	1.0466	LD	273	314132 6BIRCHWD
314190	6WESTMOR	230.0	345	354	0.9376	0.9900	0.9300	1.0700	0.9405	1.0395	D	273	314132 6BIRCHWD
314049	310MA172	115.0	345	353	0.8952	0.9664	0.9300	1.0700	0.9181	1.0147	LD	275	314133 6LIBERTY
314123	3WELGNT	115.0	345	353	0.8933	0.9700	0.9300	1.0700	0.9215	1.0185	LD	275	314133 6LIBERTY
314141	3LIBERTY	115.0	345	353	0.8933	0.9664	0.9300	1.0700	0.9181	1.0147	LD	275	314133 6LIBERTY
314147	3MICK172	115.0	345	353	0.8953	0.9664	0.9300	1.0700	0.9190	1.0158	LD	275	314133 6LIBERTY
314157	360M172	115.0	345	353	0.8946	0.9674	0.9300	1.0700	0.9190	1.0158	LD	275	314133 6LIBERTY
314775	3M1 RVER	115.0	345	363	0.9355	1.0031	0.9300	1.0700	0.9529	1.0532	D	281	314135 3CHANCE
314779	370TAVRN	115.0	345	363	0.9381	0.9946	0.9300	1.0700	0.9449	1.0443	D	281	314135 3CHANCE
314151	3SLABTWN	115.0	345	355	0.9466	1.0035	0.9300	1.0700	0.9533	1.0536	D	286	314136 3FREDBRG
314025	1 TX500	13.2	345	353	0.9451	0.9987	0.9300	1.0700	0.9488	1.0486	D	301	314148 3MICK197
314148	3MICK197	115.0	345	353	0.8821	0.9970	0.9300	1.0700	0.9472	1.0469	LD	301	314148 3MICK197
314158	360M197	115.0	345	353	0.8823	0.9968	0.9300	1.0700	0.9470	1.0467	LD	301	314148 3MICK197
314160	1 TX503	13.2	345	353	0.9452	0.9987	0.9300	1.0700	0.9488	1.0486	D	301	314148 3MICK197
314180	6HAYES	230.0	345	354	0.9558	1.0158	0.9300	1.0700	0.9651	1.0666	D	328	314180 6HAYES
314207	60AK GRE	230.0	345	363	0.9399	0.9983	0.9300	1.0700	0.9484	1.0482	D	352	314207 60AK GRE
314259	3CAR56 1	115.0	345	362	1.1498	1.0183	0.9300	1.0700	0.9674	1.0693	HR	436	314259 3CAR56 1
314526	3HANDSON	115.0	345	360	1.0731	1.0173	0.9300	1.0700	0.9665	1.0682	HR	436	314259 3CAR56 1
314534	3S HAMPT	115.0	345	360	1.0712	1.0190	0.9300	1.0700	0.9681	1.0700	HR	436	314259 3CAR56 1
314541	3WATKINS	115.0	345	360	1.0712	1.0201	0.9300	1.0700	0.9691	1.0711	HR	436	314259 3CAR56 1
314558	3BOYKINS	115.0	345	362	1.0777	1.0135	0.9300	1.0700	0.9628	1.0642	HR	436	314259 3CAR56 1
314604	3SEABORD	115.0	345	362	1.1010	1.0135	0.9300	1.0700	0.9628	1.0641	HR	436	314259 3CAR56 1
314826	3WATKI 1	115.0	345	362	1.1124	1.0138	0.9300	1.0700	0.9631	1.0644	HR	436	314259 3CAR56 1
314927	3WATKI 2	115.0	345	360	1.0717	1.0206	0.9300	1.0700	0.9695	1.0716	HR	436	314259 3CAR56 1
314835	3CAROL 1	115.0	345	362	1.1450	1.0194	0.9300	1.0700	0.9684	1.0703	HR	436	314259 3CAR56 1
315115	1SHAMPT1	13.8	345	360	1.0426	0.9883	0.9300	1.0700	0.9389	1.0377	R	436	314259 3CAR56 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314680	2CIATIAM	69.0	345	358	0.9430	0.9931	0.9300	1.0700	0.9434	1.0427	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314685	2CHTM TP	69.0	345	358	0.9436	0.9937	0.9300	1.0700	0.9440	1.0434	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLMX DP	69.0	345	358	0.9401	0.9903	0.9300	1.0700	0.9408	1.0399	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMX TP	69.0	345	358	0.9409	0.9911	0.9300	1.0700	0.9415	1.0407	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9435	0.9935	0.9300	1.0700	0.9439	1.0432	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314527	3HOLLAND	115.0	345	360	1.0682	1.0666	0.9300	1.0700	0.9563	1.0570	R	800	314527 3HOLLAND 115 314536 3SUFOIK 115 1
314539	3UNCAMP	115.0	345	360	1.0707	1.0180	0.9300	1.0700	0.9671	1.0689	HR	800	314527 3HOLLAND 115 314536 3SUFOIK 115 1
314824	3UNCAMP 1	115.0	345	360	1.0714	1.0187	0.9300	1.0700	0.9677	1.0696	HR	800	314527 3HOLLAND 115 314536 3SUFOIK 115 1
314524	3FERNKIN	115.0	345	360	1.0812	1.0186	0.9300	1.0700	0.9677	1.0695	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314526	3HANDSOM	115.0	345	360	1.0705	1.0173	0.9300	1.0700	0.9665	1.0882	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0772	1.0190	0.9300	1.0700	0.9681	1.0700	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0848	1.0180	0.9300	1.0700	0.9671	1.0689	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0793	1.0201	0.9300	1.0700	0.9691	1.0711	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP 1	115.0	345	360	1.0855	1.0187	0.9300	1.0700	0.9677	1.0696	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0799	1.0206	0.9300	1.0700	0.9695	1.0716	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0799	1.0206	0.9300	1.0700	0.9695	1.0716	HR	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	3SHAMPT1	13.8	345	360	1.0487	0.9883	0.9300	1.0700	0.9389	1.0377	R	801	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314578	3HORNRTN	115.0	345	362	0.9598	1.0130	0.9300	1.0700	0.9624	1.0637	D	851	314559 3CAROLNA 115 314578 3HORNRTN 115 1
314516	3BRUNS 1	115.0	345	358	1.0725	1.0063	0.9300	1.0700	0.9560	1.0566	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314565	3CLBHS71	115.0	345	362	1.0955	1.0013	0.9300	1.0700	0.9512	1.0513	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314675	3BROUNAX	115.0	345	358	1.0623	1.0039	0.9300	1.0700	0.9537	1.0541	R	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314676	3BRUNSWK	115.0	345	358	1.0720	1.0058	0.9300	1.0700	0.9555	1.0561	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314693	3FERMAN D	115.0	345	358	1.0867	1.0029	0.9300	1.0700	0.9527	1.0530	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314704	3LAWRNC	115.0	345	358	1.0773	1.0047	0.9300	1.0700	0.9545	1.0550	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314782	2BRUNSWC	69.0	345	358	1.0939	1.0256	0.9300	1.0700	0.9743	1.0769	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314785	2DANLTHN	69.0	345	358	1.0403	0.9717	0.9300	1.0700	0.9231	1.0203	R	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314786	2GASBURG	69.0	345	358	1.0782	1.0088	0.9300	1.0700	0.9583	1.0592	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314787	2BRUNSW2	69.0	345	358	1.0650	0.9981	0.9300	1.0700	0.9482	1.0480	R	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314850	3CLBHS 1	115.0	345	362	1.0960	1.0018	0.9300	1.0700	0.9517	1.0519	HR	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314872	2BRUNSWIC	69.0	345	358	1.0521	0.9843	0.9300	1.0700	0.9350	1.0335	R	860	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314576	3FIVE PT	115.0	345	362	1.0316	0.9816	0.9300	1.0700	0.9325	1.0307	R	890	314576 3FIVE PT 115 314592 3FANTEGO 115 1
313830	3KNAWK 1	115.0	345	361	1.0791	1.0359	0.9300	1.0700	0.9841	1.0877	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314635	3COLNGTP	115.0	345	361	1.0892	1.0262	0.9300	1.0700	0.9749	1.0775	HR	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314636	3COLNG2	115.0	345	361	1.0945	1.0311	0.9300	1.0700	0.9796	1.0827	HR	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0786	1.0354	0.9300	1.0700	0.9836	1.0871	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314646	3KITTY 4	34.5	345	361	1.0786	1.0354	0.9300	1.0700	0.9836	1.0871	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314650	3KITTY 5	34.5	345	361	1.0795	1.0364	0.9300	1.0700	0.9845	1.0882	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314829	3COLIN 1	115.0	345	361	1.0850	1.0316	0.9300	1.0700	0.9800	1.0832	HR	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314830	3COLANG 1	115.0	345	361	1.0701	1.0265	0.9300	1.0700	0.9752	1.0778	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
315146	3KITTYHKA	13.8	345	361	1.0786	1.0354	0.9300	1.0700	0.9836	1.0871	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
315147	3KITTYHKB	13.8	345	361	1.0796	1.0365	0.9300	1.0700	0.9846	1.0883	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1162	KITT 3W4	1.0	345	361	1.0786	1.0354	0.9300	1.0700	0.9836	1.0871	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1163	KITT 3W5	1.0	345	361	1.0796	1.0365	0.9300	1.0700	0.9846	1.0883	H	945	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0758	1.0061	0.9300	1.0700	0.9558	1.0564	HR	1051	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0755	1.0059	0.9300	1.0700	0.9556	1.0562	HR	1051	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW5575	69.0	345	358	1.0657	1.0106	0.9300	1.0700	0.9601	1.0611	R	1051	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314738	ZMT AIRY	69.0	345	358	1.0602	1.0048	0.9300	1.0700	0.9545	1.0550	R	1051	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	ZMT A TP	69.0	345	358	1.0657	1.0106	0.9300	1.0700	0.9601	1.0611	R	1051	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0690	1.0061	0.9300	1.0700	0.9558	1.0564	R	1052	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314731	2GRETN	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0561	R	1052	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	1052	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9389	0.9974	0.9300	1.0700	0.9476	1.0473	D	1061	314744 3BREMO 115 314746 4BREMO 136 1
314768	3MITCHEL	115.0	345	363	0.9432	1.0036	0.9300	1.0700	0.9534	1.0537	D	1104	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9421	0.9969	0.9300	1.0700	0.9471	1.0468	D	1196	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LONMOOR	230.0	345	365	0.9257	0.9766	0.9300	1.0700	0.9278	1.0255	LD	1199	314855 6LONMOOR 230 314856 6LEXNGT2 230 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 17:49 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT A
Case.File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt A.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\wpsys.mon
Contin.File X:\S2021\sum2021wpre ALT.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo W	Rating	Loading %	Ncon	Contingency Description
314212	6FRRIVER	230	314222 6HANOVER	230 1	LN	778.5	576.9	797.0	97.7	400	LN 2090
314756	3DOUBLDY	115	314776 3SOMRSET	115 1	LN	251.0	140.0	262.0	95.8	229	LN 255
314123	3WELLGTH	115	314141 3LIBERTY	115 1	LN	171.9	84.0	180.0	95.5	331	LN 2011
242701	05LEESVI	138	314667 4ALTVSTA	138 1	LN	194.6	194.6	205.0	94.9	**	Base Case **
314756	3DOUBLDY	115	314769 3ORANGE	115 1	LN	247.8	136.9	262.0	94.6	229	LN 255
314461	3DEEPC46	115	314513 3YADKIN	115 1	LN	339.7	221.5	360.0	94.4	236	LN 262
314449	6CHESAPK	230	314514 6YADKIN	230 1	LN	680.5	546.2	722.0	94.3	338	LN 2018

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 16:24 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT A
Case File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 ALT A.sav
Subsys File X:\S2021\wvp.sub
Monit. File X:\S2021\wapsys.mon
Contn. File X:\S2021\sum2021wpre ALT.con
Exclud. File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	OppLim t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314524	3ERNKIN	115.0	345	360	1.0813	1.0186	0.9300	1.0700	0.9677	1.0695	HR	63	LN 68
314526	3HANDSOM	115.0	345	360	1.0707	1.0173	0.9300	1.0700	0.9665	1.0682	HR	63	LN 68
314534	3S HAMPT	115.0	345	360	1.0773	1.0190	0.9300	1.0700	0.9681	1.0700	HR	63	LN 68
314539	3UNCAMP	115.0	345	360	1.0850	1.0180	0.9300	1.0700	0.9671	1.0689	HR	63	LN 68
314541	3WATKINS	115.0	345	360	1.0796	1.0201	0.9300	1.0700	0.9691	1.0711	HR	63	LN 68
314824	3UNCAM 1	115.0	345	360	1.0858	1.0187	0.9300	1.0700	0.9677	1.0696	HR	63	LN 68
314876	3WATKI 1	115.0	345	360	1.0801	1.0206	0.9300	1.0700	0.9695	1.0716	HR	63	LN 68
314827	3WATKI 2	115.0	345	360	1.0801	1.0206	0.9300	1.0700	0.9695	1.0716	HR	63	LN 68
315115	1SHAMPT1	13.8	345	360	1.0489	0.9883	0.9300	1.0700	0.9389	1.0377	R	63	LN 68
314147	3MICRI72	115.0	345	353	0.9293	0.9664	0.9300	1.0700	0.9181	1.0147	L	153	LN 172
314348	2GRETN 1	69.0	345	358	1.0590	1.0061	0.9300	1.0700	0.9558	1.0564	R	154	LN 173
314731	2GRETN A	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0561	R	154	LN 173
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	154	LN 173
314874	2LN 174	69.0	345	351	1.0578	1.0024	0.9300	1.0700	0.9523	1.0526	R	155	LN 174
314878	2LN 178	69.0	345	351	1.0577	1.0024	0.9300	1.0700	0.9523	1.0526	R	157	LN 178
314879	2LN 179	69.0	345	351	1.0578	1.0024	0.9300	1.0700	0.9523	1.0526	R	158	LN 179
314880	2LN 180	69.0	345	351	1.0578	1.0024	0.9300	1.0700	0.9523	1.0526	R	159	LN 180
314122	3SOWECO	115.0	345	353	0.9323	1.0011	0.9300	1.0700	0.9510	1.0511	D	160	LN 181
314025	1 TX500	13.2	345	353	0.9267	0.9987	0.9300	1.0700	0.9488	1.0486	LD	173	LN 197
314049	3LOMA172	115.0	345	353	0.9292	0.9664	0.9300	1.0700	0.9181	1.0147	L	173	LN 197
314051	3LOMA197	115.0	345	353	0.9002	0.9975	0.9300	1.0700	0.9476	1.0474	LD	173	LN 197
314147	3MICRI72	115.0	345	353	0.9296	0.9664	0.9300	1.0700	0.9181	1.0147	L	173	LN 197
314148	3MICRI97	115.0	345	353	0.8635	0.9970	0.9300	1.0700	0.9472	1.0469	LD	173	LN 197
314158	3GODW197	115.0	345	353	0.9158	0.9968	0.9300	1.0700	0.9470	1.0467	LD	173	LN 197
314160	1 TX503	13.2	345	353	0.9268	0.9987	0.9300	1.0700	0.9488	1.0486	LD	173	LN 197
314014	3CANNONB	115.0	345	353	0.8422	0.9984	0.9300	1.0700	0.9485	1.0484	LD	331	LN 2011

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	OppLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314025	1 TX500	13.2	345	353	0.9022	0.9987	0.9300	1.0700	0.9488	1.0486	LD	331 LN 2011	
314049	3L0MA172	115.0	345	353	0.9109	0.9664	0.9300	1.0700	0.9181	1.0147	LD	331 LN 2011	
314051	3L0MA197	115.0	345	353	0.8426	0.9975	0.9300	1.0700	0.9476	1.0474	LD	331 LN 2011	
314123	3WELLGTN	115.0	345	353	0.9234	0.9688	0.9300	1.0700	0.9204	1.0173	L	331 LN 2011	
314141	3LIBERTY	115.0	345	353	0.9270	0.9700	0.9300	1.0700	0.9215	1.0185	L	331 LN 2011	
314147	3MICR172	115.0	345	353	0.9216	0.9664	0.9300	1.0700	0.9181	1.0147	LD	331 LN 2011	
314148	3MICR197	115.0	345	353	0.8425	0.9970	0.9300	1.0700	0.9472	1.0469	LD	331 LN 2011	
314155	3CANBR T	115.0	345	353	0.9361	0.9977	0.9300	1.0700	0.9478	1.0476	LD	331 LN 2011	
314157	3GODW172	115.0	345	353	0.8428	0.9674	0.9300	1.0700	0.9190	1.0158	LD	331 LN 2011	
314158	3GODW197	115.0	345	353	0.9022	0.9987	0.9300	1.0700	0.9488	1.0486	LD	331 LN 2011	
314160	1 TX503	13.2	345	353	0.9218	1.0158	0.9300	1.0700	0.9651	1.0666	LD	428 LN 2122	
314180	6HAYES	230.0	345	354	0.9073	0.9983	0.9300	1.0700	0.9484	1.0482	LD	436 LN 2133	
314207	6QAK GRE	230.0	345	363	0.8970	0.9987	0.9300	1.0700	0.9488	1.0486	LD	465 TX-1 3MICR19	
314025	1 TX500	13.2	345	353	0.8970	0.9987	0.9300	1.0700	0.9488	1.0486	LD	465 TX-1 3MICR19	
314160	1 TX503	13.2	345	353	0.9347	0.9907	0.9300	1.0700	0.9412	1.0403	D	482 TX-1 60X	
314114	3LINNDL	115.0	345	353	0.9331	0.9933	0.9300	1.0700	0.9436	1.0429	D	482 TX-1 60X	
314118	3MINNIEV	115.0	345	353	0.9332	1.0027	0.9300	1.0700	0.9526	1.0528	D	482 TX-1 60X	
314167	30X	115.0	345	352	0.9330	1.0011	0.9300	1.0700	0.9510	1.0511	D	504 TX-1 6BRISTE	
314122	3SOWEGO	115.0	345	353	0.9330	1.0049	0.9300	1.0700	0.9547	1.0551	D	504 TX-1 6BRISTE	
314156	3BRISTER	115.0	345	353	0.8959	0.9664	0.9300	1.0700	0.9181	1.0147	LD	507 TX-1 6LIBERT	
314049	3L0MA172	115.0	345	353	0.8947	0.9688	0.9300	1.0700	0.9204	1.0173	LD	507 TX-1 6LIBERT	
314123	3WELLGTN	115.0	345	353	0.8947	0.9700	0.9300	1.0700	0.9215	1.0185	LD	507 TX-1 6LIBERT	
314141	3LIBERTY	115.0	345	353	0.8947	0.9664	0.9300	1.0700	0.9181	1.0147	LD	507 TX-1 6LIBERT	
314147	3MICR172	115.0	345	353	0.8960	0.9674	0.9300	1.0700	0.9190	1.0158	LD	507 TX-1 6LIBERT	
314157	3GODW172	115.0	345	353	0.8960	0.9674	0.9300	1.0700	0.9190	1.0158	LD	507 TX-1 6LIBERT	

CATEGORY B

AC Branch Violations

PSS(r)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, FEB 26 2013 11:30 <BRV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE CSCNOSURRY230KV ALT C

Case File X:\S2021\sum_2021(2013LF)_wpre_cscnosurry230 Alt C.sav

Subsys File X:\S2021\dvp.sub

Monit File X:\S2021\vapsys.mon

Contin File X:\S2021\vapsys.con

Exclud File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	GKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	102.5	75.3	89.0	115.1	614	314388 6LANEXA 230 314391 6LIGH209 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	100.9	73.7	89.0	113.3	614	314388 6LANEXA 230 314391 6LIGH209 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	100.6	75.3	89.0	113.0	613	314387 3LANEXA 115 314396 3NNEWS58 115 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	100.6	75.3	89.0	113.0	624	314396 3NNEWS58 115 314411 3TOANO58 115 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	99.0	73.7	89.0	111.2	613	314387 3LANEXA 115 314396 3NNEWS58 115 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	99.0	73.7	89.0	111.2	624	314396 3NNEWS58 115 314411 3TOANO58 115 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	98.4	75.3	89.0	110.6	618	314391 6LIGH209 230 314415 6WALR209 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	97.6	75.3	89.0	109.7	376	314214 6CHCKAHH 230 314390 6LIGH285 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	96.8	73.7	89.0	108.8	618	314391 6LIGH209 230 314415 6WALR209 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	93.6	75.3	89.0	105.1	376	314214 6CHCKAHH 230 314390 6LIGH285 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	92.9	75.3	89.0	104.4	608	314384 3KINGS M 115 314411 3TOANO58 115 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	92.6	75.3	89.0	104.1	617	314390 6LIGH285 230 314413 6WALR285 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	92.1	75.3	89.0	103.5	815	314538 6SURREY 230 314540 6POOLSVL 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	92.0	73.7	89.0	103.3	519	314296 6PENNNAN 230 314415 6WALR209 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	92.0	75.3	89.0	103.2	608	314384 3KINGS M 115 314411 3TOANO58 115 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	91.8	75.3	89.0	103.2	30	313818 6BENCHRCH 230 314522 6CHCKTUK 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	91.3	73.7	89.0	102.6	647	314421 6WINCHST 230 314540 6POOLSVL 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	91.0	73.7	89.0	102.2	617	314390 6LIGH285 230 314413 6WALR285 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	90.8	75.3	89.0	102.0	815	314538 6SURREY 230 314540 6POOLSVL 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	90.7	75.3	89.0	101.9	518	314296 6PENNNAN 230 314386 6KINGS M 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	90.4	73.7	89.0	101.6	29	313818 6BENCHRCH 230 314398 6NP NEWS 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	90.4	73.7	89.0	101.5	519	314296 6PENNNAN 230 314415 6WALR209 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	90.2	73.7	89.0	101.4	30	313818 6BENCHRCH 230 314522 6CHCKTUK 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	89.1	73.7	89.0	100.2	647	314421 6WINCHST 230 314540 6POOLSVL 230 1
314377	3DOW 34	115	314378 3FTEUS34	115	1	LN	89.1	73.7	89.0	100.1	518	314296 6PENNNAN 230 314386 6KINGS M 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN	88.8	75.3	89.0	99.8	29	313818 6BENCHRCH 230 314398 6NP NEWS 230 1
314377	3DOW 34	115	314387 3LANEXA	115	1	LN					610	314386 6KINGS M 230 314423 6YORKTWN 230 1

** From bus	** To bus	** GKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	88.7	75.3	89.0	99.7	599	314376 6DENBIGH 230 314413 6WALR285 230 1
314378 3FTEUS34	115 314381 3GRAFT34	115 1	LN	88.3	61.3	89.0	99.2	614	314388 6LANEXA 230 314391 6LIGH209 230 1
314212 6FRIVER	230 314222 6HANOVER	230 1	LN	779.9	577.0	797.0	97.9	291	314138 6MINE RD 230 314197 6LDYSMT1 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	87.2	73.7	89.0	97.9	610	314386 6KINGS M 230 314423 6YORKTWN 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	87.1	73.7	89.0	97.8	599	314376 6DENBIGH 230 314413 6WALR285 230 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	86.2	75.3	89.0	96.9	645	314418 6WHEALTJN 230 314421 6WINCHST 230 1
314378 3FTEUS34	115 314381 3GRAFT34	115 1	LN	86.1	61.3	89.0	96.7	613	314387 3LANEXA 115 314396 3NNEWS58 115 1
314378 3FTEUS34	115 314381 3GRAFT34	115 1	LN	86.1	61.3	89.0	96.7	624	314396 3NNEWS58 115 314411 3TOAN058 115 1
314391 6LIGH209	230 314415 6WALR209	230 1	LN	453.0	304.6	470.0	96.4	376	314214 6CHCKAHM 230 314390 6LIGH285 230 1
314756 3DOUBLDY	115 314776 3SOMRSET	115 1	LN	252.0	140.1	262.0	96.2	1097	314766 6LOUISA 230 314777 6S ANNA 230 1
314123 3WELLGYN	115 314141 3LIBERTY	115 1	LN	172.7	84.0	180.0	95.9	75	314014 3CANNOMB 115 314016 6CANNOMB 230 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	85.0	75.3	89.0	95.5	625	314398 6NP NEWS 230 314399 6PEMBROK 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	85.0	75.3	89.0	95.5	627	314399 6PEMBROK 230 314407 6SHELBNK 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	84.5	73.7	89.0	95.0	645	314418 6WHEALTJN 230 314421 6WINCHST 230 1
314756 3DOUBLDY	115 314769 3ORANGE	115 1	LN	248.8	137.0	262.0	95.0	1097	314766 6LOUISA 230 314777 6S ANNA 230 1
242701 05LESVI	138 314667 4ALTVSTA	138 1	LN	194.5	194.5	205.0	94.9	**	Base Case **
314378 3FTEUS34	115 314381 3GRAFT34	115 1	LN	84.4	61.3	89.0	94.8	618	314391 6LIGH209 230 314415 6WALR209 230 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	84.2	75.3	89.0	94.6	600	314376 6DENBIGH 230 314423 6YORKTWN 230 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	84.1	75.3	89.0	94.5	648	314422 3YORKTWN 115 314425 3YORK PS 115 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	84.1	75.3	89.0	94.5	650	314423 6YORKTWN 230 314425 3YORK PS 115 1
314449 6CHESAPK	230 314514 6YADKIN	230 1	LN	680.1	545.2	722.0	94.2	703	314464 6DOZIER 230 314465 6ELIZ R 230 1
314449 6CHESAPK	230 314514 6YADKIN	230 1	LN	680.1	545.2	722.0	94.2	704	314464 6DOZIER 230 314474 6GRENWCH 230 1
314461 3DEEPC46	115 314513 3YADKIN	115 1	LN	339.2	221.0	360.0	94.2	688	314449 6CHESAPK 230 314514 6YADKIN 230 1
314377 3DOW 34	115 314387 3LANEXA	115 1	LN	83.8	75.3	89.0	94.1	609	314384 3KINGS M 115 314424 3YKWS 58 115 1
314756 3DOUBLDY	115 314776 3SOMRSET	115 1	LN	246.4	140.1	262.0	94.0	406	314232 6NO ANNA 230 314766 6LOUISA 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	83.4	73.7	89.0	93.8	627	314399 6PEMBROK 230 314407 6SHELBNK 230 1
314378 3FTEUS34	115 314381 3GRAFT34	115 1	LN	83.5	61.3	89.0	93.8	376	314214 6CHCKAHM 230 314390 6LIGH285 230 1
314377 3DOW 34	115 314378 3FTEUS34	115 1	LN	83.4	73.7	89.0	93.7	625	314398 6NP NEWS 230 314399 6PEMBROK 230 1
314112 3IND HIL	115 314122 3SOWEGO	115 1	LN	167.4	94.7	179.0	93.5	261	314118 3MINNIEV 115 314167 3OX 115 1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 28 2013 17:13 <VOV0003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012

2013 LF WPRE CSCNOSURRY230KV ALT B
Case File X:\S2021\sum_2021(2013LF)_wpres_CSCNOSURRY230 Alt B.sav
Subsys File X:\S2021\ldvp.sub
Monit File X:\S2021\lvspsys.mon
Contn File X:\S2021\lvspsys.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.9404	0.9911	0.9300	1.0700	0.9415	1.0406	D	16	313810 6DAHLGREN 230 314131 6ARNOLDS 230 1
314014	3CANNONB	115.0	345	353	0.8358	0.9584	0.9300	1.0700	0.9485	1.0484	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.8713	0.9987	0.9300	1.0700	0.9488	1.0486	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3GOMAL172	115.0	345	353	0.9153	0.9664	0.9300	1.0700	0.9181	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.8939	1.0042	0.9300	1.0700	0.9540	1.0544	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8362	0.9975	0.9300	1.0700	0.9476	1.0474	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.8834	0.9981	0.9300	1.0700	0.9481	1.0480	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3MELIGTN	115.0	345	353	0.9279	0.9688	0.9300	1.0700	0.9204	1.0173	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.8904	1.0004	0.9300	1.0700	0.9504	1.0505	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9159	0.9664	0.9300	1.0700	0.9181	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.8362	0.9970	0.9300	1.0700	0.9472	1.0469	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.8360	0.9977	0.9300	1.0700	0.9478	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GOMAL172	115.0	345	353	0.9205	0.9674	0.9300	1.0700	0.9190	1.0158	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GOMAL197	115.0	345	353	0.8364	0.9968	0.9300	1.0700	0.9470	1.0467	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.8834	0.9980	0.9300	1.0700	0.9481	1.0480	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.8713	0.9987	0.9300	1.0700	0.9488	1.0487	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.8904	1.0004	0.9300	1.0700	0.9504	1.0505	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.8939	1.0042	0.9300	1.0700	0.9540	1.0544	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9024	0.9987	0.9300	1.0700	0.9488	1.0486	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	3LOMA172	115.0	345	353	0.9289	0.9664	0.9300	1.0700	0.9181	1.0147	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314050	1 TX181	13.2	345	353	0.9206	1.0042	0.9300	1.0700	0.9540	1.0544	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	3LOMA197	115.0	345	353	0.8721	0.9975	0.9300	1.0700	0.9476	1.0474	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314055	1 TX600	13.2	345	353	0.9112	0.9981	0.9300	1.0700	0.9481	1.0480	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314146	1 TX502	13.2	345	353	0.9170	1.0004	0.9300	1.0700	0.9504	1.0505	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MICR172	115.0	345	353	0.9294	0.9664	0.9300	1.0700	0.9181	1.0147	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MICR197	115.0	345	353	0.8719	0.9970	0.9300	1.0700	0.9472	1.0469	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8720	0.9977	0.9300	1.0700	0.9478	1.0476	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GOMAL197	115.0	345	353	0.8721	0.9968	0.9300	1.0700	0.9470	1.0467	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description		
314159	1 TX601	13.2	345	353	0.9111	0.9980	0.9300	1.0700	0.9481	1.0480	LD	76	314014 3CANNONB	115 314155 3CANNB T	115 1
314160	1 TX503	13.2	345	353	0.9025	0.9987	0.9300	1.0700	0.9488	1.0487	LD	76	314014 3CANNONB	115 314155 3CANNB T	115 1
314161	1 TX501	13.2	345	353	0.9170	1.0004	0.9300	1.0700	0.9504	1.0505	LD	76	314014 3CANNONB	115 314155 3CANNB T	115 1
314162	1 TX182	13.2	345	353	0.9206	1.0042	0.9300	1.0700	0.9540	1.0544	LD	76	314014 3CANNONB	115 314155 3CANNB T	115 1
314025	1 TX500	13.2	345	353	0.8610	0.9987	0.9300	1.0700	0.9488	1.0486	LD	102	314025 1 TX500	13.2 314148 3MCR197	115 1
314160	1 TX503	13.2	345	353	0.8611	0.9987	0.9300	1.0700	0.9488	1.0487	LD	102	314025 1 TX500	13.2 314148 3MCR197	115 1
314025	1 TX500	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0486	LD	103	314025 1 TX500	13.2 314160 1 TX503	13.2 21
314160	1 TX503	13.2	345	353	1.0494	0.9987	0.9300	1.0700	0.9488	1.0487	R	103	314025 1 TX500	13.2 314160 1 TX503	13.2 21
314051	310MA197	115.0	345	353	0.9298	0.9975	0.9300	1.0700	0.9476	1.0474	LD	152	314051 310MA197	115 314155 3CANNB T	115 1
314112	31ND HIL	115.0	345	353	0.9235	0.9880	0.9300	1.0700	0.9386	1.0374	LD	186	314068 60X	230 314167 30X	115 1
314114	31INNNDL	115.0	345	353	0.9092	0.9907	0.9300	1.0700	0.9412	1.0403	LD	186	314068 60X	230 314167 30X	115 1
314118	31INNIEV	115.0	345	353	0.9065	0.9933	0.9300	1.0700	0.9436	1.0430	LD	186	314068 60X	230 314167 30X	115 1
314167	30X	115.0	345	352	0.9066	1.0027	0.9300	1.0700	0.9526	1.0528	LD	186	314068 60X	230 314167 30X	115 1
315226	1N ANNA2	22.0	345	366	1.0706	1.0635	0.9300	1.0700	1.1013	1.1167	H	210	314074 6POSSUM	230 315007 1POSSM 5	25.0 1
314743	3BRANDY	115.0	345	363	0.9452	0.9964	0.9300	1.0700	0.9466	1.0462	D	228	314078 3BRANDY	115 314743 3BRANDY	115 1
314112	31ND HIL	115.0	345	353	0.9223	0.9880	0.9300	1.0700	0.9386	1.0374	LD	261	314118 3MINNIEV	115 314167 30X	115 1
314114	31INNNDL	115.0	345	353	0.9067	0.9907	0.9300	1.0700	0.9412	1.0403	LD	261	314118 3MINNIEV	115 314167 30X	115 1
314118	31INNIEV	115.0	345	353	0.9049	0.9933	0.9300	1.0700	0.9436	1.0430	LD	261	314118 3MINNIEV	115 314167 30X	115 1
314112	31ND HIL	115.0	345	353	0.9267	0.9880	0.9300	1.0700	0.9386	1.0374	LD	265	314122 3SOMEGO	115 314156 3BRISTER	115 1
314122	3SOMEGO	115.0	345	353	0.9172	1.0011	0.9300	1.0700	0.9510	1.0511	LD	265	314122 3SOMEGO	115 314156 3BRISTER	115 1
314014	3CANNONB	115.0	345	353	0.9418	0.9987	0.9300	1.0700	0.9485	1.0484	D	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314025	1 TX500	115.0	345	353	0.8928	0.9987	0.9300	1.0700	0.9488	1.0486	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314049	310MA172	115.0	345	353	0.8500	0.9664	0.9300	1.0700	0.9181	1.0147	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314050	1 TX181	13.2	345	353	0.9090	1.0042	0.9300	1.0700	0.9540	1.0544	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314051	310MA197	115.0	345	353	0.9397	0.9975	0.9300	1.0700	0.9476	1.0474	D	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314055	1 TX600	13.2	345	353	0.9042	0.9981	0.9300	1.0700	0.9481	1.0480	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314123	3WELLGTN	115.0	345	353	0.8476	0.9688	0.9300	1.0700	0.9204	1.0173	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314146	1 TX502	13.2	345	353	0.9087	1.0004	0.9300	1.0700	0.9504	1.0505	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314147	3MCR172	115.0	345	353	0.8497	0.9664	0.9300	1.0700	0.9181	1.0147	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314148	3MCR197	115.0	345	353	0.9388	0.9970	0.9300	1.0700	0.9472	1.0469	D	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314155	3CANNB T	115.0	345	353	0.9402	0.9977	0.9300	1.0700	0.9478	1.0476	D	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314157	3GOWM172	115.0	345	353	0.8490	0.9674	0.9300	1.0700	0.9190	1.0158	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314158	3GOWM197	115.0	345	353	0.9382	0.9968	0.9300	1.0700	0.9470	1.0467	D	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314159	1 TX601	13.2	345	353	0.9043	0.9980	0.9300	1.0700	0.9481	1.0480	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314160	1 TX503	13.2	345	353	0.8928	0.9987	0.9300	1.0700	0.9488	1.0487	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314161	1 TX501	13.2	345	353	0.9087	1.0004	0.9300	1.0700	0.9504	1.0505	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314162	1 TX182	13.2	345	353	0.9090	1.0042	0.9300	1.0700	0.9540	1.0544	LD	266	314123 3WELLGTN	115 314141 3LIBERTY	115 1
314049	310MA172	115.0	345	353	0.9203	0.9664	0.9300	1.0700	0.9181	1.0147	L	267	314123 3WELLGTN	115 314157 3GOWM172	115 1
314147	3MCR172	115.0	345	353	0.9202	0.9664	0.9300	1.0700	0.9181	1.0147	L	267	314123 3WELLGTN	115 314157 3GOWM172	115 1
314157	3GOWM172	115.0	345	353	0.9203	0.9674	0.9300	1.0700	0.9190	1.0158	L	267	314123 3WELLGTN	115 314157 3GOWM172	115 1
314112	31ND HIL	115.0	345	353	0.9203	0.9674	0.9300	1.0700	0.9190	1.0158	L	267	314123 3WELLGTN	115 314157 3GOWM172	115 1
314122	3SOMEGO	115.0	345	353	0.9271	1.0011	0.9300	1.0700	0.9386	1.0374	LD	269	314130 6BRISTER	230 314156 3BRISTER	115 1
314156	3BRISTER	115.0	345	353	0.9178	1.0049	0.9300	1.0700	0.9510	1.0511	LD	269	314130 6BRISTER	230 314156 3BRISTER	115 1
313810	6DAHLGREN	230.0	345	354	0.9354	0.9911	0.9300	1.0700	0.9415	1.0406	D	271	314131 6ARNOLDS	230 314175 6COMORN	230 1
314131	6ARNOLDS	230.0	345	354	0.9350	0.9961	0.9300	1.0700	0.9463	1.0459	D	271	314131 6ARNOLDS	230 314175 6COMORN	230 1
313810	6DAHLGREN	230.0	345	354	0.9309	0.9911	0.9300	1.0700	0.9415	1.0406	D	273	314132 6BRINCHMD	230 314175 6COMORN	230 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314131	GARNOLDS	230.0	345	354	0.9301	0.9961	0.9300	1.0700	0.9463	1.0459	D	273	314132 6BIRCHMD 230 314175 6COMORN 230 1
314139	GOAGROV	230.0	345	354	0.9391	0.9909	0.9300	1.0700	0.9414	1.0405	D	273	314132 6BIRCHMD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9301	0.9969	0.9300	1.0700	0.9470	1.0467	D	273	314132 6BIRCHMD 230 314175 6COMORN 230 1
314014	3CANNONB	115.0	345	353	0.9419	0.9984	0.9300	1.0700	0.9485	1.0484	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314025	1 TX500	13.2	345	353	0.8929	0.9987	0.9300	1.0700	0.9488	1.0486	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314049	3LOMA172	115.0	345	353	0.8501	0.9664	0.9300	1.0700	0.9181	1.0147	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314050	1 TX181	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314051	3LOMA172	115.0	345	353	0.9398	0.9975	0.9300	1.0700	0.9476	1.0474	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314055	1 TX600	13.2	345	353	0.9042	0.9981	0.9300	1.0700	0.9481	1.0480	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELGTV	115.0	345	353	0.8477	0.9686	0.9300	1.0700	0.9204	1.0173	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	353	0.8477	0.9700	0.9300	1.0700	0.9215	1.0185	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314146	1 TX502	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0505	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MICR172	115.0	345	353	0.8429	0.9664	0.9300	1.0700	0.9181	1.0147	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314148	3MICR197	115.0	345	353	0.9388	0.9970	0.9300	1.0700	0.9472	1.0469	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314155	3CANBR T	115.0	345	353	0.9402	0.9977	0.9300	1.0700	0.9478	1.0476	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8492	0.9674	0.9300	1.0700	0.9190	1.0158	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314158	3GOWM197	115.0	345	353	0.9393	0.9968	0.9300	1.0700	0.9470	1.0467	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314159	1 TX601	13.2	345	353	0.9042	0.9980	0.9300	1.0700	0.9481	1.0480	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314160	1 TX503	13.2	345	353	0.8929	0.9987	0.9300	1.0700	0.9488	1.0487	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314161	1 TX501	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0505	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314162	1 TX182	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314160	3LANE WD	115.0	345	363	0.9325	0.9817	0.9300	1.0700	0.9326	1.0308	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314175	3NI RVER	115.0	345	363	0.9287	1.0031	0.9300	1.0700	0.9529	1.0532	LD	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314179	3TUTAVAN	115.0	345	363	0.9343	0.9946	0.9300	1.0700	0.9449	1.0444	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314780	3WILDRS	115.0	345	363	0.9286	0.9781	0.9300	1.0700	0.9292	1.0270	LD	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3SLABTN	115.0	345	355	0.9466	1.0035	0.9300	1.0700	0.9533	1.0536	D	286	314136 3FREDRSG 115 314151 3SLABTN 115 1
314049	3LOMA172	115.0	345	353	0.9171	0.9664	0.9300	1.0700	0.9181	1.0147	LD	298	314147 3MICR172 115 314157 3GOWM172 115 1
314147	3MICR172	115.0	345	353	0.9270	0.9664	0.9300	1.0700	0.9181	1.0147	LD	298	314147 3MICR172 115 314157 3GOWM172 115 1
314025	1 TX500	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0486	LD	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314160	1 TX503	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0487	LD	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314025	1 TX500	13.2	345	353	0.9127	0.9987	0.9300	1.0700	0.9488	1.0486	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314050	1 TX181	13.2	345	353	0.9291	1.0042	0.9300	1.0700	0.9540	1.0544	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314146	1 TX502	13.2	345	353	0.9258	1.0004	0.9300	1.0700	0.9504	1.0505	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314148	3MICR197	115.0	345	353	0.8775	0.9970	0.9300	1.0700	0.9472	1.0469	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314158	3GOWM197	115.0	345	353	0.8777	0.9968	0.9300	1.0700	0.9470	1.0467	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9127	0.9987	0.9300	1.0700	0.9488	1.0487	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314161	1 TX501	13.2	345	353	0.9258	1.0004	0.9300	1.0700	0.9504	1.0505	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314162	1 TX182	13.2	345	353	0.9291	1.0042	0.9300	1.0700	0.9540	1.0544	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314259	3CAR56 1	115.0	345	362	1.1487	1.0183	0.9300	1.0700	0.9674	1.0693	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314524	3FRNKLN	115.0	345	360	1.0696	1.0186	0.9300	1.0700	0.9677	1.0696	R	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314526	3HANDSON	115.0	345	360	1.0770	1.0174	0.9300	1.0700	0.9665	1.0682	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314534	3S HAMPT	115.0	345	360	1.0747	1.0191	0.9300	1.0700	0.9681	1.0700	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314541	3WATKINS	115.0	345	360	1.0747	1.0201	0.9300	1.0700	0.9691	1.0711	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314558	3BOYKINS	115.0	345	362	1.0823	1.0135	0.9300	1.0700	0.9629	1.0642	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314587	3WARTSV	115.0	345	362	1.1066	1.0135	0.9300	1.0700	0.9628	1.0642	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314589	3MURPHYS	115.0	345	362	1.0575	1.0048	0.9300	1.0700	0.9545	1.0550	R	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowVmi t	Upplimi t	VoltDro p	VoleRis e	Viol	Ncon	Contingency Description	
314604	3SEABORD	115.0	345	362	1.1171	1.0138	0.9300	1.0700	0.9631	1.0645	HR	436	314259 3CAR56 1	115 314559 3CAROLNA 115 1
314826	3WATKI 1	115.0	345	360	1.0753	1.0206	0.9300	1.0700	0.9696	1.0716	HR	436	314259 3CAR56 1	115 314559 3CAROLNA 115 1
314827	3WATKI 2	115.0	345	360	1.0753	1.0206	0.9300	1.0700	0.9696	1.0716	HR	436	314259 3CAR56 1	115 314559 3CAROLNA 115 1
314835	3CAROL 1	115.0	345	362	1.1498	1.0194	0.9300	1.0700	0.9684	1.0703	HR	436	314259 3CAR56 1	115 314559 3CAROLNA 115 1
315115	1SHAWPT1	13.8	345	360	1.0463	0.9884	0.9300	1.0700	0.9389	1.0378	R	436	314259 3CAR56 1	115 314559 3CAROLNA 115 1
314680	2CHATHAM	69.0	345	358	0.9430	0.9931	0.9300	1.0700	0.9434	1.0427	D	589	314348 2GRETN 1	69.0 314732 2GRNA FB 69.0 1
314685	2CHITM TP	69.0	345	358	0.9436	0.9937	0.9300	1.0700	0.9440	1.0434	D	589	314348 2GRETN 1	69.0 314732 2GRNA FB 69.0 1
314727	2CLMX DP	69.0	345	358	0.9403	0.9903	0.9300	1.0700	0.9408	1.0399	D	589	314348 2GRETN 1	69.0 314732 2GRNA FB 69.0 1
314728	2CLMX TP	69.0	345	358	0.9409	0.9911	0.9300	1.0700	0.9415	1.0407	D	589	314348 2GRETN 1	69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9435	0.9935	0.9300	1.0700	0.9439	1.0432	D	589	314348 2GRETN 1	69.0 314732 2GRNA FB 69.0 1
314527	3HOLLAND	115.0	345	360	1.0682	1.0067	0.9300	1.0700	0.9564	1.0570	R	800	314527 3HOLLAND	115 314536 3SUFFOLK 115 1
314539	3UNCAMP	115.0	345	360	1.0706	1.0180	0.9300	1.0700	0.9671	1.0689	HR	800	314527 3HOLLAND	115 314536 3SUFFOLK 115 1
314824	3UNCAM 1	115.0	345	360	1.0714	1.0187	0.9300	1.0700	0.9678	1.0696	HR	800	314527 3HOLLAND	115 314536 3SUFFOLK 115 1
314524	3FINKLIN	115.0	345	360	1.0811	1.0186	0.9300	1.0700	0.9677	1.0696	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314526	3HANDSON	115.0	345	360	1.0705	1.0174	0.9300	1.0700	0.9665	1.0682	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0772	1.0191	0.9300	1.0700	0.9681	1.0700	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0848	1.0180	0.9300	1.0700	0.9671	1.0689	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0793	1.0201	0.9300	1.0700	0.9691	1.0711	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314824	3UNCAM 1	115.0	345	360	1.0855	1.0187	0.9300	1.0700	0.9678	1.0696	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0799	1.0206	0.9300	1.0700	0.9696	1.0716	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0799	1.0206	0.9300	1.0700	0.9696	1.0716	HR	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
315115	1SHAWPT1	13.8	345	360	1.0466	0.9884	0.9300	1.0700	0.9389	1.0378	R	801	314527 3HOLLAND	115 314539 3UNCAMP 115 1
314516	3BRUNSW 1	115.0	345	358	1.0725	1.0063	0.9300	1.0700	0.9560	1.0566	HR	852	314559 3CAROLNA	115 314578 3HORNRTN 115 1
314565	3CLBHS71	115.0	345	362	1.0955	1.0013	0.9300	1.0700	0.9512	1.0513	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314675	3BRUNSW 1	115.0	345	358	1.0623	1.0039	0.9300	1.0700	0.9527	1.0541	R	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314676	3BRUNSW 1	115.0	345	358	1.0720	1.0058	0.9300	1.0700	0.9555	1.0561	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314693	3FMAN D	115.0	345	358	1.0867	1.0029	0.9300	1.0700	0.9527	1.0530	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314704	3LAWRENC	115.0	345	358	1.0773	1.0047	0.9300	1.0700	0.9545	1.0550	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314782	2BRUNSWC	69.0	345	358	1.0939	1.0256	0.9300	1.0700	0.9743	1.0769	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314785	2DANLTHW	69.0	345	358	1.0403	0.9717	0.9300	1.0700	0.9231	1.0203	R	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314786	2GASBURG	69.0	345	358	1.0792	1.0088	0.9300	1.0700	0.9583	1.0592	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314787	2BRUNSW2	69.0	345	358	1.0650	0.9981	0.9300	1.0700	0.9482	1.0480	R	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314850	3CLBHS 1	115.0	345	362	1.0960	1.0018	0.9300	1.0700	0.9517	1.0519	HR	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314872	2BRUNSWIC	69.0	345	358	1.0521	0.9843	0.9300	1.0700	0.9350	1.0335	R	861	314562 3CLUBHSE	115 314565 3CLBHS71 115 21
314576	3FIVE PT	115.0	345	362	1.0316	0.9816	0.9300	1.0700	0.9325	1.0307	R	891	314576 3FIVE PT	115 314592 3PANTEGO 115 1
313830	3KHWAK 1	115.0	345	361	1.0793	1.0359	0.9300	1.0700	0.9841	1.0877	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314635	3COLNGTP	115.0	345	361	1.0894	1.0262	0.9300	1.0700	0.9749	1.0775	HR	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314636	3COLNG2	115.0	345	361	1.0947	1.0311	0.9300	1.0700	0.9796	1.0827	HR	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0788	1.0354	0.9300	1.0700	0.9836	1.0872	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0788	1.0354	0.9300	1.0700	0.9836	1.0872	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0797	1.0364	0.9300	1.0700	0.9846	1.0882	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1
314830	3COLNG 1	115.0	345	361	1.0952	1.0316	0.9300	1.0700	0.9800	1.0832	HR	946	314635 3COLNGTP	115 314720 3 52T190 115 1
315146	1KITTYHA	13.8	345	361	1.0788	1.0354	0.9300	1.0700	0.9836	1.0872	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1
315147	1KITTYHB	13.8	345	361	1.0799	1.0365	0.9300	1.0700	0.9846	1.0883	H	946	314635 3COLNGTP	115 314720 3 52T190 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
B51162	KITT 3W4	1.0	345	361	1.0788	1.0354	0.9300	1.0700	0.9836	1.0872	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
B51163	KITT 3W5	1.0	345	361	1.0798	1.0365	0.9300	1.0700	0.9846	1.0883	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0758	1.0061	0.9300	1.0700	0.9558	1.0564	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0755	1.0059	0.9300	1.0700	0.9556	1.0562	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW35T57	69.0	345	358	1.0657	1.0106	0.9300	1.0700	0.9601	1.0611	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0602	1.0048	0.9300	1.0700	0.9545	1.0551	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0657	1.0106	0.9300	1.0700	0.9601	1.0611	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0690	1.0061	0.9300	1.0700	0.9558	1.0564	R	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314731	2GRETN	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0561	R	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0561	R	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9389	0.9974	0.9300	1.0700	0.9476	1.0473	D	1062	314744 3BREMO 115 314746 4BREMO 138 1
315226	IN ANNA2	22.0	345	366	1.0710	1.0635	0.9300	1.0700	1.0103	1.1167	H	1069	314745 6LOISACT 230 314758 6GORDNVL 230 1
314768	3MITCHEL	115.0	345	363	0.9432	1.0036	0.9300	1.0700	0.9534	1.0537	D	1105	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9421	0.9969	0.9300	1.0700	0.9471	1.0468	D	1197	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9191	0.9766	0.9300	1.0700	0.9278	1.0255	LD	1200	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	IN ANNA2	22.0	345	366	1.0729	1.0635	0.9300	1.0700	1.0103	1.1167	H	1212	314897 8MORRS 1 500 314916 8MORRSVL 500 1
315226	IN ANNA2	22.0	345	366	1.0733	1.0635	0.9300	1.0700	1.0103	1.1167	H	1223	314902 8CARSON 500 314906 8CLOVER 500 1
315226	IN ANNA2	22.0	345	366	1.0727	1.0635	0.9300	1.0700	1.0103	1.1167	H	1235	314908 8ELMONT 500 314910 8CUNNING 500 1
315226	IN ANNA2	22.0	345	366	1.0735	1.0635	0.9300	1.0700	1.0103	1.1167	H	1262	314924 8SUNRY 500 315233 1SUNRY 2 22.0 1
315226	IN ANNA2	22.0	345	366	1.0713	1.0635	0.9300	1.0700	1.0103	1.1167	H	1276	235110 01MDBRK 500 314913 8LOUDOUN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 28 2013 17:51 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT B
Case.File X:\S2021\sum 2021(2013LF)_wpre_CSCnosurry230 Alt B.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	**	To bus	**	CKT	Type	ContMVA	BaseRlo w	Rating	Loading %	Ncon	Contingency Description
314212	6FRRIVER	230	314222	6HANOVER	230	LN	LN	778.0	576.8	797.0	97.6	391	LN 2090
314123	3WELLGTN	115	314141	3LIBERTY	115	LN	LN	174.3	84.0	180.0	96.8	322	LN 2011
314756	3DOUBLDY	115	314776	3SOMRSET	115	LN	LN	250.9	140.0	262.0	95.8	224	LN 255
242701	05LEESVI	138	314667	4ALTVSTA	138	LN	LN	194.6	194.6	205.0	94.9	**	Base Case **
314756	3DOUBLDY	115	314769	3ORANGE	115	LN	LN	247.7	136.8	262.0	94.5	224	LN 255
314461	3DEEPC46	115	314513	3YADKIN	115	LN	LN	339.9	221.6	360.0	94.4	231	LN 262
314449	6CHESAPK	230	314514	6YADKIN	230	LN	LN	680.4	546.1	722.0	94.2	329	LN 2018

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 28 2013 17:53 <V0V003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT B
Case.File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt B.sav
Subsys.File X:\S2021\vdvp.sub
Monit.File X:\S2021\vdvps.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314524	3FRANKL	115.0	345	360	1.0813	1.0186	0.9300	1.0700	0.9677	1.0696	HR	60	LN 68
314526	3HANDSON	115.0	345	360	1.0707	1.0174	0.9300	1.0700	0.9665	1.0682	HR	60	LN 68
314534	3S HAMPT	115.0	345	360	1.0773	1.0191	0.9300	1.0700	0.9681	1.0700	HR	60	LN 68
314539	3UNCAMP	115.0	345	360	1.0850	1.0180	0.9300	1.0700	0.9671	1.0689	HR	60	LN 68
314541	3WATKINS	115.0	345	360	1.0796	1.0201	0.9300	1.0700	0.9691	1.0711	HR	60	LN 68
314824	3UNCAM 1	115.0	345	360	1.0857	1.0187	0.9300	1.0700	0.9678	1.0696	HR	60	LN 68
314826	3WATKI 1	115.0	345	360	1.0801	1.0206	0.9300	1.0700	0.9696	1.0716	HR	60	LN 68
314827	3WATKI 2	115.0	345	360	1.0801	1.0206	0.9300	1.0700	0.9696	1.0716	HR	60	LN 68
315115	1SHAMPT1	13.8	345	360	1.0489	0.9884	0.9300	1.0700	0.9389	1.0378	R	60	LN 68
314025	1 TX500	13.2	345	353	0.9467	0.9987	0.9300	1.0700	0.9488	1.0486	D	150	LN 172
314147	3MICR172	115.0	345	353	0.9034	0.9664	0.9300	1.0700	0.9181	1.0147	LD	150	LN 172
314160	1 TX503	13.2	345	353	0.9467	0.9987	0.9300	1.0700	0.9488	1.0487	D	150	LN 172
314348	2GRETN 1	69.0	345	358	1.0690	1.0061	0.9300	1.0700	0.9558	1.0564	R	151	LN 173
314731	2GRETNA	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0561	R	151	LN 173
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	151	LN 173
314874	2LN 174	69.0	345	351	1.0587	1.0024	0.9300	1.0700	0.9523	1.0526	R	152	LN 174
314878	2LN 178	69.0	345	351	1.0586	1.0024	0.9300	1.0700	0.9523	1.0526	R	154	LN 178
314879	2LN 179	69.0	345	351	1.0587	1.0024	0.9300	1.0700	0.9523	1.0526	R	155	LN 179
314880	2LN 180	69.0	345	351	1.0589	1.0024	0.9300	1.0700	0.9523	1.0526	R	156	LN 180
314112	3IND HIL	115.0	345	353	0.9172	0.9880	0.9300	1.0700	0.9386	1.0374	LD	157	LN 181
314122	3SOWEGO	115.0	345	353	0.9272	1.0011	0.9300	1.0700	0.9510	1.0511	LD	157	LN 181
314025	1 TX500	13.2	345	353	0.8895	0.9987	0.9300	1.0700	0.9488	1.0486	LD	170	LN 197
314049	3LOMA172	115.0	345	353	0.9279	0.9664	0.9300	1.0700	0.9181	1.0147	L	170	LN 197
314050	1 TX181	13.2	345	353	0.9419	1.0042	0.9300	1.0700	0.9540	1.0544	D	170	LN 197
314051	3LOMA197	115.0	345	353	0.8938	0.9975	0.9300	1.0700	0.9476	1.0474	LD	170	LN 197
314055	1 TX600	13.2	345	353	0.9226	0.9981	0.9300	1.0700	0.9481	1.0480	LD	170	LN 197

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314146	1 TX502	13.2	345	353	0.9059	1.0004	0.9300	1.0700	0.9504	1.0505	LD	170	LN 197
314147	3MICR172	115.0	345	353	0.9282	0.9664	0.9300	1.0700	0.9181	1.0147	L	170	LN 197
314148	3MICR197	115.0	345	353	0.8525	0.9970	0.9300	1.0700	0.9472	1.0469	LD	170	LN 197
314158	3GOW197	115.0	345	353	0.9125	0.9968	0.9300	1.0700	0.9470	1.0467	LD	170	LN 197
314159	1 TX601	13.2	345	353	0.9226	0.9980	0.9300	1.0700	0.9481	1.0480	LD	170	LN 197
314160	1 TX503	13.2	345	353	0.8896	0.9987	0.9300	1.0700	0.9488	1.0487	LD	170	LN 197
314161	1 TX501	13.2	345	353	0.9059	1.0004	0.9300	1.0700	0.9504	1.0505	LD	170	LN 197
314162	1 TX182	13.2	345	353	0.9419	1.0042	0.9300	1.0700	0.9540	1.0544	D	170	LN 197
315226	1N ANNA2	22.0	345	366	1.0713	1.0635	0.9300	1.0700	1.0103	1.1167	H	273	LN 535
315226	1N ANNA2	22.0	345	366	1.0733	1.0635	0.9300	1.0700	1.0103	1.1167	H	286	LN 553
314014	3CANNONB	115.0	345	353	0.8280	0.9984	0.9300	1.0700	0.9485	1.0484	LD	289	LN 556
314025	1 TX500	115.0	345	353	0.8625	0.9987	0.9300	1.0700	0.9488	1.0486	LD	322	LN 2011
314049	3LOMA172	115.0	345	353	0.9085	0.9664	0.9300	1.0700	0.9181	1.0147	LD	322	LN 2011
314050	1 TX181	13.2	345	353	0.8962	1.0042	0.9300	1.0700	0.9540	1.0544	LD	322	LN 2011
314051	3LOMA197	115.0	345	353	0.8284	0.9975	0.9300	1.0700	0.9476	1.0474	LD	322	LN 2011
314055	1 TX600	13.2	345	353	0.8756	0.9981	0.9300	1.0700	0.9481	1.0480	LD	322	LN 2011
314123	3WELLGTN	115.0	345	353	0.9213	0.9688	0.9300	1.0700	0.9204	1.0173	L	322	LN 2011
314141	3LIBERTY	115.0	345	353	0.9251	0.9700	0.9300	1.0700	0.9215	1.0185	L	322	LN 2011
314146	1 TX502	13.2	345	353	0.8829	1.0004	0.9300	1.0700	0.9504	1.0505	LD	322	LN 2011
314147	3MICR172	115.0	345	353	0.9091	0.9664	0.9300	1.0700	0.9181	1.0147	LD	322	LN 2011
314148	3MICR197	115.0	345	353	0.8283	0.9970	0.9300	1.0700	0.9472	1.0469	LD	322	LN 2011
314155	3CANBR T	115.0	345	353	0.8282	0.9977	0.9300	1.0700	0.9478	1.0476	LD	322	LN 2011
314157	3GOW172	115.0	345	353	0.9138	0.9674	0.9300	1.0700	0.9190	1.0158	LD	322	LN 2011
314158	3GOW197	115.0	345	353	0.8286	0.9980	0.9300	1.0700	0.9470	1.0467	LD	322	LN 2011
314159	1 TX601	13.2	345	353	0.8756	0.9980	0.9300	1.0700	0.9481	1.0480	LD	322	LN 2011
314160	1 TX503	13.2	345	353	0.8625	0.9987	0.9300	1.0700	0.9488	1.0487	LD	322	LN 2011
314161	1 TX501	13.2	345	353	0.8829	1.0004	0.9300	1.0700	0.9504	1.0505	LD	322	LN 2011
314162	1 TX182	13.2	345	353	0.8662	1.0042	0.9300	1.0700	0.9540	1.0544	LD	322	LN 2011
315226	1N ANNA2	22.0	345	366	1.0707	1.0635	0.9300	1.0700	1.0103	1.1167	H	389	LN 2088
314025	1 TX500	13.2	345	353	0.8610	0.9987	0.9300	1.0700	0.9488	1.0486	LD	456	TX-1 3MICR19
314160	1 TX503	13.2	345	353	0.8611	0.9987	0.9300	1.0700	0.9488	1.0487	LD	456	TX-1 3MICR19
314112	3IND HIL	115.0	345	353	0.9235	0.9880	0.9300	1.0700	0.9386	1.0374	LD	473	TX-1 60X
314114	3LINDNDL	115.0	345	353	0.9082	0.9907	0.9300	1.0700	0.9412	1.0403	LD	473	TX-1 60X
314118	3MINNIEV	115.0	345	353	0.9065	0.9933	0.9300	1.0700	0.9436	1.0430	LD	473	TX-1 60X
314167	3OX	115.0	345	352	0.9066	1.0027	0.9300	1.0700	0.9526	1.0528	LD	473	TX-1 60X
315226	1N ANNA2	22.0	345	366	1.0706	1.0635	0.9300	1.0700	1.0103	1.1167	H	483	TX-1 6POSSU3
314112	3IND HIL	115.0	345	353	0.9271	0.9880	0.9300	1.0700	0.9386	1.0374	LD	495	TX-1 6BRISTE
314122	3SOWEGO	115.0	345	353	0.9478	1.0011	0.9300	1.0700	0.9510	1.0511	LD	495	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9478	1.0049	0.9300	1.0700	0.9547	1.0551	LD	495	TX-1 6BRISTE
314014	3CANNONB	115.0	345	353	0.9419	0.9984	0.9300	1.0700	0.9485	1.0484	D	498	TX-1 6LIBERT
314025	1 TX500	13.2	345	353	0.8929	0.9987	0.9300	1.0700	0.9488	1.0486	LD	498	TX-1 6LIBERT
314049	3LOMA172	115.0	345	353	0.8501	0.9664	0.9300	1.0700	0.9181	1.0147	LD	498	TX-1 6LIBERT
314050	1 TX181	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	498	TX-1 6LIBERT

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLimi t	UppLimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314051	3LONA197	115.0	345	353	0.9398	0.9975	0.9300	1.0700	0.9476	1.0474	D	498	TX-1 6LIBERT
314055	1 TX600	13.2	345	353	0.9042	0.9981	0.9300	1.0700	0.9481	1.0480	LD	498	TX-1 6LIBERT
314123	3WELLG1N	115.0	345	353	0.8477	0.9688	0.9300	1.0700	0.9204	1.0173	LD	498	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8477	0.9700	0.9300	1.0700	0.9215	1.0185	LD	498	TX-1 6LIBERT
314146	1 TX502	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0505	LD	498	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8499	0.9664	0.9300	1.0700	0.9181	1.0147	LD	498	TX-1 6LIBERT
314148	3MICR197	115.0	345	353	0.9388	0.9970	0.9300	1.0700	0.9472	1.0469	D	498	TX-1 6LIBERT
314155	3CANBR T	115.0	345	353	0.9402	0.9977	0.9300	1.0700	0.9478	1.0476	D	498	TX-1 6LIBERT
314157	3GODW172	115.0	345	353	0.8492	0.9674	0.9300	1.0700	0.9470	1.0458	LD	498	TX-1 6LIBERT
314159	1 TX601	13.2	345	353	0.9042	0.9980	0.9300	1.0700	0.9481	1.0480	LD	498	TX-1 6LIBERT
314160	1 TX503	13.2	345	353	0.8929	0.9987	0.9300	1.0700	0.9488	1.0487	LD	498	TX-1 6LIBERT
314161	1 TX501	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0505	LD	498	TX-1 6LIBERT
314162	1 TX182	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	498	TX-1 6LIBERT
314025	1 TX500	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0486	LD	503	TX-1 3MICR17
314160	1 TX503	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0487	LD	503	TX-1 3MICR17
315226	1N ANNA2	22.0	345	366	1.0735	1.0635	0.9300	1.0700	1.0103	1.1167	H	685	TX-1 8SURRY

CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 28 2013 17:11 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT B
Case File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt B.sav
Subsys File X:\S2021\dvp.sub
Monit File X:\S2021\vapsys.mon
Contn File X:\S2021\vapsys.con
Exclud File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description	
314212	6FRRIVER	230	314222 6HANOVER	230	LN	777.8	576.8	797.0	97.6	291	314138 6MINE RD	230 314197 6LDYSMT1 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	LN	251.8	140.0	262.0	96.1	1102	314766 6LOUISA	230 314777 6S ANNA 230 1
314123	3WELLGTN	115	314141 3LIBERTY	115	LN	172.7	84.0	180.0	95.9	75	314014 3CANNONB	115 314016 6CANNONB 230 1
242701	05LEESVI	138	314667 4ALTVSTA	138	LN	194.6	194.6	205.0	94.9	**	Base Case	**
314756	3DOUBLDY	115	314769 3ORANGE	115	LN	248.6	136.8	262.0	94.9	1102	314766 6LOUISA	230 314777 6S ANNA 230 1
314461	3DEEPC46	115	314513 3YADKIN	115	LN	339.9	221.6	360.0	94.4	691	314449 6CHESAPK	230 314514 6YADKIN 230 1
314449	6CHESAPK	230	314514 6YADKIN	230	LN	680.4	546.1	722.0	94.2	706	314464 6DOZIER	230 314465 6ELIZ R 230 1
314449	6CHESAPK	230	314514 6YADKIN	230	LN	680.4	546.1	722.0	94.2	707	314464 6DOZIER	230 314474 6GRENWCH 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	LN	246.2	140.0	262.0	94.0	406	314232 6NO ANNA	230 314766 6LOUISA 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	LN	660.0	531.9	705.0	93.6	160	314057 6LAKERD	230 314074 6POSSUM 230 1
314112	3IND HTL	115	314122 3SOWEGO	115	LN	167.4	94.6	179.0	93.5	261	314118 3MINNIEV	115 314167 30X 115 1

AC Bus Voltage Violations

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, FEB 26 2013 14:48 <V0V003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT C
Case.File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt C.sav
Subsys.File X:\S2021\wpsub
Monit.File X:\S2021\wapsys.mon
Contn.File X:\S2021\wapsys.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro P	Voltris e	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.9353	0.9906	0.9300	1.0700	0.9411	1.0402	D	16	313810 6DAHLGREN 230 314131 GARNOLDS 230 1
314014	3CANNONB	115.0	345	353	0.9358	0.9984	0.9300	1.0700	0.9485	1.0483	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9713	0.9987	0.9300	1.0700	0.9487	1.0486	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	31OWAL172	115.0	345	353	0.9152	0.9664	0.9300	1.0700	0.9180	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.8938	1.0042	0.9300	1.0700	0.9540	1.0544	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	31OWAL197	115.0	345	353	0.9361	0.9975	0.9300	1.0700	0.9476	1.0474	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.8833	0.9980	0.9300	1.0700	0.9481	1.0479	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLYN	115.0	345	353	0.9279	0.9688	0.9300	1.0700	0.9204	1.0173	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.8904	1.0004	0.9300	1.0700	0.9504	1.0504	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9158	0.9664	0.9300	1.0700	0.9181	1.0147	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.9361	0.9970	0.9300	1.0700	0.9471	1.0468	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.8360	0.9977	0.9300	1.0700	0.9478	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GODW172	115.0	345	353	0.9205	0.9674	0.9300	1.0700	0.9190	1.0158	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GODW197	115.0	345	353	0.9363	0.9968	0.9300	1.0700	0.9470	1.0467	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.9834	0.9980	0.9300	1.0700	0.9481	1.0479	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9713	0.9987	0.9300	1.0700	0.9488	1.0486	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.8904	1.0004	0.9300	1.0700	0.9504	1.0504	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.8938	1.0042	0.9300	1.0700	0.9540	1.0544	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9024	0.9987	0.9300	1.0700	0.9487	1.0486	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	31OWAL172	115.0	345	353	0.9289	0.9664	0.9300	1.0700	0.9180	1.0147	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314050	1 TX181	13.2	345	353	0.9205	1.0042	0.9300	1.0700	0.9540	1.0544	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	31OWAL197	115.0	345	353	0.8720	0.9975	0.9300	1.0700	0.9476	1.0474	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314055	1 TX600	13.2	345	353	0.9111	0.9980	0.9300	1.0700	0.9481	1.0479	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314146	1 TX502	13.2	345	353	0.9169	1.0004	0.9300	1.0700	0.9504	1.0504	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MICR172	115.0	345	353	0.9293	0.9664	0.9300	1.0700	0.9181	1.0147	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MICR197	115.0	345	353	0.9719	0.9970	0.9300	1.0700	0.9471	1.0468	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8720	0.9977	0.9300	1.0700	0.9478	1.0476	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GODW197	115.0	345	353	0.8721	0.9968	0.9300	1.0700	0.9470	1.0467	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314159	1 TX601	13.2	345	353	0.9411	0.9980	0.9300	1.0700	0.9481	1.0479	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	Voltrng e	Viol	Noon	Contingency Description
314160	1 TX503	13.2	345	353	0.9024	0.9987	0.9300	1.0700	0.9488	1.0486	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314161	1 TX501	13.2	345	353	0.9370	1.0004	0.9300	1.0700	0.9504	1.0504	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314162	1 TX182	13.2	345	353	0.9205	1.0042	0.9300	1.0700	0.9540	1.0544	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314025	1 TX500	13.2	345	353	0.8610	0.9987	0.9300	1.0700	0.9487	1.0486	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	0.8610	0.9987	0.9300	1.0700	0.9488	1.0486	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314025	1 TX500	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9487	1.0486	LD	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314160	1 TX503	13.2	345	353	1.0494	0.9987	0.9300	1.0700	0.9488	1.0486	LD	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314051	3LOMA197	115.0	345	353	0.9298	0.9975	0.9300	1.0700	0.9476	1.0474	LD	152	314051 3LOMA197 115 314155 3CANNB T 115 1
314112	3IND HIL	115.0	345	353	0.9234	0.9980	0.9300	1.0700	0.9386	1.0374	LD	186	314068 60X 230 314167 30X 115 1
314114	3LINDNDL	115.0	345	353	0.9082	0.9907	0.9300	1.0700	0.9412	1.0403	LD	186	314068 60X 230 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9065	0.9933	0.9300	1.0700	0.9436	1.0429	LD	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9066	1.0027	0.9300	1.0700	0.9525	1.0528	LD	186	314068 60X 230 314167 30X 115 1
314743	3BRANDY	115.0	345	353	0.9452	0.9964	0.9300	1.0700	0.9466	1.0462	D	226	314078 3REMNGTN 115 314743 3BRANDY 115 1
314112	3IND HIL	115.0	345	353	0.9223	0.9980	0.9300	1.0700	0.9386	1.0374	LD	261	314118 3MINNIEV 115 314167 30X 115 1
314114	3LINDNDL	115.0	345	353	0.9066	0.9907	0.9300	1.0700	0.9412	1.0403	LD	261	314118 3MINNIEV 115 314167 30X 115 1
314110	3MINNIEV	115.0	345	353	0.9049	0.9933	0.9300	1.0700	0.9436	1.0429	LD	261	314118 3MINNIEV 115 314167 30X 115 1
314112	3IND HIL	115.0	345	353	0.9267	0.9980	0.9300	1.0700	0.9386	1.0374	LD	265	314122 3SONEGO 115 314156 3BRISTER 115 1
314122	3SONEGO	115.0	345	353	0.9172	1.0011	0.9300	1.0700	0.9510	1.0511	LD	265	314122 3SONEGO 115 314156 3BRISTER 115 1
314014	3CANNONE	115.0	345	353	0.9418	0.9984	0.9300	1.0700	0.9485	1.0483	D	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314025	1 TX500	13.2	345	353	0.8928	0.9987	0.9300	1.0700	0.9487	1.0486	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314049	3LOMA172	115.0	345	353	0.8500	0.9664	0.9300	1.0700	0.9180	1.0147	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314050	1 TX181	13.2	345	353	0.9090	1.0042	0.9300	1.0700	0.9540	1.0544	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314051	3LOMA197	115.0	345	353	0.9397	0.9975	0.9300	1.0700	0.9476	1.0474	D	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314055	1 TX600	13.2	345	353	0.9041	0.9980	0.9300	1.0700	0.9481	1.0479	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8476	0.9668	0.9300	1.0700	0.9204	1.0173	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314146	1 TX502	13.2	345	353	0.9087	1.0004	0.9300	1.0700	0.9504	1.0504	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3MICR172	115.0	345	353	0.8497	0.9664	0.9300	1.0700	0.9181	1.0147	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314148	3MICR197	115.0	345	353	0.9387	0.9970	0.9300	1.0700	0.9471	1.0468	D	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314155	3CANNB T	115.0	345	353	0.9402	0.9977	0.9300	1.0700	0.9478	1.0476	D	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8490	0.9674	0.9300	1.0700	0.9190	1.0158	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314158	3GOWM197	115.0	345	353	0.9362	0.9968	0.9300	1.0700	0.9470	1.0467	D	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314159	1 TX601	13.2	345	353	0.9040	0.9980	0.9300	1.0700	0.9481	1.0479	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314160	1 TX503	13.2	345	353	0.8928	0.9987	0.9300	1.0700	0.9488	1.0486	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314161	1 TX501	13.2	345	353	0.9087	1.0004	0.9300	1.0700	0.9504	1.0504	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314162	1 TX182	13.2	345	353	0.9090	1.0042	0.9300	1.0700	0.9540	1.0544	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314049	3LOMA172	115.0	345	353	0.9203	0.9664	0.9300	1.0700	0.9180	1.0147	L	267	314123 3WELLGTN 115 314157 3GOWM172 115 1
314147	3MICR172	115.0	345	353	0.9202	0.9664	0.9300	1.0700	0.9181	1.0147	L	267	314123 3WELLGTN 115 314157 3GOWM172 115 1
314157	3GOWM172	115.0	345	353	0.9203	0.9674	0.9300	1.0700	0.9190	1.0158	L	267	314123 3WELLGTN 115 314157 3GOWM172 115 1
314112	3IND HIL	115.0	345	353	0.9271	0.9980	0.9300	1.0700	0.9386	1.0374	LD	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314123	3SONEGO	115.0	345	353	0.9178	1.0011	0.9300	1.0700	0.9510	1.0511	LD	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314156	3BRISTER	115.0	345	353	0.9178	1.0049	0.9300	1.0700	0.9546	1.0551	LD	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314160	3GARNOLD	230.0	345	354	0.9298	0.9906	0.9300	1.0700	0.9411	1.0402	LD	271	314131 6GARNOLD 230 314175 6GOWM 230 1
314131	3GARNOLD	230.0	345	354	0.9293	0.9959	0.9300	1.0700	0.9461	1.0457	LD	271	314131 6GARNOLD 230 314175 6GOWM 230 1
314139	3GARGROV	230.0	345	354	0.9374	0.9903	0.9300	1.0700	0.9407	1.0398	D	271	314131 6GARNOLD 230 314175 6GOWM 230 1
313810	3GARGROV	230.0	345	354	0.9220	0.9906	0.9300	1.0700	0.9411	1.0402	LD	273	314132 6BIRCHMD 230 314175 6GOWM 230 1
314131	3GARNOLD	230.0	345	354	0.9242	0.9959	0.9300	1.0700	0.9461	1.0457	LD	273	314132 6BIRCHMD 230 314175 6GOWM 230 1
314139	3GARGROV	230.0	345	354	0.9332	0.9903	0.9300	1.0700	0.9407	1.0398	D	273	314132 6BIRCHMD 230 314175 6GOWM 230 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	Voltris e	Viol	Ncon	Contingency Description
314175	6COMORN	230.0	345	354	0.9241	0.9967	0.9300	1.0700	0.9468	1.0465	LD	273	314132 6BIRCHMD 230 314175 6COMORN 230 1
314190	6WESTHOR	230.0	345	354	0.9382	0.9895	0.9300	1.0700	0.9401	1.0390	D	273	314132 6BIRCHMD 230 314175 6COMORN 230 1
314014	3CANNONB	115.0	345	353	0.9418	0.9984	0.9300	1.0700	0.9485	1.0483	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314025	1 TX500	13.2	345	353	0.9299	0.9987	0.9300	1.0700	0.9487	1.0486	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314049	3LOMA172	115.0	345	353	0.9501	0.9664	0.9300	1.0700	0.9180	1.0147	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314050	1 TX181	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314051	3LOMA197	115.0	345	353	0.9398	0.9975	0.9300	1.0700	0.9476	1.0474	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314055	1 TX600	13.2	345	353	0.9042	0.9980	0.9300	1.0700	0.9481	1.0479	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELGTON	115.0	345	353	0.8477	0.9688	0.9300	1.0700	0.9204	1.0173	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	345	0.8477	0.9700	0.9300	1.0700	0.9215	1.0185	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314146	1 TX502	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0504	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MICR172	115.0	345	353	0.8499	0.9664	0.9300	1.0700	0.9181	1.0147	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314148	3MICR197	115.0	345	353	0.9388	0.9970	0.9300	1.0700	0.9471	1.0468	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314155	3CANBR T	115.0	345	353	0.9402	0.9977	0.9300	1.0700	0.9478	1.0476	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3GODW172	115.0	345	353	0.8491	0.9674	0.9300	1.0700	0.9190	1.0158	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314158	3GODW197	115.0	345	353	0.9383	0.9968	0.9300	1.0700	0.9470	1.0467	D	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314159	1 TX503	13.2	345	353	0.9041	0.9980	0.9300	1.0700	0.9481	1.0479	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314160	1 TX501	13.2	345	353	0.8929	0.9987	0.9300	1.0700	0.9488	1.0486	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314161	1 TX501	13.2	345	353	0.9088	1.0004	0.9300	1.0700	0.9504	1.0504	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314162	1 TX182	13.2	345	353	0.9091	1.0042	0.9300	1.0700	0.9540	1.0544	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314760	3LANE WD	115.0	345	363	0.9324	0.9817	0.9300	1.0700	0.9326	1.0308	D	281	314135 3CHANCE 115 314775 3MI RVER 115 1
314775	3MI RVER	115.0	345	363	0.9287	1.0031	0.9300	1.0700	0.9529	1.0532	LD	281	314135 3CHANCE 115 314775 3MI RVER 115 1
314779	3TUDAVRN	115.0	345	363	0.9213	0.9946	0.9300	1.0700	0.9449	1.0443	D	281	314135 3CHANCE 115 314775 3MI RVER 115 1
314780	3MILGANS	115.0	345	363	0.9286	0.9781	0.9300	1.0700	0.9292	1.0270	LD	281	314135 3CHANCE 115 314775 3MI RVER 115 1
314151	3SLABTWN	115.0	345	355	0.9466	1.0034	0.9300	1.0700	0.9533	1.0536	D	286	314136 3FREDBRG 115 314151 3SLABTWN 115 1
314049	3LOMA172	115.0	345	353	0.9171	0.9664	0.9300	1.0700	0.9180	1.0147	LD	298	314147 3MICR172 115 314157 3GODW172 115 1
314147	3MICR172	115.0	345	353	0.9170	0.9664	0.9300	1.0700	0.9181	1.0147	LD	298	314147 3MICR172 115 314157 3GODW172 115 1
314025	1 TX500	13.2	345	353	0.9006	0.9997	0.9300	1.0700	0.9487	1.0486	LD	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314160	1 TX503	13.2	345	353	0.9006	0.9987	0.9300	1.0700	0.9488	1.0486	LD	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314025	1 TX500	13.2	345	353	0.9127	0.9987	0.9300	1.0700	0.9487	1.0486	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314050	1 TX181	13.2	345	353	0.9291	1.0042	0.9300	1.0700	0.9540	1.0544	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314146	1 TX502	13.2	345	353	0.9258	1.0004	0.9300	1.0700	0.9504	1.0504	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314148	3MICR197	115.0	345	353	0.8775	0.9970	0.9300	1.0700	0.9471	1.0468	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314158	3GODW197	115.0	345	353	0.9777	0.9968	0.9300	1.0700	0.9470	1.0467	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9127	0.9987	0.9300	1.0700	0.9488	1.0486	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314161	1 TX501	13.2	345	353	0.9258	1.0004	0.9300	1.0700	0.9504	1.0504	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314162	1 TX182	13.2	345	353	0.9291	1.0042	0.9300	1.0700	0.9540	1.0544	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314259	3CAR56 1	115.0	345	362	1.1525	1.0189	0.9300	1.0700	0.9680	1.0698	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314524	3FRANKLN	115.0	345	362	1.0794	1.0211	0.9300	1.0700	0.9701	1.0722	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314526	3HANDSON	115.0	345	360	1.0808	1.0196	0.9300	1.0700	0.9686	1.0706	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314534	3S HAMPT	115.0	345	360	1.0786	1.0215	0.9300	1.0700	0.9704	1.0725	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314541	3WATKINS	115.0	345	360	1.0785	1.0225	0.9300	1.0700	0.9714	1.0736	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314558	3BOYKINS	115.0	345	362	1.0859	1.0154	0.9300	1.0700	0.9647	1.0662	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314580	3MAPLETN	115.0	345	362	1.0580	1.0065	0.9300	1.0700	0.9562	1.0568	R	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314587	3MARGTSH	115.0	345	362	1.1093	1.0149	0.9300	1.0700	0.9642	1.0657	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314589	3MURPHYS	115.0	345	362	1.0607	1.0066	0.9300	1.0700	0.9562	1.0569	R	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314604	3SEABORD	115.0	345	362	1.1208	1.0150	0.9300	1.0700	0.9642	1.0657	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Uplimi t	VoltDro p	VoltRis e	Viol.	Noon	Contingency Description
314826	3WATKI 1	115.0	345	360	1.0790	1.0230	0.9300	1.0700	0.9719	1.0742	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314827	3WATKI 2	115.0	345	360	1.0790	1.0230	0.9300	1.0700	0.9719	1.0742	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314835	3CAROL 1	115.0	345	362	1.1537	1.0199	0.9300	1.0700	0.9689	1.0709	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
315115	1SHAMPT1	13.8	345	360	1.0502	0.9908	0.9300	1.0700	0.9413	1.0404	R	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
315085	1SPRUNCC	13.8	345	357	1.0519	1.0017	0.9300	1.0700	0.9516	1.0518	R	560	314322 6MULTHAN 230 314467 6MULTHAN 230 1
315085	1SPRUNCC	13.8	345	357	1.0519	1.0017	0.9300	1.0700	0.9516	1.0518	R	561	314322 6MULTHAN 230 314467 6MULTHAN 230 1
314600	2CHATHAM	69.0	345	358	0.9430	0.9931	0.9300	1.0700	0.9435	1.0428	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314605	2CHTH TP	69.0	345	358	0.9437	0.9937	0.9300	1.0700	0.9440	1.0434	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLMX DP	69.0	345	358	0.9401	0.9904	0.9300	1.0700	0.9409	1.0399	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMX TP	69.0	345	358	0.9409	0.9911	0.9300	1.0700	0.9416	1.0407	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHRO DP	69.0	345	358	0.9435	0.9936	0.9300	1.0700	0.9439	1.0433	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314382	3GRAFT58	115.0	345	356	0.9366	0.9894	0.9300	1.0700	0.9399	1.0388	D	607	314382 3GRAFT58 115 314422 3YORNTWN 115 1
314396	3NNWSS58	115.0	345	356	0.9357	0.9930	0.9300	1.0700	0.9434	1.0427	D	613	314387 3LANEXA 115 314396 3NNWSS58 115 1
314411	3TOANO58	115.0	345	356	0.9357	0.9916	0.9300	1.0700	0.9420	1.0411	D	613	314387 3LANEXA 115 314396 3NNWSS58 115 1
314411	3TOANO58	115.0	345	356	0.9356	0.9916	0.9300	1.0700	0.9420	1.0411	D	624	314396 3NNWSS58 115 314411 3TOANO58 115 1
315111	1LAKINGA	13.8	345	359	0.9912	0.9432	0.9300	1.0700	0.8960	0.9903	R	674	314444 6BOWERS 230 314514 6YADKIN 230 1
315112	1LAKINGB	13.8	345	359	0.9912	0.9432	0.9300	1.0700	0.8960	0.9903	R	674	314444 6BOWERS 230 314514 6YADKIN 230 1
315111	1LAKINGA	13.8	345	359	0.9935	0.9432	0.9300	1.0700	0.8960	0.9903	R	728	314474 6GRENWCH 230 314656 6GRENW 1 230 1
315112	1LAKINGB	13.8	345	359	0.9935	0.9432	0.9300	1.0700	0.8960	0.9903	R	728	314474 6GRENWCH 230 314656 6GRENW 1 230 1
314527	3HOLLAND	115.0	345	360	1.0690	1.0096	0.9300	1.0700	0.9591	1.0601	R	761	314494 6GRENWCH 230 314656 6GRENW 1 230 1
314539	3UNCAMP	115.0	345	360	1.0715	1.0206	0.9300	1.0700	0.9696	1.0717	H	797	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314824	3UNCAM 1	115.0	345	360	1.0722	1.0213	0.9300	1.0700	0.9703	1.0724	H	797	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314524	3FRANKL	115.0	345	360	1.0818	1.0211	0.9300	1.0700	0.9701	1.0722	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314526	3HANDSON	115.0	345	360	1.0712	1.0196	0.9300	1.0700	0.9686	1.0706	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0778	1.0215	0.9300	1.0700	0.9704	1.0725	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0855	1.0206	0.9300	1.0700	0.9696	1.0717	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0801	1.0225	0.9300	1.0700	0.9714	1.0736	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAM 1	115.0	345	360	1.0863	1.0213	0.9300	1.0700	0.9703	1.0724	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0806	1.0230	0.9300	1.0700	0.9719	1.0742	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0806	1.0230	0.9300	1.0700	0.9719	1.0742	HR	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	1SHAMPT1	13.8	345	360	1.0494	0.9908	0.9300	1.0700	0.9413	1.0404	R	798	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0706	1.0225	0.9300	1.0700	0.9714	1.0736	H	803	314534 3S HAMPT 115 314541 3WATKINS 115 1
314826	3WATKI 1	115.0	345	360	1.0712	1.0230	0.9300	1.0700	0.9719	1.0742	H	803	314534 3S HAMPT 115 314541 3WATKINS 115 1
314827	3WATKI 2	115.0	345	360	1.0712	1.0230	0.9300	1.0700	0.9719	1.0742	H	803	314534 3S HAMPT 115 314541 3WATKINS 115 1
314516	3HORNNTN	115.0	345	362	0.9604	1.0136	0.9300	1.0700	0.9629	1.0642	D	947	314559 3CAROLNA 115 314578 3HORNNTN 115 1
314516	3BRUNGS 1	115.0	345	358	1.0726	1.0065	0.9300	1.0700	0.9562	1.0569	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314565	3CLAH571	115.0	345	362	1.0955	1.0016	0.9300	1.0700	0.9515	1.0517	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314675	3BRUNWAX	115.0	345	358	1.0623	1.0041	0.9300	1.0700	0.9539	1.0544	R	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314676	3BRUNSWK	115.0	345	358	1.0720	1.0060	0.9300	1.0700	0.9557	1.0563	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314693	3FPMAN D	115.0	345	358	1.0668	1.0032	0.9300	1.0700	0.9530	1.0534	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314704	3LAWRENC	115.0	345	358	1.0773	1.0050	0.9300	1.0700	0.9548	1.0553	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314782	2BRUNSWC	69.0	345	358	1.0939	1.0259	0.9300	1.0700	0.9746	1.0772	R	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314785	2DANLITWN	69.0	345	358	1.0404	0.9719	0.9300	1.0700	0.9234	1.0205	R	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314786	2GASBURG	69.0	345	358	1.0783	1.0091	0.9300	1.0700	0.9566	1.0595	HR	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21
314787	2BRUNSW2	69.0	345	358	1.0650	0.9984	0.9300	1.0700	0.9484	1.0483	R	856	314562 3CLUBHSE 115 314565 3CLAH571 115 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314850	3CLBHS 1	115.0	345	362	1.0921	1.0021	0.9300	1.0700	0.9520	1.0522	HR	856	314562 3CLJBHSE 115 314565 3CLBHS71 115 21
314872	2BRUNSWIC	69.0	345	358	1.0821	0.9845	0.9300	1.0700	0.9353	1.0338	R	856	314562 3CLJBHSE 115 314565 3CLBHS71 115 21
314576	3FIVE PT	115.0	345	362	1.0931	0.9831	0.9300	1.0700	0.9340	1.0323	R	886	314576 3FIVE PT 115 314592 3PANTEGO 115 1
313830	3KIDAWK 1	115.0	345	361	1.0830	1.0371	0.9300	1.0700	0.9853	1.0890	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314634	3COLANGTN	115.0	345	361	1.0735	1.0266	0.9300	1.0700	0.9752	1.0775	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314635	3COLANGTP	115.0	345	361	1.0942	1.0270	0.9300	1.0700	0.9756	1.0783	HR	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314636	3COLANG2	115.0	345	361	1.0984	1.0319	0.9300	1.0700	0.9803	1.0833	HR	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0825	1.0366	0.9300	1.0700	0.9848	1.0884	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0825	1.0366	0.9300	1.0700	0.9848	1.0884	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0834	1.0376	0.9300	1.0700	0.9857	1.0895	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314829	3COLIN 1	115.0	345	361	1.0990	1.0324	0.9300	1.0700	0.9808	1.0841	HR	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314830	3COLIN 1	115.0	345	361	1.0741	1.0271	0.9300	1.0700	0.9757	1.0785	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
315146	1KITTHKA	13.8	345	361	1.0825	1.0366	0.9300	1.0700	0.9848	1.0884	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
315147	1KITTHKE	13.8	345	361	1.0835	1.0377	0.9300	1.0700	0.9858	1.0896	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
851162	KITT 3W4	1.0	345	361	1.0825	1.0366	0.9300	1.0700	0.9848	1.0884	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
851163	KITT 3W5	1.0	345	361	1.0835	1.0377	0.9300	1.0700	0.9858	1.0896	H	941	314635 3COLANGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0758	1.0061	0.9300	1.0700	0.9558	1.0562	HR	1047	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0758	1.0059	0.9300	1.0700	0.9556	1.0562	R	1048	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW35T57	69.0	345	358	1.0658	1.0106	0.9300	1.0700	0.9601	1.0612	R	1047	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0603	1.0048	0.9300	1.0700	0.9546	1.0550	R	1047	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0658	1.0106	0.9300	1.0700	0.9601	1.0612	R	1047	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0690	1.0061	0.9300	1.0700	0.9558	1.0562	R	1048	314731 2GRETN 69.0 314732 2GRNA FB 69.0 1
314731	2GRETN	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	1048	314731 2GRETN 69.0 314732 2GRNA FB 69.0 1
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	1048	314731 2GRETN 69.0 314732 2GRNA FB 69.0 1
314746	4BREMO	138.0	345	363	0.9389	0.9974	0.9300	1.0700	0.9476	1.0473	D	1057	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9432	1.0035	0.9300	1.0700	0.9534	1.0537	D	1100	314768 3MITCHEL 115 314815 30AK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9491	0.9969	0.9300	1.0700	0.9471	1.0468	D	1192	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9491	0.9766	0.9300	1.0700	0.9278	1.0255	LD	1195	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	1N ANNA2	22.0	345	366	1.0732	1.0629	0.9300	1.0700	1.0098	1.1160	H	1207	314897 8MORRIS 1 500 314916 8KORRSVL 500 1
315111	1LAKKINGA	13.8	345	359	0.9935	0.9432	0.9300	1.0700	0.8960	0.9903	R	1232	314909 8FENTRES 500 314927 8YADKIN 500 1
315112	1LAKKINGB	13.8	345	359	0.9935	0.9432	0.9300	1.0700	0.8960	0.9903	R	1232	314909 8FENTRES 500 314927 8YADKIN 500 1
315113	1LAKKINGA	13.8	345	359	0.9926	0.9432	0.9300	1.0700	0.8960	0.9903	R	1255	314923 8SEPTA 500 314927 8YADKIN 500 1
315112	1LAKKINGB	13.8	345	359	0.9926	0.9432	0.9300	1.0700	0.8960	0.9903	R	1255	314923 8SEPTA 500 314927 8YADKIN 500 1
315111	1LAKKINGA	13.8	345	359	0.9936	0.9432	0.9300	1.0700	0.8960	0.9903	R	1257	314924 8SURRY 500 315233 15URRY 2 22.0 1
315112	1LAKKINGB	13.8	345	359	0.9936	0.9432	0.9300	1.0700	0.8960	0.9903	R	1257	314924 8SURRY 500 315233 15URRY 2 22.0 1
315226	1N ANNA2	22.0	345	366	1.0736	1.0629	0.9300	1.0700	1.0098	1.1160	H	1257	314924 8SURRY 500 315233 15URRY 2 22.0 1
315226	1N ANNA2	22.0	345	366	1.0715	1.0629	0.9300	1.0700	1.0098	1.1160	H	1269	235110 01NEWBK 500 314913 6LOVDOUN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 9:32 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT C
Case.File X:\S2021\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt C.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	93.8	75.3	89.0	105.3	401 LN 2102	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	92.1	73.7	89.0	103.5	401 LN 2102	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	91.7	75.3	89.0	103.0	186 LN 214	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	90.2	75.3	89.0	101.4	181 LN 209	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	90.3	75.3	89.0	101.4	233 LN 263	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	90.1	73.7	89.0	101.2	186 LN 214	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	88.6	73.7	89.0	99.6	233 LN 263	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	88.6	73.7	89.0	99.5	181 LN 209	
314387	3LANEXA	115	314388 6LANEXA	230	TR	TR	189.9	92.7	191.7	99.1	411 LN 2113	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	88.0	75.3	89.0	98.9	204 LN 234	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	87.3	75.3	89.0	98.1	50 LN 58	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	86.4	73.7	89.0	97.1	204 LN 234	
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	85.6	73.7	89.0	96.2	50 LN 58	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	85.4	75.3	89.0	96.0	411 LN 2113	
314756	3DOUBLDY	115	314776 3SOMRSET	115	LN	LN	251.2	140.1	262.0	95.9	224 LN 255	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	85.1	75.3	89.0	95.7	254 LN 285	
314123	3WELLGTN	115	314141 3LIBERTY	115	LN	LN	171.9	84.0	180.0	95.5	322 LN 2011	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	84.8	75.3	89.0	95.3	230 LN 261	
242701	05LEESVI	138	314667 4ALTVSTA	138	LN	LN	194.5	194.5	205.0	94.9	** Base Case **	
314756	3DOUBLDY	115	314769 3ORANGE	115	LN	LN	248.0	137.0	262.0	94.7	224 LN 255	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	84.1	75.3	89.0	94.5	579 TX-1 3YORKTW	
314377	3DOW 34	115	314387 3LANEXA	115	LN	LN	84.1	75.3	89.0	94.5	581 TX-1 6YORKTW	
314461	3DEEPC46	115	314513 3YADKIN	115	LN	LN	339.2	221.0	360.0	94.2	231 LN 262	

**	From bus	**	To bus	**	CKT	Type	ContMVA	BasePlo w	Rating	Loading %	Ncon	Contingency Description
314449	6CHESAPK	230	314514 6YADKIN	230	LN	LN	680.2	545.2	722.0	94.2	329	LN 2018
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	83.8	73.7	89.0	94.1	411	LN 2113
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	83.5	73.7	89.0	93.8	254	LN 285
314377	3DOW 34	115	314378 3FTEUS34	115	LN	LN	83.2	73.7	89.0	93.5	230	LN 261

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- WED, FEB 27 2013 9:34 <VOV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT C
Case.File X:\S2021\sum 2021(2013LF)_wpre_CSCNOSURRY230 Alt C.sav
Subsys.File X:\S2021\vpv.sub
Monit.File X:\S2021\vpvsys.mon
Contn.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314524	3FRNKLN	115.0	345	360	1.0793	1.0211	0.9300	1.0700	0.9701	1.0722	HR	60	LN 68
314534	35 HAMPT	115.0	345	360	1.0753	1.0215	0.9300	1.0700	0.9704	1.0725	HR	60	LN 68
314539	3UNCAMP	115.0	345	360	1.0830	1.0206	0.9300	1.0700	0.9696	1.0717	HR	60	LN 68
314541	3WATKINS	115.0	345	360	1.0776	1.0225	0.9300	1.0700	0.9714	1.0736	HR	60	LN 68
314824	3UNCAM 1	115.0	345	360	1.0837	1.0213	0.9300	1.0700	0.9703	1.0724	HR	60	LN 68
314826	3WATKI 1	115.0	345	360	1.0781	1.0230	0.9300	1.0700	0.9719	1.0742	HR	60	LN 68
314827	3WATKI 2	115.0	345	360	1.0781	1.0230	0.9300	1.0700	0.9719	1.0742	HR	60	LN 68
315115	1SHAMPT1	13.8	345	360	1.0468	0.9908	0.9300	1.0700	0.9413	1.0404	R	150	LN 172
314147	3MICR172	115.0	345	353	0.9293	0.9664	0.9300	1.0700	0.9101	1.0147	L	151	LN 173
314348	2GRETN 1	69.0	345	358	1.0690	1.0061	0.9300	1.0700	0.9558	1.0564	R	151	LN 173
314731	2GRETNA	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	151	LN 173
314732	2GRNA FB	69.0	345	358	1.0687	1.0059	0.9300	1.0700	0.9556	1.0562	R	151	LN 173
314874	2LN 174	69.0	345	351	1.0578	1.0024	0.9300	1.0700	0.9523	1.0526	R	152	LN 174
314878	2LN 178	69.0	345	351	1.0577	1.0024	0.9300	1.0700	0.9523	1.0526	R	154	LN 178
314879	2LN 179	69.0	345	351	1.0578	1.0024	0.9300	1.0700	0.9523	1.0526	R	155	LN 179
314880	2LN 180	69.0	345	351	1.0580	1.0024	0.9300	1.0700	0.9523	1.0526	R	156	LN 180
314122	3SOWEGO	115.0	345	353	0.9323	1.0011	0.9300	1.0700	0.9510	1.0511	D	157	LN 181
314025	1 TX500	13.2	345	353	0.9267	0.9987	0.9300	1.0700	0.9487	1.0486	LD	170	LN 197
314049	3LOMA172	115.0	345	353	0.9292	0.9664	0.9300	1.0700	0.9180	1.0147	L	170	LN 197
314051	3LOMA197	115.0	345	353	0.9002	0.9975	0.9300	1.0700	0.9476	1.0474	LD	170	LN 197
314147	3MICR172	115.0	345	353	0.9295	0.9664	0.9300	1.0700	0.9181	1.0147	L	170	LN 197
314148	3MICR197	115.0	345	353	0.8635	0.9970	0.9300	1.0700	0.9471	1.0468	LD	170	LN 197
314158	3GOWD197	115.0	345	353	0.9158	0.9968	0.9300	1.0700	0.9470	1.0467	LD	170	LN 197
314160	1 TX503	13.2	345	353	0.9268	0.9987	0.9300	1.0700	0.9488	1.0486	LD	170	LN 197
315111	1LLKINGA	13.8	345	359	0.9937	0.9432	0.9300	1.0700	0.8960	0.9903	R	278	LN 544
315112	1LLKINGB	13.8	345	359	0.9937	0.9432	0.9300	1.0700	0.8960	0.9903	R	278	LN 544

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315226	LN ANNA2	22.0	345	366	1.0734	1.0629	0.9300	1.0700	1.0098	1.1160	H	286	LN 553
315226	LN ANNA2	22.0	345	366	1.0736	1.0629	0.9300	1.0700	1.0098	1.1160	H	289	LN 556
315085	1SPRUNCC	13.8	345	357	1.0518	1.0017	0.9300	1.0700	0.9516	1.0518	R	308	LN 576
315111	1LAKKINGA	13.8	345	359	0.9915	0.9432	0.9300	1.0700	0.8960	0.9903	R	310	LN 579
315112	1LAKKINGB	13.8	345	359	0.9915	0.9432	0.9300	1.0700	0.8960	0.9903	R	310	LN 579
315111	1LAKKINGA	13.8	345	359	0.9924	0.9432	0.9300	1.0700	0.8960	0.9903	R	311	LN 579a
315112	1LAKKINGB	13.8	345	359	0.9924	0.9432	0.9300	1.0700	0.8960	0.9903	R	311	LN 579a
314014	3CANNONB	115.0	345	353	0.8422	0.9984	0.9300	1.0700	0.9485	1.0483	LD	322	LN 2011
314025	1 TX500	13.2	345	353	0.9022	0.9987	0.9300	1.0700	0.9487	1.0486	LD	322	LN 2011
314049	3LOMA172	115.0	345	353	0.9209	0.9664	0.9300	1.0700	0.9180	1.0147	LD	322	LN 2011
314051	3LOMA197	115.0	345	353	0.8426	0.9975	0.9300	1.0700	0.9476	1.0474	LD	322	LN 2011
314123	3WELLGTN	115.0	345	353	0.9233	0.9688	0.9300	1.0700	0.9204	1.0173	L	322	LN 2011
314141	3LIBERTY	115.0	345	353	0.9710	0.9700	0.9300	1.0700	0.9215	1.0185	L	322	LN 2011
314147	3MICR172	115.0	345	353	0.9915	0.9664	0.9300	1.0700	0.9181	1.0147	LD	322	LN 2011
314148	3MICR197	115.0	345	353	0.8425	0.9970	0.9300	1.0700	0.9471	1.0468	LD	322	LN 2011
314155	3CANBR T	115.0	345	353	0.8424	0.9977	0.9300	1.0700	0.9478	1.0476	LD	322	LN 2011
314157	3GODW172	115.0	345	353	0.9161	0.9674	0.9300	1.0700	0.9190	1.0158	LD	322	LN 2011
314158	3GODW197	115.0	345	353	0.8428	0.9968	0.9300	1.0700	0.9470	1.0467	LD	322	LN 2011
314160	1 TX503	13.2	345	353	0.9022	0.9987	0.9300	1.0700	0.9488	1.0486	LD	322	LN 2011
315111	1LAKKINGA	13.8	345	359	0.9934	0.9432	0.9300	1.0700	0.8960	0.9903	R	348	LN 2038
315112	1LAKKINGB	13.8	345	359	0.9934	0.9432	0.9300	1.0700	0.8960	0.9903	R	348	LN 2038
314180	6HAYES	230.0	345	354	0.9296	1.0274	0.9300	1.0700	0.9760	1.0787	LD	419	LN 2122
314207	6OAK GRE	230.0	345	363	0.9973	0.9983	0.9300	1.0700	0.9484	1.0482	LD	427	LN 2133
314025	1 TX500	13.2	345	353	0.8969	0.9987	0.9300	1.0700	0.9487	1.0486	LD	456	TX-1 3MICR19
314160	1 TX503	13.2	345	353	0.8970	0.9987	0.9300	1.0700	0.9488	1.0486	LD	456	TX-1 3MICR19
314114	3LINNDL	115.0	345	353	0.9347	0.9907	0.9300	1.0700	0.9412	1.0403	D	473	TX-1 6OX
314118	3MINNIEV	115.0	345	353	0.9331	0.9933	0.9300	1.0700	0.9436	1.0429	D	473	TX-1 6OX
314167	3OX	115.0	345	352	0.9332	1.0027	0.9300	1.0700	0.9525	1.0528	D	473	TX-1 6OX
314122	3SOWEGO	115.0	345	353	0.9329	1.0011	0.9300	1.0700	0.9510	1.0511	D	495	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9330	1.0049	0.9300	1.0700	0.9546	1.0551	D	495	TX-1 6BRISTE
314049	3LOMA172	115.0	345	353	0.8969	0.9664	0.9300	1.0700	0.9180	1.0147	LD	498	TX-1 6LIBERT
314123	3WELLGTN	115.0	345	353	0.8947	0.9688	0.9300	1.0700	0.9204	1.0173	LD	498	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8967	0.9700	0.9300	1.0700	0.9215	1.0185	LD	498	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8967	0.9664	0.9300	1.0700	0.9181	1.0147	LD	498	TX-1 6LIBERT
314157	3GODW172	115.0	345	353	0.8960	0.9674	0.9300	1.0700	0.9190	1.0158	LD	498	TX-1 6LIBERT
315111	1LAKKINGA	13.8	345	359	0.9942	0.9432	0.9300	1.0700	0.8960	0.9903	R	685	TX-1 8SURRY
315112	1LAKKINGB	13.8	345	359	0.9942	0.9432	0.9300	1.0700	0.8960	0.9903	R	685	TX-1 8SURRY
315226	LN ANNA2	22.0	345	366	1.0736	1.0629	0.9300	1.0700	1.0098	1.1160	H	685	TX-1 8SURRY

CATEGORY B

FCITC Single Study

PSS(R)/MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:24 <FC2001.0>
2015 SUMMER BASE CASE (LTS615S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum.2015(2013LF)_base_wpre_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit. File X:\S2015\Generation Analysis\Transferyork.mon
Contn. File X:\S2015\Gapsys.com
Exclud. File none

From	To	Transf r Level	N	FCITC	Flow	Limiting Constraint	Contingency	Ncon	Preshift t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	130.3		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1214	2915.8	2930.9	0.11619		0.05397	1538.6	1545.6
							Open 314901 8BATH CO	500 314912 8LEXNGTN				1.00000	0.06221	1377.2	1385.3
			2	130.3		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1215	2915.8	2930.9	0.11619		0.06221	1377.2	1385.3
			3	512.5		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314901 8BATH CO	500 314926 8VALLEY				1.00000	0.05397	1538.6	1545.6
							C:314387	609	-61.5	-83.7	-0.04317		-0.03587	-42.9	-61.3
			4	515.7		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	115 314396 3NNENWS58				-0.24089	0.03030	77.4	93.0
							C:314396	620	-61.4	-83.7	-0.04317		-0.03587	-42.9	-61.4
			5	527.8		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	115 314396 3NNENWS58				-0.24089	0.03030	76.9	92.5
							C:314387	609	-54.7	-83.7	-0.05488		-0.03587	-42.9	-61.8
			6	546.8		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314388 6LANEXA	230 314391 6LIGH209				-0.08256	0.23029	143.0	264.6
							C:314387	609	60.1	83.7	0.04317		0.03587	41.4	61.0
			7	550		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314387 3LANEXA	115 314396 3NNENWS58				0.24089	0.03030	77.4	94.0
							C:314396	620	59.9	83.7	0.04317		0.03587	41.4	61.1
			8	554.8		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314396 3NNENWS58	115 314411 3TOANOS8				0.24089	0.03030	76.9	93.5
							C:314388	610	53.2	83.7	0.05488		0.03587	41.4	61.3
			32	796.8		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA	230 314391 6LIGH209				0.08256	0.23029	143.0	270.8
							C:314388	610	39.9	83.7	0.05488		0.03587	28.1	56.7
			39	841.8		L:314391 6LIGH209 230 314415 6VALR209 230 1	Open 314388 6LANEXA	230 314396 3NNENWS58				0.24089	0.03030	77.4	103.3
							C:314387	609	46.6	83.7	0.04317		0.03587	28.1	58.9
			42	854.5		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314396 3NNENWS58	115 314411 3TOANOS8				0.24089	0.03030	76.9	102.9
							C:314396	620	141.1	441.8	0.31930		0.23029	93.7	310.6
			43	857.7		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314214 6CHCKA1H	230 314390 6LIGH285				0.36990	0.24061	214.4	417.0
							C:314387	609	46.8	83.7	0.04317		0.03587	28.1	58.8
			52	941.7		L:314391 6LIGH209 230 314415 6VALR209 230 1	Open 314387 3LANEXA	115 314396 3NNENWS58				0.24089	0.03030	77.4	103.3
							C:314396	620	46.6	83.7	0.04317		0.03587	28.1	58.9
			57	983.3		L:314421 6WALR209 230 314540 6POOLSVL 230 1	Open 314390 6LIGH285	230 314413 6VALR285				0.36990	0.24061	128.2	354.8
							C:314387	609	-258.9	-525.5	-0.27104		-0.16688	-202.2	-386.0

From	To	Transfer Level	N	FCITC	Tag	Limiting Constraint	Contingency	Ncon	Preship	Rating	TDF	LODF	PDF	Base Case Init	Base Case Final
							Open 313818	6BENCHRN	230	314522	6CHKTUN	0.36332	-0.23165	-156.2	-384.0

CATEGORY C

PSS(m)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:22 < UDF000.0 >
2015 SUMMER BASE CASE (LTSGL5S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum_2015 (2013LF)_base_wpre_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\2015_rtep_contingency_DVP.con
Exclud File none

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:22 <FC2001.0>

2015 SUMMER BASE CASE (LTSGL5S11) REV. 04/02/2012

2013 LF WPREPROJECT GEN RET GEN STUDY

Case File X:\S2015\Generation Analysis\sum_2015 (2013LF)_base_wpre_genstudy.sav

Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub

Monit File X:\S2015\Generation Analysis\Transferyork.mon

Contn File X:\S2015\2015_rtep_contingency_DVP.con

Exclud File none

From	To	Transfe r Level	N	FCITC	Delta	Limitin g Constra int	Contingency	Neon	ProShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	459.8		L:314377	300W 34 115 314387 31ANEXA 115 1		-70.5	-103.0	-0.07063		-0.03587	-42.9	-59.4
						C:2144263		9							
						Open 314421	6WINCHST 230 314540 6POOLSVL 23 0 1					0.08285	-0.18688	-202.2	-288.1
						Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00007	0.00000	18.8	18.8
						Open 313818	6BENCHRCH 230 314522 6CHCNTUK 23 0 1					0.08324	-0.23165	-156.2	-262.7
						Open 313818	6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08325	0.00000	25.4	25.4
			2	480.7		L:314377	300W 34 115 314378 3FTEUS34 115 1		69.0	103.0	0.07063		0.03587	41.4	58.6
						C:2144263		9							
						Open 314421	6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.18688	-202.2	-292.0
						Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					0.00007	0.00000	18.8	18.8
						Open 313818	6BENCHRCH 230 314522 6CHCNTUK 23 0 1					-0.08324	-0.23165	-156.2	-267.6
						Open 313818	6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08325	0.00000	25.4	25.4
			3	643.2		L:314377	300W 34 115 314387 31ANEXA 115 1		-59.8	-103.0	-0.06723		-0.03587	-42.9	-66.0
						C:2113458		22							
						Open 314388	6LANEXA 230 314391 6LIGH209 23 0 1					-0.10114	0.23029	143.0	291.2
						Open 314391	6LIGH209 230 314415 6WALR209 23 0 1					0.06800	0.00000	49.3	49.3
						Open 314379	3FTEUS58 115 314382 3GRAFT58 11 5 1	NA							
						Open 314379	3FTEUS58 115 314389 3LEBAN58 11 5 1	NA							
						Open 314382	3GRAFT58 115 314422 3TORNO58 11 5 1					-0.26635	0.03030	-23.2	-3.7
						Open 314384	3KINGS M 115 314411 3TORNO58 11 5 1	NA							
						Open 314384	3KINGS M 115 314424 3YHWS 58 11 5 1	NA							
						Open 314387	3LANEXA 115 314396 3NNERS58 11 5 1	NA				-0.11868	0.00000	100.6	100.6
						Open 314389	3LEBAN58 115 314424 3YHWS 58 11 5 1	NA							
						Open 314396	3NNERS58 115 314411 3TORNO58 11 5 1	NA							
			4	665.2		L:314377	300W 34 115 314378 3FTEUS34 115 1		58.3	103.0	0.06723		0.03587	41.4	65.3
						C:2113458		22							
						Open 314388	6LANEXA 230 314391 6LIGH209 23 0 1					0.10114	0.23029	143.0	296.2
						Open 314391	6LIGH209 230 314415 6WALR209 23 0 1					-0.06800	0.00000	49.3	49.3
						Open 314379	3FTEUS58 115 314382 3GRAFT58 11 5 1	NA							
						Open 314379	3FTEUS58 115 314389 3LEBAN58 11 5 1	NA							
						Open 314382	3GRAFT58 115 314422 3TORNO58 11 5 1					0.26635	0.03030	-23.2	-3.0
						Open 314384	3KINGS M 115 314411 3TORNO58 11 5 1	NA							
						Open 314384	3KINGS M 115 314424 3YHWS 58 11 5 1	NA							
						Open 314387	3LANEXA 115 314396 3NNERS58 11 5 1	NA				0.11868	0.00000	100.6	100.6
						Open 314389	3LEBAN58 115 314424 3YHWS 58 11 5 1	NA							
						Open 314396	3NNERS58 115 314411 3TORNO58 11 5 1	NA							
			5	668.8		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1		55.8	103.0	0.07063		0.03587	28.1	52.1
						C:2144263		9							
						Open 314421	6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.18688	-202.2	-327.2
						Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					0.00007	0.00000	18.8	18.8
						Open 313818	6BENCHRCH 230 314522 6CHCNTUK 23 0 1					-0.08324	-0.23165	-156.2	-311.1
						Open 313818	6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08325	0.00000	25.4	25.4

From	To	Transfer Level	N	FCITC	dg	Limiting Constraint	Contingency	Ncon	ProShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			6	724.4 *		L:314377	3DOV 34 115 314387 3LANEXA 115 1 C:2094285	21	-39.7	-103.0	-0.08744		-0.03587	-42.9	-68.9
							Open 314296 6PENNNIMAN 230 314415 6WALR209 23 0 1					0.11809	-0.23029	-18.4	-185.2
							Open 314296 6PENNNIMAN 230 314386 6KINGS M 23 0 1	NA				0.08847	0.00000	39.7	39.7
							Open 314376 6DENBIGH 230 314423 6YORKTWN 23 0 1					0.10132	-0.24061	-53.3	-227.6
							Open 314376 6DENBIGH 230 314413 6WALR285 23 0 1					0.08847	0.00000	82.3	82.3
			7	741.3 *		L:314377	3DOV 34 115 314378 3FTEUS34 115 1 C:2094285	21	38.2	103.0	0.08744		0.03587	41.4	68.0
							Open 314296 6PENNNIMAN 230 314415 6WALR209 23 0 1					-0.11809	-0.23029	-18.4	-189.1
							Open 314296 6PENNNIMAN 230 314386 6KINGS M 23 0 1	NA				-0.08847	0.00000	39.7	39.7
							Open 314376 6DENBIGH 230 314423 6YORKTWN 23 0 1					-0.10132	-0.24061	-53.3	-231.7
							Open 314376 6DENBIGH 230 314413 6WALR285 23 0 1					-0.08847	0.00000	82.3	82.3
			9	832.4		L:314391	6LIGH209 230 314415 6WALR209 230 1 C:2144263	9	218.6	541.0	0.38730		0.23029	93.7	285.4
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.37531	-0.18688	-202.2	-357.8
							Open 314538 6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00099	0.00000	18.8	18.8
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.37502	-0.23165	-156.2	-349.0
			11	862.6		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:2113458	22	45.0	103.0	0.06723		0.03587	28.1	59.1
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.10114	0.23029	143.0	341.7
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1					-0.06800	0.00000	49.3	49.3
							Open 314379 3FTEUS58 115 314382 3GRAFT58 11 5 1	NA							
							Open 314379 3FTEUS58 115 314389 3LEBAN58 11 5 1	NA							
							Open 314382 3GRAFT58 115 314422 3YORKTWN 11 5 1					0.26635	0.03030	-23.2	2.9
							Open 314384 3KINGS M 115 314411 3YORKTWN 11 5 1	NA							
							Open 314384 3KINGS M 115 314424 3YORKTWN 11 5 1	NA							
							Open 314387 3LANEXA 115 314396 3NEWS58 11 5 1	NA				0.11668	0.00000	100.6	100.6
							Open 314389 3LEBAN58 115 314424 3YORKTWN 11 5 1	NA							
							Open 314396 3NEWS58 115 314411 3YORKTWN 11 5 1	NA							
			12	893.2 *		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:2094285	21	24.9	103.0	0.08744		0.03587	28.1	60.2
							Open 314296 6PENNNIMAN 230 314415 6WALR209 23 0 1					-0.11809	-0.23029	-18.4	-224.1
							Open 314296 6PENNNIMAN 230 314386 6KINGS M 23 0 1	NA				-0.08847	0.00000	39.7	39.7
							Open 314376 6DENBIGH 230 314423 6YORKTWN 23 0 1					-0.10132	-0.24061	-53.3	-268.2
							Open 314376 6DENBIGH 230 314413 6WALR285 23 0 1					-0.08847	0.00000	82.3	82.3

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:17 <FC2001.0>
2015 SUMMER BASE CASE (LTSIG15S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Mont File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transf r Level	N	FCITC	Set	Limitin g Constra int	Contingency	Ncon	ProShif t	Rating	TDF	IODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	345.8		L:314377	300W 34 115 314387 3LANEXA 115 1 C:D:GLANEXA -GLIGH2091 +6LIGH285-GWALR2851	21853	-72.8	-103.0	-0.08744	-0.03587	-0.03587	-42.9	-55.3
							Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1 Open 314390 GLIGH285 230 314413 GWALR285 23 0 1					-0.11809	0.23029	143.0	222.7
			2	362.7		L:314377	300W 34 115 314378 3FTEUS34 115 1 C:D:GLANEXA -GLIGH2091 +6LIGH285-GWALR2851	21853	71.3	103.0	0.08744	0.03587	0.03587	41.4	54.4
							Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1 Open 314390 GLIGH285 230 314413 GWALR285 23 0 1					0.11809	0.23029	143.0	226.6
			3	372.3		L:314377	300W 34 115 314387 3LANEXA 115 1 C:D:GLANEXA -3NNWS581 +6LANEXA -GLIGH2091	21100	-76.0	-103.0	-0.06723	-0.03587	-0.03587	-42.9	-56.2
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1 Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1					-0.26635	0.03030	77.4	88.7
			4	374.5	*	L:314377	300W 34 115 314387 3LANEXA 115 1 C:D:GLANEXA -GLIGH2091 +3NNWS58-3TOANO581	21860	-77.8	-103.0	-0.06723	-0.03587	-0.03587	-42.9	-56.3
							Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1 Open 314396 3NNWS58 115 314411 3TOANO58 11 5 1					-0.10114	0.23029	143.0	228.8
			5	394.3		L:314377	300W 34 115 314378 3FTEUS34 115 1 C:D:GLANEXA -3NNWS581 +6LANEXA -GLIGH2091	21100	76.5	103.0	0.06723	0.03587	0.03587	41.4	55.5
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1 Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1					0.26635	0.03030	77.4	89.4
			6	396.5	*	L:314377	300W 34 115 314378 3FTEUS34 115 1 C:D:GLANEXA -GLIGH2091 +3NNWS58-3TOANO581	21860	76.3	103.0	0.06723	0.03587	0.03587	41.4	55.6
							Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1 Open 314396 3NNWS58 115 314411 3TOANO58 11 5 1					0.10114	0.23029	143.0	234.3
			42	514.6		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:GLANEXA -GLIGH2091 +6LIGH285-GWALR2851	22595	56.0	103.0	0.08744	0.03587	0.03587	28.1	46.6
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1 Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1					0.11809	0.23029	143.0	261.5
			93	581.2		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:GLANEXA -GLIGH2091 +6LIGH285-GWALR2851	22595	52.2	103.0	0.08744	0.03587	0.03587	28.1	49.0
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1 Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1					0.10132	0.24061	128.2	268.1
			105	591.9	*	L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:GLANEXA -GLIGH2091 +6LIGH285-GWALR2851	22595	63.2	103.0	0.06723	0.03587	0.03587	28.1	49.3
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1 Open 314388 GLANEXA 230 314391 GLIGH209 23 0 1					0.26635	0.03030	77.4	95.4
			319	786.1		L:314391	GLIGH209 230 314415 GWALR285 230 1 C:D:GBENCHRC-GCHKTUK1 +6LIGH285-GWALR2851	2959	208.2	541.0	0.42333	0.23029	0.23029	143.0	279.3
							Open 313818 GBENCHRC 230 314522 GCHKTUK 23 0 1 Open 314390 GLIGH285 230 314413 GWALR285 23 0 1					-0.35608	-0.23165	-156.2	-336.3
			325	789.5		L:314391	GLIGH209 230 314415 GWALR285 230 1 C:D:GBENCHRC-GCHKTUK1 +6SUNRY -6POOLS11	3135	235.2	541.0	0.38710	0.23029	0.23029	128.2	317.4

From	To	Transac Level	N	FCITC	Ref	Limitin g Constra int	Contingency	Ncon	ProShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.37502	-0.23165	-156.2	-339.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.37531	0.18688	221.0	368.6
			364	807.4		L:314391	6LIGH209 230 314415 6WALR285 230 1		199.2	541.0	0.42333		0.23029	93.7	279.6
							C:D:6BENCHRCH-GNP NEWS1 +6LIGH285-6WALR2851	2643							
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.35608	0.23165	130.8	317.8
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.45944	0.24061	128.2	322.5
			854	897.8		L:314387	3LANEXA 115 314396 3NNEMS58 115 1		102.7	169.0	0.07388		0.03030	77.4	104.6
							C:D:6LANEXA -6LIGH2091 +6LIGH285-6WALR2851	21853							
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.09977	0.23029	143.0	349.8
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.08560	0.24061	128.2	344.3
			902	905.4		L:314396	3NNEMS58 115 314411 3TOANO58 115 1		102.1	169.0	0.07388		0.03030	76.9	104.3
							C:D:6LANEXA -6LIGH2091 +6LIGH285-6WALR2851	21853							
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.09977	0.23029	143.0	351.5
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.08560	0.24061	128.2	346.1
			1152	922.3		L:314421	6WINCHST 230 314540 6POOLSVL 230 1		-312.3	-650.0	-0.36615		-0.18688	-202.2	-374.6
							C:D:6BENCHRCH-6CHCKTUK1 +6LIGH285-6WALR2851	2959							
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					0.44439	-0.23165	-156.2	-369.9
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.31722	0.24061	128.2	350.2
			1240	937		L:314214	6CHCKNAM 230 314388 6LANEXA 230 2		521.4	812.0	0.31014		0.11024	227.1	330.4
							C:D:6CHCKNAM-6LANEXA 1 +6CHCKNAM-6LIGH2851	54247							
							Open 314214 6CHCKNAM 230 314388 6LANEXA 23 0 1					0.69759	0.14291	293.8	427.8
							Open 314390 6LIGH285 230 314390 6LIGH285 23 0 1					0.11648	0.24061	214.4	439.9
			1265	940.3		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1		164.2	549.0	0.40922		0.23165	9.4	227.2
							C:D:6LIGH285-6WALR2851 +6SURY -6POOLSVL1	22770							
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.35325	0.24061	128.2	354.5
			1266	940.4		L:314399	6PEMBROK 230 314407 6SHELANK 230 1		164.2	549.0	0.40922		0.23165	9.4	227.2
							C:D:6LIGH285-6WALR2851 +6SURY -6POOLSVL1	22770							
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.35325	0.24061	128.2	354.5
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.49539	0.18688	221.0	396.8
			1299	944.2		L:313818	6DENCHRCH 230 314398 6NP NEWS 230 1		285.6	672.0	0.40922		0.23165	130.8	349.5
							C:D:6LIGH285-6WALR2851 +6SURY -6POOLSVL1	22770							
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.35325	0.24061	128.2	355.4
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.49539	0.18688	221.0	397.5
			1389	953.2		L:314421	6WINCHST 230 314540 6POOLSVL 230 1		-301.0	-650.0	-0.36615		-0.18688	-202.2	-380.3
							C:D:6BENCHRCH-GNP NEWS1 +6LIGH285-6WALR2851	2643							
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.44439	0.23165	130.8	351.6
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.31722	0.24061	128.2	357.6
			1843	963.1		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1		154.9	549.0	0.40922		0.23165	9.4	232.5
							C:D:6LIGH285-6WALR2851 +6WINCHST-6POOLSVL1	22624							
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.35325	0.24061	128.2	360.0
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.49539	-0.18688	-202.2	-382.2
			1955	963.2		L:314399	6PEMBROK 230 314407 6SHELANK 230 1		-132.9	-541.0	-0.42333		-0.23029	-18.4	-240.4
							C:D:6BENCHRCH-6CHCKTUK1 +6LIGH285-6WALR2851	2959							
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					0.35608	-0.23165	-156.2	-379.5
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.45944	0.24061	128.2	360.2
			1982	964.4		L:314387	3LANEXA 115 314396 3NNEMS58 115 1		97.8	169.0	0.07388		0.03030	77.4	106.7
							C:D:6LIGH285-6WALR2851 +6LIGH209-6WALR2091	22595							
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.08560	0.24061	128.2	360.3
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1					0.09977	0.23029	93.7	315.8

From	To	Transfe r Level	N	FCITC	Sp rt	Limitin g Consta nt	Contingency	Ncon	PreShift t	Rating	PDF	LODF	PDF	Base Case Init	Base Case Final
			2038	967		L:313818	6BENCHCH 230 314398 6NP NEWS 230 1 C:D:6LIGH285-6WALR2851 +6WINCST-6POOLSVL1	22624	276.3	672.0	0.40922		0.23165	-130.8	354.8
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.35325	0.24061	128.2	360.9
							Open 314421 6WINCST 230 314540 6POOLSVL 23 0 1					-0.49539	-0.18688	-202.2	-382.9
			2128	972.1		L:314396	3NNWS58 115 314411 3TOANO58 115 1 C:D:6LIGH285-6WALR2851 +6LIGH209-6WALR2091	22595	97.2	169.0	0.07388		0.03030	76.9	106.3
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					0.08560	0.24061	128.2	362.1
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1					0.09977	0.23029	93.7	317.6
			2149	973.7 *		L:314421	6WINCST 230 314540 6POOLSVL 230 1 C:D:6BENCHCH-6CHCTUK1 +6LANEXA -6LIGH2091	2956	-309.0	-650.0	-0.35025		-0.18688	-202.2	-384.2
							Open 313818 6BENCHCH 230 314522 6CHCTUK 23 0 1					0.42952	-0.23165	-156.2	-381.8
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					-0.27737	0.23029	143.0	367.3
			2402	983.9		L:314296	6PENNINAN 230 314415 6WALR209 230 1 C:D:6BENCHCH-6CHCTUK1 +6SURY -6POOLSVL1	3135	-159.9	-541.0	-0.38730		-0.23029	-18.4	-245.0
							Open 313818 6BENCHCH 230 314522 6CHCTUK 23 0 1					0.37502	-0.23165	-156.2	-384.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.37531	0.18688	221.0	404.9
			2415	984.6 *		L:314387	3LANEXA 115 314396 3NNWS58 115 1 C:D:6DENBIGH-6WALR2851 +6LANEXA -6LIGH2091	18010	96.3	169.0	0.07388		0.03030	77.4	107.3
							Open 314376 6DENBIGH 230 314413 6WALR285 23 0 1					-0.08560	-0.24061	-53.3	-290.2
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.09977	0.23029	143.0	369.8
			2428	985.3 *		L:314296	6PENNINAN 230 314415 6WALR209 230 1 C:D:6BENCHCH-6NP NEWS1 +6LIGH285-6WALR2851	2643	-123.9	-541.0	-0.42333		-0.23029	-18.4	-245.3
							Open 313818 6BENCHCH 230 314398 6NP NEWS 23 0 1					-0.35608	0.23165	130.8	359.1
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.45944	0.24061	128.2	365.3
			2530	990.7 *		L:314398	6NP NEWS 230 314399 6PMBROK 230 1 C:D:6LANEXA -6LIGH2091 +6SURY -6POOLSVL1	22029	159.9	549.0	0.39276		0.23165	9.4	238.9
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.30989	0.23029	143.0	371.2
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.48023	0.18688	221.0	406.2
			2535	990.8 *		L:314399	6PMBROK 230 314407 6SHELBNK 230 1 C:D:6LANEXA -6LIGH2091 +6SURY -6POOLSVL1	22029	159.8	549.0	0.39276		0.23165	9.4	238.9
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.30989	0.23029	143.0	371.2
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.48023	0.18688	221.0	406.2
			2556	992.2 *		L:314396	3NNWS58 115 314411 3TOANO58 115 1 C:D:6DENBIGH-6WALR2851 +6LANEXA -6LIGH2091	18010	95.7	169.0	0.07388		0.03030	76.9	106.9
							Open 314376 6DENBIGH 230 314413 6WALR285 23 0 1					-0.08560	-0.24061	-53.3	-292.1
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.09977	0.23029	143.0	371.5
			2686	994.8 *		L:313818	6BENCHCH 230 314398 6NP NEWS 230 1 C:D:6LANEXA -6LIGH2091 +6SURY -6POOLSVL1	22029	281.3	672.0	0.39276		0.23165	130.8	361.3
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					0.30989	0.23029	143.0	372.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.48023	0.18688	221.0	406.9

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:21 <FC2001.0>
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum.2015(2013LF)_base_wpre_genstudy.sav
Subsys. File X:\S2015\Generation Analysis\YorFCITC.sub
Monit. File X:\S2015\Generation Analysis\TransferYorck.mon
Contin. File X:\S2015\2015 Category D.con
Exclud. File none

From	To	Transfo r Level	N	FCITC	Set A	Limitin g Consta nt	Contingency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	459.8		L:314377	3DOW 34 115 314387 31ANEXA 115 1	5	-70.5	-103.0	-0.07063		-0.03587	-42.9	-59.4
						C:ROW 568	Open 314421 6WINCHST 230 314540 6FOOLSVL 23 0 1					0.08285	-0.18688	-202.2	-288.1
							Open 314538 6SURREY 230 314540 6FOOLSVL 23 0 1					-0.00007	0.00000	18.8	18.8
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08324	0.23165	130.8	237.3
							Open 313818 6BENCHRCH 230 314522 6CHCNTUK 23 0 1					0.00001	0.00000	25.4	25.4
			2	480.7		L:314377	3DOW 34 115 314378 3PTBUS34 115 1	5	69.0	103.0	0.07063		0.03587	41.4	58.6
						C:ROW 569	Open 314421 6WINCHST 230 314540 6FOOLSVL 23 0 1					-0.08285	-0.18688	-202.2	-292.0
							Open 314538 6SURREY 230 314540 6FOOLSVL 23 0 1					0.00007	0.00000	18.8	18.8
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23165	130.8	242.2
							Open 313818 6BENCHRCH 230 314522 6CHCNTUK 23 0 1					-0.00001	0.00000	25.4	25.4
			3	587.8		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1	1	283.7	549.0	0.45144		0.23165	9.4	145.6
						C:ROW 436	Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.38464	0.14291	293.8	377.9
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.38464	0.11024	227.1	291.9
							Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1	NA							
							Open 314243 3PROV 92 115 314387 31ANEXA 11 5 1					0.39730	0.03282	38.6	57.9
							Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1					0.00097	-0.00110	36.9	36.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.45461	0.24061	214.4	355.9
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.45250	0.00000	86.2	86.2
			4	587.9		L:314399	6PEMBROK 230 314407 6SHELBNK 230 1	1	283.6	549.0	0.45144		0.23165	9.4	145.6
						C:ROW 436	Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.38464	0.14291	293.8	377.9
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.38464	0.11024	227.1	291.9
							Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1	NA							
							Open 314243 3PROV 92 115 314387 31ANEXA 11 5 1					0.39730	0.03282	38.6	57.9
							Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1					0.00097	-0.00110	36.9	36.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.45461	0.24061	214.4	355.9
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.45250	0.00000	86.2	86.2
			5	591.3		L:313818	6BENCHRCH 230 314398 6NP NEWS 230 1	1	405.0	672.0	0.45144		0.23165	130.8	267.8
						C:ROW 436	Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.38464	0.14291	293.8	378.4
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.38464	0.11024	227.1	292.3
							Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1	NA							
							Open 314243 3PROV 92 115 314387 31ANEXA 11 5 1					0.39730	0.03282	38.6	58.0
							Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1					0.00097	-0.00110	36.9	36.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.45461	0.24061	214.4	356.7
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.45250	0.00000	86.2	86.2
			6	599		L:314377	3DOW 34 115 314387 31ANEXA 115 1	4	-74.5	-103.0	-0.04764		-0.03587	-42.9	-64.4
						C:ROW 567	Open 314453 6CHRHIND 230 314484 6HARBORV226 23 0 1					0.01094	0.04511	-314.2	-287.2

From	To	Transf r Level	N	FCITC	Set p	Initia t g Const ruct Int	Contingency	Ncon	Pres-Shi ft	Rating	TDF	LODF	PTDF	Base Case Init.	Base Case Final
							Open 314484 6HARBORV226 230 314523 6CRITTDN 23 0 1		NA			-0.00304	0.00000	52.0	52.0
							Open 314523 6CRITTDN 230 314538 6SURY 23 0 1					0.02621	-0.04174	-329.7	-354.7
							Open 314522 6CHCKTUK 230 314538 6SURY 23 0 1					-0.01093	-0.04691	232.5	204.4
							Open 314475 6HARBORV 230 314514 6YADKRN 23 0 1		NA						
							Open 314475 6HARBORV 230 314533 6SMITFLD 23 0 1					-0.00304	0.00000	88.0	88.0
							Open 314533 6SMITFLD 230 314538 6SURY 23 0 1					0.06100	-0.18688	-202.2	-314.1
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.00304	0.00000	10.8	10.8
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.00428	0.06740	968.9	1009.2
							Open 314923 8SEPTA 500 314927 6YADKRN 50 0 1		-128.4	-650.0	-0.36709		-0.18688	-202.2	-315.0
							C:ROW 436	1							
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					-0.31554	0.14291	293.8	380.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					-0.31554	0.11024	227.1	293.6
							Open 314213 3PROV 92 115 314252 3TURNR92 11 5 1		NA						
							Open 314213 3PROV 92 115 314387 3LANEXA 11 5 1					-0.32882	0.03282	38.6	58.4
							Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1					-0.01351	-0.00110	36.9	36.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					-0.37220	0.24061	214.4	359.7
							Open 314390 6LIGH285 230 314413 6HAR285 23 0 1					0.36117	0.00000	86.2	86.2
							Open 314377 3DOW 34 115 314378 3FTEUS34 115 1	4	73.0	103.0	0.04764		0.03587	41.4	64.0
							C:ROW 567								
							Open 314453 6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01094	0.04511	-314.2	-205.8
							Open 314484 6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523 6CRITTDN 230 314538 6SURY 23 0 1					0.00304	0.00000	52.0	52.0
							Open 314522 6CHCKTUK 230 314538 6SURY 23 0 1					-0.02621	-0.04174	-329.7	-356.0
							Open 314475 6HARBORV 230 314514 6YADKRN 23 0 1		NA			0.01093	-0.04691	232.5	202.9
							Open 314475 6HARBORV 230 314533 6SMITFLD 23 0 1								
							Open 314533 6SMITFLD 230 314538 6SURY 23 0 1					0.00304	0.00000	88.0	88.0
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.06100	-0.18688	-202.2	-319.9
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00304	0.00000	18.8	18.8
							Open 314923 8SEPTA 500 314927 6YADKRN 50 0 1					0.00428	0.06740	968.9	1011.3
							C:ROW 568	5	55.8	103.0	0.07063		0.03587	28.1	52.1
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.18688	-202.2	-327.2
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00007	0.00000	18.8	18.8
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23165	130.8	285.7
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00001	0.00000	25.4	25.4
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.6
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 2					0.32347	0.11024	227.1	305.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1								
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1								
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1								
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1								
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32347	0.14291	293.8	395.1
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					0.41931	0.24061	214.4	384.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1								
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
							C:Chickahominy	6	258.8	549.0	0.40953		0.23165	9.4	173.5
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.01317	-0.09142	-42.6	-107.4
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01427	-0.09295	-121.4	-187.3
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02037	-0.06584	-204.1	-250.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02037	-0.04988	-126.3	-161.6
							Open 31421								

From	To	Transf r. Level	N	FCITC	Net P _{max}	Limitin g Constra int	Contingency	Ncon	Prashif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2	23 0 2				0.32347	0.11024	227.1	305.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1	23 0 1				0.41931	0.24061	214.4	385.0
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1	23 0 1	NA						
							Open 314214 6CHCKAHM 230 314903 8CHCKAHM 50 0 1	50 0 1				0.00751	0.00000	0.2	0.2
12	712.5					L:313818	6BENCHRCH 230 314398 6NP NEWS 230 1	230 1	380.2	672.0	0.40953			130.8	295.9
							C:Chickabominy		6						
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1	23 0 1				0.01317	-0.09142	-42.6	-107.8
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1	23 0 1				0.01427	-0.09295	-121.4	-187.7
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1	23 0 1				0.02037	-0.06584	-204.1	-251.0
							Open 314214 6CHCKAHM 230 314308 6ICCI 23 0 1	23 0 1				0.02037	-0.04988	-126.3	-161.8
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1	23 0 1				0.32347	0.14291	293.8	395.7
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2	23 0 2				0.32347	0.11024	227.1	305.6
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1	23 0 1				0.41931	0.24061	214.4	385.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1	23 0 1	NA						
							Open 314214 6CHCKAHM 230 314903 8CHCKAHM 50 0 1	50 0 1				0.00751	0.00000	0.2	0.2
13	729.5					L:314421	6WINCHST 230 314540 6POOLSVL 230 1	230 1	-408.3	-650.0	-0.33140			-202.2	-338.5
							C:Chickabominy		6						
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1	23 0 1				-0.00096	-0.09142	-42.6	-109.3
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1	23 0 1				0.00131	-0.09295	-121.4	-189.2
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1	23 0 1				0.01270	-0.06580	-204.1	-252.1
							Open 314214 6CHCKAHM 230 314308 6ICCI 23 0 1	23 0 1				0.01270	-0.04988	-126.3	-162.7
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1	23 0 1				-0.25157	0.14291	293.8	398.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2	23 0 2				-0.25157	0.11024	227.1	307.5
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1	23 0 1				-0.32968	0.24061	214.4	390.0
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1	23 0 1	NA						
							Open 314214 6CHCKAHM 230 314903 8CHCKAHM 50 0 1	50 0 1				-0.00415	0.00000	0.2	0.2
14	832.4					L:314391	6LIGH209 230 314415 6WALR209 230 1	230 1	218.6	541.0	0.38730			93.7	285.4
							C:ROW 568		5						
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1	23 0 1				-0.37531	-0.18688	-202.2	-357.8
							Open 314538 6SURRY 230 314540 6POOLSVL 23 0 1	23 0 1				-0.00099	0.00000	18.8	18.8
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1	23 0 1				0.37502	0.23165	130.8	323.6
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1	23 0 1				-0.00086	0.00000	25.4	25.4
15	841.7						3PROV 92 115 314387 3LANEXA 115 1	115 1	159.8	249.0	0.10602			38.6	66.2
							C:Chickabominy		6						
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1	23 0 1				-0.01020	-0.09142	-42.6	-119.6
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1	23 0 1				-0.01522	-0.09295	-121.4	-199.7
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1	23 0 1				-0.02509	-0.06584	-204.1	-259.5
							Open 314214 6CHCKAHM 230 314308 6ICCI 23 0 1	23 0 1				-0.02509	-0.04988	-126.3	-168.3
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1	23 0 1				0.16940	0.14291	293.8	414.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2	23 0 2				0.16940	0.11024	227.1	319.9
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1	23 0 1				0.10416	0.24061	214.4	417.0
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1	23 0 1	NA						
							Open 314214 6CHCKAHM 230 314903 8CHCKAHM 50 0 1	50 0 1				0.00039	0.00000	0.2	0.2
16	908.9					L:314378	3FTEUS34 115 314381 3GBAFT34 115 1	115 1	59.7	103.0	0.04764			28.1	60.7
							C:ROW 567		4						
							Open 314453 6CHRLAND 230 314484 6HARBORV226 23 0 1	23 0 1				-0.01094	0.04511	-314.2	-273.2
							Open 314484 6HARBORV226 230 314523 6GRITTON 23 0 1	23 0 1	NA						
							Open 314523 6GRITTON 230 314538 6SURRY 23 0 1	23 0 1				-0.00304	0.00000	52.0	52.0
							Open 314522 6CHCKTUK 230 314538 6SURRY 23 0 1	23 0 1				-0.02621	-0.04174	-329.7	-367.6
							Open 314475 6HARBORV 230 314514 6ADKIN 23 0 1	23 0 1				0.01093	-0.04691	232.5	189.8
							Open 314475 6HARBORV 230 314533 6SMITFID 23 0 1	23 0 1	NA						
							Open 314533 6SMITFID 230 314538 6SURRY 23 0 1	23 0 1				0.00304	0.00000	88.0	88.0
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1	23 0 1				-0.01610	-0.18688	-202.2	-372.0
							Open 314538 6SURRY 230 314540 6POOLSVL 23 0 1	23 0 1				0.00304	0.00000	18.8	18.8

From	To	Transfer Level	N	FCITC	Base	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			17	962.2		L:314118	Open 314923 8SEPTA 230 314421 6WINDST 230 1	50 0 1		-317.8	-671.0	-0.36709	0.00428	0.06740	968.9
							C:ROW 436							-0.18688	-91.5
							Open 314214 6CHCKRAH 230 314388 6LANEXA 23 0 1	23 0 1	1					0.14291	293.8
							Open 314214 6CHCKRAH 230 314388 6LANEXA 23 0 2	23 0 2						0.11024	227.1
							Open 314243 3PROV 92 115 314252 3TURN92 11 5 1	11 5 1	NA					-0.31554	431.4
							Open 314243 3PROV 92 115 314387 3LANEXA 11 5 1	11 5 1						-0.32882	38.6
							Open 314252 3TURN92 115 314284 3CHSTFLD 11 5 1	11 5 1						-0.01351	36.9
							Open 314214 6CHCKRAH 230 314390 6LIGH285 23 0 1	23 0 1						-0.37220	214.4
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1	23 0 1						0.36117	86.2

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:27 <FC2001.0>
2015 SUMMER BASE CASE (LTS615511) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV GENSTUDY
Case File X:\S2015\Generation Analysis\sum.2015(2013)LF_base_wpre_cscnosurry230_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Montt File X:\S2015\Generation Analysis\TransfersYork.mon
Contn File X:\S2015\Wapsys.com
Exclud File none

From	To	Transfo Level	N	FCITC	Base	Limiting Constraint	Contingency	Rcon	Proshif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	129.6		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1214	2915.8	2930.9	0.11651		0.05351	1524.3	1531.2
						L:314901 8BATH CO 500 314926 8VALLEY 500 1	Open 314901 8BATH CO					1.00000	0.06299	1391.6	1399.7
			2	129.6		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1215	2915.8	2930.9	0.11651		0.06299	1391.6	1399.7
						L:314901 8BATH CO 500 314926 8VALLEY 500 1	Open 314901 8BATH CO					1.00000	0.05351	1524.3	1531.2
			3	188.1		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	609	-75.4	-83.7	-0.04382		-0.03641	-54.4	-61.3
						L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA					-0.24089	0.03076	87.0	92.8
			4	192		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	620	-75.2	-83.7	-0.04382		-0.03641	-54.4	-61.4
						L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA					-0.24089	0.03076	87.0	92.8
			5	221.9		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	C:314388	610	73.9	83.7	0.04382		0.03641	53.0	61.0
						L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314388 6LANEXA					0.24089	0.03076	87.0	93.9
			6	225.8		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	C:314388	610	73.8	83.7	0.04382		0.03641	53.0	61.2
						L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314388 6LANEXA					0.24089	0.03076	86.3	93.3
			7	229.6	*	L:314377 3DOW 34 115 314381 3GRAFT34 115 1	C:314388	610	-70.9	-83.7	-0.05563		-0.03641	-54.4	-62.8
						L:314377 3DOW 34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA					-0.08256	0.23281	199.1	252.5
			8	256.3	*	L:314377 3DOW 34 115 314381 3GRAFT34 115 1	C:314388	610	69.4	83.7	0.05563		0.03641	53.0	62.3
						L:314377 3DOW 34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA					0.08256	0.23281	199.1	250.7
			26	496		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314388	610	56.1	83.7	0.05563		0.03641	39.6	57.7
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA					0.08256	0.23281	199.1	314.6
			31	526.3		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314387	609	60.6	83.7	0.04382		0.03641	39.6	58.8
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314387 3LANEXA					0.24089	0.03076	87.0	103.2
			32	530.2	*	L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314387	609	60.4	83.7	0.04382		0.03641	39.6	58.9
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314387 3LANEXA					0.24089	0.03076	86.3	102.6
			43	596.7		L:314391 6LIGH209 230 314415 6VALR209 230 1	C:314214	371	249.2	441.8	0.32272		0.23281	149.4	288.3
						L:314391 6LIGH209 230 314415 6VALR209 230 1	Open 314214 6CHICKAH					0.36990	0.24307	269.9	414.9
			65	696.6		L:314391 6LIGH209 230 314415 6VALR209 230 1	C:314390	613	217.0	441.8	0.32272		0.23281	149.4	311.6
						L:314391 6LIGH209 230 314415 6VALR209 230 1	Open 314390 6LIGH209					0.36990	0.24307	182.8	352.1
			72	712.6		L:314387 3LANEXA 115 314396 3NNENWS58 115 1	C:314388	610	100.9	134.4	0.04700		0.03076	87.0	109.0

From	To	Transf E Level	N	FCITC	Base Case FCITC	Limiting Constraint	Contingency	Preshift Mcon	Rating	LODF	ETDF	Base Case Inlt	Base Case Final
			111	782.7 *		L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314388 6LANEXA 230 314391 6LIGH209 230 1	189.2	441.8	0.32272	0.06975	0.23281	365.0
							C:314376 595					199.1	331.6
			113	786.3		L:314387 3LANEXA 115 314396 3NNWES58 115 1	Open 314376 6DENBIGH 230 314413 6WALR285	97.5	134.4	0.04700	-0.36990	-0.24307	-297.9
							C:314391 614					0.03076	111.2
			119	803.7 *		L:314387 3LANEXA 115 314396 3NNWES58 115 1	Open 314391 6LIGH209 230 314415 6WALR209	100.2	134.4	0.04260	0.06975	0.23281	332.5
							C:314214 371					0.03076	111.8
			121	807.7		L:314396 3NNWES58 115 314411 3TOANOS8 115 1	Open 314214 6CHCKRAH 230 314390 6LIGH285	100.2	138.2	0.04700	0.04870	0.24307	465.2
							C:314388 610					0.03076	111.2
			124	830.4		L:314296 6PENNINAN 230 314415 6WALR209 230 1	Open 314388 6LANEXA 230 314391 6LIGH209	173.8	-441.8	-0.32272	0.06975	0.23281	387.1
							C:314214 371					-0.23281	-267.3
			136	879		L:314296 6PENNINAN 230 314386 6KINGS M 230 1	Open 314214 6CHCKRAH 230 314390 6LIGH285	158.1	441.8	0.32272	-0.36990	0.24307	471.7
							C:314214 371					0.23281	263.0
			139	881.4		L:314396 3NNWES58 115 314411 3TOANOS8 115 1	Open 314214 6CHCKRAH 230 314390 6LIGH285	96.8	138.2	0.04700	0.36990	0.24307	483.5
							C:314391 614					0.03076	113.4
			147	908.6 *		L:314396 3NNWES58 115 314411 3TOANOS8 115 1	Open 314391 6LIGH209 230 314415 6WALR209	99.5	138.2	0.04260	0.06975	0.23281	354.6
							C:314214 371					0.03076	114.3
			156	930.3		L:314296 6PENNINAN 230 314415 6WALR209 230 1	Open 314214 6CHCKRAH 230 314390 6LIGH285	-141.6	-441.8	-0.32272	0.04870	0.24307	490.7
							C:314390 613					-0.23281	-290.6
			167	948.9		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314390 6LIGH285 230 314413 6WALR285	-54.4	-89.0	-0.03641	-0.36990	0.24307	408.9
							Base Case						
			169	953.6		L:314386 6KINGS M 230 314423 6VORKTWN 230 1	C:314214 371	134.0	441.8	0.32272		0.23281	256.2
							Open 314214 6CHCKRAH 230 314390 6LIGH285	125.9	441.8	0.32272	0.36990	0.24307	501.7
			176	978.8		L:314296 6PENNINAN 230 314386 6KINGS M 230 1	C:314390 613					0.23281	286.2
							Open 314390 6LIGH285 230 314413 6WALR285	53.0	89.0	0.03641	0.36990	0.24307	420.7
			180	989.6		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Base Case						

CATEGORY B

PSS(n)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:28 < UDF000.0 >
 2015 SUMMER BASE CASE (LTS615511) REV. 04/02/2012
 2015 SUMMER BASE CASE (LTS615511) REV. 04/02/2012
 2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY

FCITC Single Study

PSS (N)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:27 <FC2001.0>
 2015 SUMMER BASE CASE (LTS615511) REV. 04/02/2012
 2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY
 Case File X:\S2015\Generation Analysis\sum2015(20131F)_base_wpre_230kvAltA_wgeneration.sav
 Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
 Monit File X:\S2015\Generation Analysis\TransferYork.mon
 Contin File X:\S2015\Vapsys.com
 Exclud File none

From	To	Transfo	N	FCITC	Set	Limitin	Contingency	Hcon	PreShif	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	130.9		L:314901	8BATH CO 500 314926 8VALLEY 500 1 C:314901 8BATH CO 500 314912 8LEXNGTN 500 1	1218	2915.7	2930.9	0.11619		0.05220	1537.2	1544.0
			2	130.9		L:314901	8BATH CO 500 314912 8LEXNGTN 500 1 C:314901 8BATH CO 500 314926 8VALLEY 500 1	1219	2915.7	2930.9	0.11619		0.06399	1378.6	1386.9
			3	862.2		L:314423	6YORKTN 230 315620 6SKIFCREEK 230 1 C:314376 6DENHIGH 230 315620 6SKIFCREEK 230 1	596	-19.4	-441.8	-0.48965		0.05220	1537.2	1544.0
			4	920.2		L:314538	6SURREY 230 315620 6SKIFCREEK 230 1 C:314214 6CHICKAH 230 314390 6LIGH285 230 1	371	462.8	940.0	0.51855		-0.3154	-41.1	-726.9
			5	955.2		L:314423	6YORKTN 230 315620 6SKIFCREEK 230 1 C:314376 6DENHIGH 230 314423 6YORKTN 230 1	595	26.1	-441.8	-0.48965		0.15968	173.6	320.5
			6	971.5		L:314538	6SURREY 230 315620 6SKIFCREEK 230 1 C:313818 6BENCHRCH 230 314522 6CHCKTUK 230 1	28	423.3	940.0	0.53166		-0.3154	-41.3	275.4
			7	995.3		L:314538	6SURREY 230 315620 6SKIFCREEK 230 1 C:314388 6LANEXA 230 314391 6LIGH209 230 1	609	425.2	940.0	0.51718		-0.69409	-78.4	-217.9
							Open 314368 6LANEXA 230 314391 6LIGH209 230 1						0.43217	368.9	799.1
													0.52669	106.9	267.6

CATEGORY C

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:34 < UDF000.0 >
 2015 SUMMER BASE CASE (LTSIG15S11) REV. 04/02/2012
 2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY
 Case.File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltA_wgeneration.sav
 Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
 Monit.File X:\S2015\Generation Analysis\TransferYork.mon
 Contn.File X:\S2015\2015_rtep_tower_contingency_DVP_alt.con
 Exclud.File none

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:34 <FC2001.0>

2015 SUMMER BASE CASE (LTSIG15S11) REV. 04/02/2012

2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY

Case.File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltA_wgeneration.sav

Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub

Monit.File X:\S2015\Generation Analysis\TransferYork.mon

Contn.File X:\S2015\2015_rtep_tower_contingency_DVP_alt.con

Exclud.File none

From	To	Transfer Level	N	FCITC	Base	Limiting Constraint	Contingency	Ncon	Prebifft	Rating	ZDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	832		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:2146263	9	498.1	1000.0	0.60324		0.43217	368.9	728.5
							Open 314421 6WINCHST 230 314540 6POOLSVL -0.92534								
							Open 314538 6SURREY 230 314540 6POOLSVL 0.23607								
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK -0.78963								
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK -0.78963								
							Open 312818 6BENCHRCH 230 314396 6NP NEWS -0.58636								
							Open 312818 6BENCHRCH 230 314396 6NP NEWS -0.58636								
			2	921.5		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:2854new	29	-26.3	-541.0	-0.55853			3.3	-279.1
							Open 314376 6DENBIGH 230 315620 6SKIFCREEK 0.63924								
							Open 314376 6DENBIGH 230 314433 6YORKTWN 0.55551								
							Open 315620 6SKIFCREEK 230 315622 6WARRICKB -0.46727								
							Open 314418 6WHEALTN 230 315622 6WARRICKB 0.38354								
			3	966.8		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:2146263	3	560.0	1000.0	0.45508			368.9	786.8
							Open 314538 6SURREY 230 314540 6POOLSVL 0.85824								
							Open 314421 6WINCHST 230 314540 6POOLSVL -0.44452								
							Open 314453 6CHRLND 230 314484 6HARBORV22 -0.33155								
							Open 314484 6HARBORV22 -0.33155								
							Open 314423 6CRITTDN 230 314538 6SURREY 0.41372								
			4	989.4		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:2102226	26	463.8	1000.0	0.54196			51.7	159.7
							Open 314214 6CHCKNAHM 230 314390 6LIGH285 0.58284								
							Open 314390 6LIGH285 230 314413 6WALR285 -0.63460								
							Open 314214 6CHCKNAHM 230 314308 6LANEYA 0.20407								

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:43 <FC2001.0>
2015 SUMMER BASE CASE (LTSGL5S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvalt_a_generation.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transf r Level	N	FCITC	beta	Limiting Constraint	Conting ency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DNP	YORK	1000.0	1	665.6		L:314537 65UFFOLK 230 314928 85UFPOLK 500 2	C:D:8SEPT	54989	-926.2	-1004.3	-0.11732		-0.06327	-344.7	-386.8
							Open 314923 8SEPTA	500	314927 8YADKIN	500	314927 8YADKIN	-0.29566	0.10763	999.5	1071.2
			2	699.2		L:314538 65SURREY 230 315620 65KIFCREEK 230 1	Open 314927 8YADKIN	500	314928 85UFPOLK	0.36021	-0.06173	-0.36021	-0.06173	-793.9	-835.0
							C:D:6IANE	21538	521.6	1000.0	0.68418		0.43217	368.9	671.1
							Open 314388 6LANEXA	230	314391 6LIGH209	0.77580	0.16141		0.16141	106.9	219.8
			3	754.9		L:314538 65SURREY 230 315620 65KIFCREEK 230 1	Open 314390 6LIGH285	230	314413 6WALR285	0.79399	0.15968		0.15968	87.9	199.5
							C:D:6LIGH	22307	483.5	1000.0	0.68418		0.43217	368.9	695.2
							Open 314390 6LIGH285	230	314413 6WALR285	0.79399	0.15968		0.15968	87.9	208.4
			4	786 *		L:314538 65SURREY 230 315620 65KIFCREEK 230 1	Open 314391 6LIGH209	230	314415 6WALR209	0.77580	0.16141		0.16141	57.7	179.6
							C:D:6IANE	21562	462.3	1000.0	0.68418		0.43217	368.9	708.6
							Open 314388 6LANEXA	230	314391 6LIGH209	0.77580	0.16141		0.16141	106.9	233.8
			6	792.9		L:314423 6YORKTWN 230 315620 65KIFCREEK 230 1	Open 314413 6WALR285	230	315620 65KIFCREEK	0.79399	0.15968		0.15968	13.1	138.6
							C:D:6BENC	18631	-98.2	-541.0	-0.55853		-0.30645	3.3	-239.7
							Open 315620 65KIFCREEK	230	315620 65KIFCREEK	0.63924	-0.33154		-0.33154	-41.1	-303.9
			9	820		L:314423 6YORKTWN 230 315620 65KIFCREEK 230 1	Open 315620 65KIFCREEK	230	315622 6WALR285	-0.46727	0.08592		0.08592	160.9	229.0
							C:D:6BENC	2995	-62.6	-541.0	-0.58341		-0.30645	3.3	-248.0
							Open 313818 6BENCHRCH	230	314522 65KIFCREEK	0.52105	-0.14362		-0.14362	-78.4	-196.1
			12	830.4		L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314376 65KIFCREEK	230	315620 65KIFCREEK	0.60965	-0.33154		-0.33154	-41.1	-312.9
							C:D:6LIGH	22555	222.7	541.0	0.38326		0.16141	57.7	191.8
							Open 314390 6LIGH285	230	314413 6WALR285	0.50328	0.15968		0.15968	87.9	220.5
							Open 314538 65SURREY	230	315620 65KIFCREEK	0.32740	0.43217		0.43217	368.9	727.8
			16	842.5 *		L:314423 6YORKTWN 230 315620 65KIFCREEK 230 1	C:D:6BENC	2673	-49.5	-541.0	-0.58341		-0.30645	3.3	-254.9
							Open 313818 6BENCHRCH	230	314398 65KIFCREEK	-0.52105	0.14362		0.14362	53.2	174.2
							Open 314376 65KIFCREEK	230	315620 65KIFCREEK	0.60965	-0.33154		-0.33154	-41.1	-320.4
			41	928.6		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:D:6WALR	28375	189.1	541.0	0.38326		0.16141	57.7	207.6
							Open 314413 6WALR285	230	315620 65KIFCREEK	0.50328	0.15968		0.15968	13.1	161.3
							Open 314538 65SURREY	230	315620 65KIFCREEK	0.32740	0.43217		0.43217	368.9	770.2

CATEGORY D

PSS(m)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:37 < UDF000.0 >
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:36 <FC2001.0>
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV ALT A GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltA_vgeneration.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\2015 Category D Alts.con
Exclud File none

From	To	Transfo	N	FCITC	Beta	Limiting Constraint	Contingency	Ncon	PreShif	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-200.9		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1		C:ROW 567	1065.0	1000.0	0.32344		0.43217	368.9	282.1
								4							
								Open 314453 6CHURCH	230 314484 6HARBORV22			-0.67227	0.09220	-277.2	-295.7
								Open 314484 6HARBORNA							
								Open 314523 6CHITTON	230 314538 6SURREY			0.64036	0.00000	51.7	51.7
								Open 314522 6CHICKTUR	230 314538 6SURREY			-0.74619	0.05546	-248.9	-260.0
								Open 314475 6HARBORV	230 314514 6YADKIN			0.67223	-0.09697	193.0	212.5
								Open 314475 6HARBORNA							
								Open 314533 6SHITFLD	230 314538 6SURREY			0.64036	0.00000	87.3	87.3
								Open 314421 6MCHNST	230 314540 6POOLSVL			-0.92931	-0.06232	-82.4	-89.9
								Open 314538 6SURREY	230 314540 6POOLSVL			0.64036	0.00000	17.1	17.1
								Open 314923 8SEPTA	500 314927 8YADKIN			0.01774	0.10763	999.5	977.9
			2	409		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1			729.1	1000.0	0.66247		0.43217	368.9	545.7
								C:ROW 438							
								Open 314214 6CHICKRAHM	230 314388 6LANEXA			0.65814	0.08192	235.8	269.3
								Open 314214 6CHICKRAHM	230 314388 6LANEXA			0.65814	0.06319	182.3	208.1
								Open 314243 3PROV NA							
								Open 314243 3PROV 92	115 314387 3LANEXA			0.65806	0.01530	20.7	26.9
								Open 314252 3TURNR92	115 314284 3CHSTFLD			0.02580	-0.00110	36.6	36.1
								Open 314214 6CHICKRAHM	230 314390 6LIGH285			0.78128	0.15968	173.6	238.9
								Open 314390 6LIGH285	230 314413 6WALR285			-0.76003	0.00000	85.7	85.7
			3	417.3		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1			736.3	1000.0	0.63176		0.43217	368.9	549.3
								C:Chickah							
								Open 314214 6CHICKRAHM	230 314241 6OLBCHRC			0.00316	-0.06689	-24.0	-51.9
								Open 314214 6CHICKRAHM	230 314258 6ELKO			-0.00144	-0.06479	-100.1	-127.2
								Open 314214 6CHICKRAHM	230 314286 6CHSTF A			-0.02378	-0.02564	-173.8	-184.5
								Open 314214 6CHICKRAHM	230 314308 6ICI			-0.02378	-0.01943	-103.3	-111.4
								Open 314214 6CHICKRAHM	230 314388 6LANEXA			0.55654	0.08192	235.8	269.9
								Open 314214 6CHICKRAHM	230 314388 6LANEXA			0.55654	0.06319	182.3	208.6
								Open 314214 6CHICKRAHM	230 314390 6LIGH285			0.73819	0.15968	173.6	240.2
								Open 314214 6CHICKRAHM							
								Open 314214 6CHICKRAHM	230 314903 8CHICKRAHM			0.00925	0.00000	0.1	0.1

Study 17B

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:46 <FC2001.0>
2015 SUMMER BASE CASE (LTSGI5S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV B GEN RET GEN STUDY
Case File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltB_wgeneration.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\YorkFCITC.mon
Contn File X:\S2015\Vapsys.con
Exclud File none

From	To	Transfe r Level	N	FCITC	beta	Limiting Constraint	Conting ency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	131.1		L:314901 8BATH CO 500 314912 8LENGTN 500 1	C:314901	1220	2915.7	2930.9	0.11619		0.06410	1378.6	1387.0
							Open 314901 8BATH CO	500 314926 8VALLEY				1.00000	0.05209	1537.1	1543.9
			2	131.1		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1219	2915.7	2930.9	0.11619		0.05209	1537.1	1543.9
							Open 314901 8BATH CO	500 314912 8LENGTN				1.00000	0.06410	1378.6	1387.0
			3	837.6		L:314423 6YORKTN 230 315620 6SKIFCREEK 230 1	C:314376	596	-25.9	-441.8	-0.49652		-0.31122	-0.8	-261.5
							Open 314376 6DENBIGH	230 315620 6SKIFCREEK				0.55035	-0.33670	-45.5	-227.6
			4	928.9		L:314423 6YORKTN 230 315620 6SKIFCREEK 230 1	C:314376	595	19.4	-441.8	-0.49652		-0.31122	-0.8	-289.9
							Open 314376 6DENBIGH	230 314423 6YORKTN				-0.55035	0.33670	-36.8	276.0

CATEGORY C

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:42 <FC2001.0>
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV B GEN RET GEN STUDY
Case.File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltB_wgeneration.sav
Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit.File X:\S2015\Generation Analysis\Transferyork.mon
Contin.File X:\S2015\rtep_tower_contingency_DVP_alt.con
Exclud.File none

From	To	Transfe r Level	N	FCITC	Se r	Limitin g Constra int	Conting ency	Ncon	PresShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	896.3		L:314423	6YORKTN	230 31	-33.1	-541.0	-0.56668		-0.31122	-0.8	-279.8
							C:2854new	29							
							Open 314376	6DENBIGH	230 315620	6SKIFCREEK	0.63330	0.63330	-0.33670	-45.5	-347.3
							Open 314376	6DENBIGH	230 314423	6YORKTN	0.56316	0.56316	0.00000	82.3	82.3
							Open 315620	6SKIFCREEK	230 315622	6WARWICKB	-0.45722	-0.45722	0.09235	166.6	249.3
							Open 314418	6WHEALTN	230 315622	6WARWICKB	0.38708	0.38708	0.00000	68.2	68.2

FCITC Single Study

PSS(K)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:40 <FC2001.0>
2015 SUMMER BASE CASE (LTSGL5511) REV. 04/02/2012
2013 LF WPREPROJECT 230KV B GEN RET GEN STUDY
Case File X:\NS2015\Generation Analysis\sum 2015(2013LF)_base_wpre_230kvaltb_wgeneration.sav
Subsys File X:\NS2015\Generation Analysis\YorkFCITC.sub
Monit File X:\NS2015\Generation Analysis\TransferYork.mon
Contn File X:\NS2015\peninsula.con
Exclud File none

From	To	Transf r Level	N	FCITC	Set	Limitin g Constra int	Contingency	Ncon	Prashif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	649.7		L:314537	6SUFFOLK 230 314928 8SULFOLK 500 2 C:D:8SEPTA -8YADKIN 1 +8YADKIN -8SULFOLK1	55308	-926.8	-1004.3	-0.11936		-0.06387	-345.2	-386.7
							Open 314923 8SEPTA 500 314927 8YADKIN 50 0 1					-0.29488	0.11016	1001.7	1073.2
							Open 314927 8YADKIN 500 314928 8SULFOLK 50 0 1					0.35961	-0.06397	-795.8	-837.4
			2	768		L:314423	6YORKTN 230 315620 6SKIFCREEK 230 1 C:D:6DENBIGH-6SKIFCREEK1 +6SKIFCREEK-6WARWICK1	18692	-105.8	-541.0	-0.56668		-0.31122	-0.8	-239.8
							Open 314376 6DENBIGH 230 315620 6SKIFCREEK 23 0 1					0.63330	-0.33670	-45.5	-304.1
							Open 315620 6SKIFCREEK 230 315622 6WARWICKB 23 0 1					-0.45722	0.09235	166.6	237.5
			3	806.5		L:314423	6YORKTN 230 315620 6SKIFCREEK 230 1 C:D:6DENBIGH-6CHCTYUK1 +6DENBIGH-6SKIFCREEK1	3004	-66.6	-541.0	-0.58821		-0.31122	-0.8	-251.8
							Open 313818 6DENBIGH 230 314522 6CHCTYUK 23 0 1					0.52746	-0.13653	-72.2	-182.3
							Open 314376 6DENBIGH 230 315620 6SKIFCREEK 23 0 1					0.60879	-0.33670	-45.5	-317.1
			4	823 *		L:314423	6YORKTN 230 315620 6SKIFCREEK 230 1 C:D:6DENBIGH-6SKIFCREEK1 +6WHEALTH-6WARWICK1	16691	-74.7	-541.0	-0.56668		-0.31122	-0.8	-257.0
							Open 314376 6DENBIGH 230 315620 6SKIFCREEK 23 0 1					0.63330	-0.33670	-45.5	-322.6
							Open 314418 6WHEALTH 230 315622 6WARWICKB 23 0 1					0.45722	-0.09235	-98.4	-174.4

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:44 <FC2001.0>
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT 230KV B GEN RET GEN STUDY
Case.File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_230kvAltB_wgeneration.sav
Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit.File X:\S2015\Generation Analysis\Transferyork.mon
Contin.File X:\S2015\2015 Category D Alts.con
Exclud.File none

From	To	Transfer Level	N	FCITC	Benefit	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	1381.6		L:314423	6YORKTWN	230 31	-32.4	-541.0	-0.36811		-0.31122	-0.8	-430.8
							C:ROW 568	5							
							Open 314421	6WINCHST	230 314540	6POOLSVL	0.20865	-0.05273	-0.05273	-74.2	-147.1
							Open 314538	6SURY	230 314540	6POOLSVL	-0.00900	0.00000	0.00000	17.0	17.0
							Open 313818	6BENCHRCH	230 314398	6NP NEWS	-0.33613	0.13653	0.13653	47.0	235.7
							Open 313818	6BENCHRCH	230 314522	6CHCKTUK	-0.00558	0.00000	0.00000	25.1	25.1

Study 17C

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:35 <FC2001.0>
2015 SUMMER BASE CASE (LTSGL5S11) REV. 04/02/2012
2013 LF WPREPROJECT ALT C GEN RET GEN ALT
Case File X:\S2015\Generation Analysis\sum.2015(2013)LF_Base_wpre_230kV_ALTC_wgeneration.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contln File X:\S2015\Wapsys.com
Exclud File none

From	To	Transf r Level	N	FCITC	Tag	Limiting Constraint	Conting ency	Ncon	Preshif t	Rating	WDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	130.6		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1214	2915.7	2930.9	0.11619		0.05239	1538.2	1545.1
						Open 314901 8BATH CO	Open 314901 8BATH CO	500	2915.7	2930.9	0.11619	1.00000	0.06280	1377.6	1385.8
			2	130.6		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1215	2915.7	2930.9	0.11619		0.06280	1377.6	1385.8
						Open 314901 8BATH CO	Open 314901 8BATH CO	500	2915.7	2930.9	0.11619	1.00000	0.05239	1538.2	1545.1
			3	751.8		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314387	609	-56.0	-83.7	-0.03675		-0.03062	-38.6	-61.6
						Open 314377 3DOM 34	Open 314387 3LANEXA	115	-55.9	-83.7	-0.03675	-0.23679	0.02587	73.6	93.1
			4	755.1		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314396	620	-47.9	-83.7	-0.04627		-0.03062	-38.6	-62.2
						Open 314377 3DOM 34	Open 314396 3LANEXA	115	-47.9	-83.7	-0.04627	-0.23679	0.02587	73.1	92.6
			5	772.1 *		L:314377 3DOM 34 115 314378 3FTEUS34 115 1	C:314388	610	54.6	83.7	0.03675		0.03062	37.1	61.4
						Open 314377 3DOM 34	Open 314388 6LANEXA	230	54.6	83.7	0.03675	-0.07574	0.20655	123.3	282.8
			7	792.1		L:314377 3DOM 34 115 314378 3FTEUS34 115 1	C:314387	609	54.4	83.7	0.03675		0.03062	37.1	61.5
						Open 314377 3DOM 34	Open 314387 3LANEXA	115	54.4	83.7	0.03675	0.23679	0.02587	73.6	94.1
			8	795.4		L:314377 3DOM 34 115 314378 3FTEUS34 115 1	C:314396	620	46.5	83.7	0.04627		0.03062	37.1	61.7
						Open 314377 3DOM 34	Open 314396 3LANEXA	115	46.5	83.7	0.04627	0.23679	0.02587	73.1	93.7
			10	804.1 *		L:314418 6WHEALTN 230 314421 6WINCHST 230 1	C:313818	28	-229.1	-539.6	-0.35712		-0.24262	-164.9	-375.8
						Open 314418 6WHEALTN	Open 313818 6BENCHRCH	230	-217.1	-539.6	-0.35712	0.47870	-0.23918	-134.2	-342.1
			15	869.2		L:314418 6WHEALTN 230 314421 6WINCHST 230 1	C:313818	27	-217.1	-539.6	-0.35712		-0.24262	-164.9	-384.0
						Open 314418 6WHEALTN	Open 313818 6BENCHRCH	230	-217.1	-539.6	-0.35712	-0.47870	0.23918	109.1	325.0

CATEGORY C

ECITC Single Study

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PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:37 <P2001.0>
2015 SUMMER BASE CASE (LTSGLS11) REV. 04/02/2012
2013 LF WPREPROJECT ALT C GEN RET GEN ALT
Case File X:\NS2015\Generation Analysis\sum 2015 (2013LF)_base_wpre_230kvAltC_xgeneration.sav
Subsys File X:\NS2015\Generation Analysis\YorkFCITC.sub
Mont File X:\NS2015\Generation Analysis\TransferYork.mon
Contn File X:\NS2015\2015_rtep_lower_contingency_DWP.con
Exclud File none

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	From	To	Transfer Level	N	FCITC	Set	Limiting Constraint	Contingency	Ncon	ProShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
	YORK	DVP	1000.0	1	460		L:314377	3DOW 34 C:2144263	115 1 230 314540 6POOLSVL	9	-70.5	-103.0	-0.07063	-0.03062	-38.6	-52.7
								Open 314421 6WINCHST	23 0 1				0.08285	-0.24262	-275.6	-387.2
								Open 314538 6SURYR	230 314540 6POOLSVL	23 0 1			-0.00007	0.00000	19.0	19.0
								Open 313818 6BENCHRCH	230 314522 6CHCKTUK	23 0 1			0.08324	-0.23918	-134.2	-244.2
								Open 313818 6BENCHRCH	230 314398 6HP NEWS	23 0 1			0.08325	0.00000	25.1	25.1
				2	480.9		L:314377	3DOW 34 C:2144263	115 1 230 314378 3FTEUS34	9	69.0	103.0	0.07063	0.03062	37.1	51.8
								Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1			-0.08285	-0.24262	-275.6	-392.2
								Open 314538 6SURYR	230 314540 6POOLSVL	23 0 1			0.00007	0.00000	19.0	19.0
								Open 313818 6BENCHRCH	230 314522 6CHCKTUK	23 0 1			-0.08324	-0.23918	-134.2	-249.2
								Open 313818 6BENCHRCH	230 314398 6HP NEWS	23 0 1			-0.08325	0.00000	25.1	25.1
				3	668.7		L:314378	3FTEUS34 C:2144263	115 1 230 314381 3GRAFT34	9	55.8	103.0	0.07063	0.03062	23.9	44.3
								Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1			-0.08285	-0.24262	-275.6	-437.8
								Open 314538 6SURYR	230 314540 6POOLSVL	23 0 1			0.00007	0.00000	19.0	19.0
								Open 313818 6BENCHRCH	230 314522 6CHCKTUK	23 0 1			-0.08324	-0.23918	-134.2	-294.2
								Open 313818 6BENCHRCH	230 314398 6HP NEWS	23 0 1			-0.08325	0.00000	25.1	25.1
				4	833.1		L:314391	6LIGH209 C:2144263	230 1 230 314415 6WALR209	9	218.4	541.0	0.38730	0.20655	74.1	246.1
								Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1			-0.37531	-0.24282	-275.6	-477.7
								Open 314538 6SURYR	230 314540 6POOLSVL	23 0 1			-0.00059	0.00000	19.0	19.0
								Open 313818 6BENCHRCH	230 314522 6CHCKTUK	23 0 1			-0.37502	-0.23918	-134.2	-333.5
								Open 313818 6BENCHRCH	230 314398 6HP NEWS	23 0 1			-0.37508	0.00000	25.1	25.1
				5	897.2		L:314377	3DOW 34 C:2113658	115 1 230 314387 3LANEXA	22	-52.4	-103.0	-0.05637	-0.03062	-38.6	-66.1
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1			-0.09228	0.20655	123.3	308.6
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1			0.05732	0.00000	49.2	49.2
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
				6	923.5		L:314377	3DOW 34 C:2113658	115 1 230 314378 3FTEUS34	22	50.9	103.0	0.05637	0.03062	37.1	65.4
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					
								Open 314388 6LANEXA	230 314391 6LIGH209	23 0 1						
								Open 314391 6LIGH209	230 314415 6WALR209	23 0 1						
								Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA					
								Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
								Open 314382 3GRAFT58	115 314422 3YORKTN	11 5 1	NA					
								Open 314384 3KINGS H	115 314411 3TORAN58	11 5 1	NA					
								Open 314384 3KINGS H	115 314424 3YNWS 58	11 5 1	NA					
								Open 314387 3LANEXA	115 314396 3NEWS58	11 5 1	NA					
								Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
								Open 314396 3NEWS58	115 314411 3TORAN58	11 5 1	NA					

From	To	Transfer Level	N	FCITC	beta	Limiting Constraint	Contingency	Ncon	Pre-shift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final	
							Open 314382 3GRAFT58	115 314422 3TORNTWN	11 5 1				0.25852	0.02587	-26.9	-3.0
							Open 314384 3KINGS M	115 314411 3TORNO58	11 5 1	NA						
							Open 314384 3KINGS M	115 314424 3YNWS 58	11 5 1	NA						
							Open 314387 3LANEXA	115 314396 3NNENWS8	11 5 1							
							Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA			0.12154	0.00000	100.5	100.5
							Open 314396 3NNENWS8	115 314411 3TORNO58	11 5 1	NA						

FCITC Single Study

PS(r)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:42 <FC2001.0>
2015 SUMMER BASE CASE (LTSIG15S11) REV. 04/02/2012
2013 LF WPREPROJECT ALT C GEN RET GEN ALT
Case File X:\S2015\Generation Analysis\sum.2015(2013LF)_base_wpre_230KV ALT_c_generation.sav
Subsys File X:\S2015\Generation Analysis\YorFCITC.sub
Mont File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transfe r Level	N	FCITC	Beta	Limitin g Constra int	Contingency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	408		L:314377	3DOW 34 115 314387 31ANEXA 115 1 C:D:6BENCHRC-6CHCTUK1 +6SURY -6POOLSVL1	3135	-74.2	-103.0	-0.07063		-0.03062	-38.6	-51.1
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					0.08324	-0.23918	-134.2	-231.8
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	294.6	393.6
			2	429		L:314377	3DOW 34 115 314378 3FTEUS34 115 1 C:D:6BENCHRC-6CHCTUK1 +6SURY -6POOLSVL1	3135	72.7	103.0	0.07063		0.03062	37.1	50.3
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.08324	-0.23918	-134.2	-236.8
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.08285	-0.24262	294.6	398.7
			3	430.4		L:314377	3DOW 34 115 314387 31ANEXA 115 1 C:D:6BENCHRC-6CHCTUK1 +6WINCHST-6POOLSVL1	2989	-72.6	-103.0	-0.07063		-0.03062	-38.6	-51.8
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					0.08324	-0.23918	-134.2	-237.1
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-380.0
			4	437.6		L:314377	3DOW 34 115 314387 31ANEXA 115 1 C:D:6BENCHRC-6NP NEWS1 +6SURY -6POOLSVL1	2819	-72.1	-103.0	-0.07063		-0.03062	-38.6	-52.0
							Open 313818 6BENCHRC 230 314398 6NP NEWS 23 0 1					-0.08324	0.23918	109.1	213.7
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	294.6	400.8
			5	451.3		L:314377	3DOW 34 115 314378 3FTEUS34 115 1 C:D:6BENCHRC-6CHCTUK1 +6WINCHST-6POOLSVL1	2989	71.1	103.0	0.07063		0.03062	37.1	50.9
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.08324	-0.23918	-134.2	-242.1
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-385.1
			6	458.6		L:314377	3DOW 34 115 314378 3FTEUS34 115 1 C:D:6BENCHRC-6NP NEWS1 +6SURY -6POOLSVL1	2819	70.6	103.0	0.07063		0.03062	37.1	51.2
							Open 313818 6BENCHRC 230 314398 6NP NEWS 23 0 1					0.08324	0.23918	109.1	218.7
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.08285	-0.24262	294.6	405.9
			26	616.8		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:6BENCHRC-6CHCTUK1 +6SURY -6POOLSVL1	3135	59.4	103.0	0.07063		0.03062	23.9	42.7
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.08324	-0.23918	-134.2	-281.7
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-380.0
			36	639.1		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:6BENCHRC-6CHCTUK1 +6WINCHST-6POOLSVL1	2989	57.9	103.0	0.07063		0.03062	23.9	43.4
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.08324	-0.23918	-134.2	-287.1
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-380.0
			40	646.4		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1 C:D:6BENCHRC-6NP NEWS1 +6SURY -6POOLSVL1	2819	57.3	103.0	0.07063		0.03062	23.9	43.6
							Open 313818 6BENCHRC 230 314398 6NP NEWS 23 0 1					0.08324	0.23918	109.1	263.7
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.08285	-0.24262	294.6	451.4
			97	790.1		L:314391	6LIGH209 230 314415 6WALR209 230 1 C:D:6BENCHRC-6CHCTUK1 +6SURY -6POOLSVL1	3135	235.0	541.0	0.38730		0.20655	74.1	237.3
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.08324	-0.23918	-134.2	-287.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-380.0
			115	808.6		L:314391	6LIGH209 230 314415 6WALR209 230 1 C:D:6BENCHRC-6CHCTUK1 +6WINCHST-6POOLSVL1	2989	227.8	541.0	0.38730		0.20655	74.1	241.1

From	To	Transf Level	N	FCITC	Fla	Limitin g Constra int	Contingency	Ncon	PrSh.f t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.37502	-0.23918	-134.2	-327.6
							Open 314421 6WINGCHT 230 314540 6POOLSVL 23 0 1					-0.37531	-0.24262	-275.6	-471.7
123				814.5		L:314391	6LIGH209 230 314415 6WALR209 230 1		225.5	541.0	0.38730		0.20655	74.1	242.3
							C:D:6BENCHRC-GNP NEWS1 +6SURY -6POOLSVL1	2819							
							Open 313818 6BENCHRC 230 314398 6NP NEWS 23 0 1					0.37502	0.23918	109.1	303.9
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.37531	0.24262	294.6	492.2
144				835.4		L:314418	6WHEALT 230 314421 6WINGCHT 230 1		-289.7	-671.0	-0.46365		-0.24262	-164.9	-367.6
							C:D:6BENCHRC-GCHCTUK1 +6LIGH285-6WALR2851	2959				0.56272	-0.23918	-134.2	-334.0
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					-0.40169	0.21517	107.6	287.4
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1								
162				865.5		L:314537	6SUFFOLK 230 314928 8SULFOLK 500 2		-921.8	-1004.3	-0.09533		-0.05805	-339.6	-390.0
							C:D:8SEPTA -BYADKIN 1 +8YADKIN -8SULFOLK1	53051							
							Open 314923 8SEPTA 500 314927 8YADKIN 50 0 1					-0.30413	0.07985	978.1	1047.2
							Open 314927 8YADKIN 500 314928 8SULFOLK 50 0 1					0.36721	-0.03538	-774.9	-805.5
163				866		L:314418	230 314421 6WINGCHT 230 1		-259.5	-671.0	-0.46365		-0.24262	-164.9	-375.0
							C:D:6BENCHRC-GNP NEWS1 +6LIGH285-6WALR2851	2643							
							Open 313818 6BENCHRC 230 314398 6NP NEWS 23 0 1					-0.56272	0.23918	109.1	316.2
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.40169	0.21517	107.6	294.0
169				870.7		L:314418	6WHEALT 230 314421 6WINGCHT 230 1		-282.0	-671.0	-0.44672		-0.24262	-164.9	-376.2
							C:D:6BENCHRC-GCHCTUK1 +6LANEXA -6LIGH2091	2956							
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					0.54781	-0.23918	-134.2	-342.5
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					-0.35377	0.20655	123.3	303.1
290				904.5		L:314296	6PENNINGAN 230 314415 6WALR209 230 1		-159.7	-541.0	-0.38730		-0.20655	1.2	-202.1
							C:D:6BENCHRC-GCHCTUK1 +6SURY -6POOLSVL1	3135							
							Open 313818 6BENCHRC 230 314522 6CHCTUK 23 0 1					0.37502	-0.23918	-134.2	-369.7
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.37531	0.24262	294.6	533.5

CATEGORY D

FCITC Single Study

PSS(r)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:38 <FC2001.0>
2015 SUMMER BASE CASE (LTSGI5511) REV. 04/02/2012
2013 LF WPREPROJECT ALT C GEN RET GEN ALT
Case File X:\S2015\Generation Analysis\sum 2015(2013LF)_base_wpre_230KV ALTC_wgeneration.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\2015 Category D.con
Exclud File none

	From	To	Transf er Level	N	FCITC	Plan	Limitin g Constra int	Contingency	Ncon	Preshift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
	YORK	DVP	1000.0	1	460		L:314377	3DOW 34 115 314387 31ANEXA 115 1	5	-70.5	-103.0	-0.07063		-0.03062	-38.6	-52.7
							C:ROW 568									
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.08285	-0.24262	-275.6	-387.2
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00007	0.00000	19.0	19.0
							Open 313818	6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08324	0.23918	109.1	219.1
							Open 313818	6BENCHRCH 230 314522 6CHCKTUK 23 0 1					0.00001	0.00000	25.1	25.1
				2	480.9		L:314377	3DOW 34 115 314378 3FTEUS34 115 1	5	69.0	103.0	0.07063		0.03062	37.1	51.8
							C:ROW 568									
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-392.2
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					0.00007	0.00000	19.0	19.0
							Open 313818	6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08324	0.23918	109.1	224.1
							Open 313818	6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00001	0.00000	25.1	25.1
				3	603.6		L:314418	6WHEALTHY 230 314421 6WINGHST 230 1	1	-111.2	-671.0	-0.43045		-0.24262	-164.9	-311.3
							C:ROW 436									
							Open 314214	6CHCKAHM 230 314388 61ANEXA 23 0 1					-0.37043	0.12603	279.5	355.5
							Open 314214	6CHCKAHM 230 314388 61ANEXA 23 0 2					-0.37043	0.09722	216.1	274.8
							Open 314243	3PROV 92 115 314252 3TURNR92 11 5 1	NA							
							Open 314243	3PROV 92 115 314387 31ANEXA 11 5 1					-0.38648	0.02887	35.8	53.2
							Open 314252	3TURNR92 115 314284 3CHSTFLD 11 5 1					-0.01784	-0.00110	36.8	36.2
							Open 314214	6CHCKAHM 230 314390 61IGH285 23 0 1					-0.43684	0.21517	193.5	323.4
							Open 314390	61IGH285 230 314413 6WALR285 23 0 1					0.42245	0.00000	85.9	85.9
				4	618.1		L:314377	3DOW 34 115 314387 31ANEXA 115 1	4	-75.4	-103.0	-0.04473		-0.03062	-38.6	-57.5
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					0.01227	0.05458	-302.7	-268.9
							Open 314484	6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523	6CRITTDN 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	51.9	51.9
							Open 314522	6CHCKTUK 230 314538 6SUNRY 23 0 1					0.02948	-0.03288	-307.0	-327.3
							Open 314475	6HARBORV 230 314514 6VADKIN 23 0 1					-0.01226	-0.05698	220.3	185.1
							Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533	6SMITFLD 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	87.8	87.8
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.05819	-0.24262	-275.6	-425.5
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00338	0.00000	19.0	19.0
				5	651.2		Open 314923	8SEPTA 500 314927 8VADKIN 50 0 1		73.9	103.0	0.04473		-0.00483	978.1	1027.4
							L:314377	3DOW 34 115 314378 3FTEUS34 115 1	4					0.03062	37.1	57.1
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227	0.05458	-302.7	-267.1
							Open 314484	6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523	6CRITTDN 230 314538 6SUNRY 23 0 1					0.00338	0.00000	51.9	51.9
							Open 314522	6CHCKTUK 230 314538 6SUNRY 23 0 1					-0.02948	-0.03288	-307.0	-328.4
							Open 314475	6HARBORV 230 314514 6VADKIN 23 0 1					-0.01226	-0.05698	220.3	183.2
							Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533	6SMITFLD 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	87.8	87.8
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.05819	-0.24262	-275.6	-425.5
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00338	0.00000	19.0	19.0
							Open 314923	8SEPTA 500 314927 8VADKIN 50 0 1					-0.00483	0.07985	978.1	1027.4
				5	651.2		L:314377	3DOW 34 115 314378 3FTEUS34 115 1	4	73.9	103.0	0.04473		0.03062	37.1	57.1
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227	0.05458	-302.7	-267.1
							Open 314484	6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523	6CRITTDN 230 314538 6SUNRY 23 0 1					0.00338	0.00000	51.9	51.9
							Open 314522	6CHCKTUK 230 314538 6SUNRY 23 0 1					-0.02948	-0.03288	-307.0	-328.4
							Open 314475	6HARBORV 230 314514 6VADKIN 23 0 1					-0.01226	-0.05698	220.3	183.2
							Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533	6SMITFLD 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	87.8	87.8
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.05819	-0.24262	-275.6	-425.5
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00338	0.00000	19.0	19.0
							Open 314923	8SEPTA 500 314927 8VADKIN 50 0 1					-0.00483	0.07985	978.1	1027.4
							L:314377	3DOW 34 115 314378 3FTEUS34 115 1	4	73.9	103.0	0.04473		0.03062	37.1	57.1
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227	0.05458	-302.7	-267.1
							Open 314484	6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523	6CRITTDN 230 314538 6SUNRY 23 0 1					0.00338	0.00000	51.9	51.9
							Open 314522	6CHCKTUK 230 314538 6SUNRY 23 0 1					-0.02948	-0.03288	-307.0	-328.4
							Open 314475	6HARBORV 230 314514 6VADKIN 23 0 1					-0.01226	-0.05698	220.3	183.2
							Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533	6SMITFLD 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	87.8	87.8
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.05819	-0.24262	-275.6	-425.5
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00338	0.00000	19.0	19.0
							Open 314923	8SEPTA 500 314927 8VADKIN 50 0 1					-0.00483	0.07985	978.1	1027.4
							L:314377	3DOW 34 115 314378 3FTEUS34 115 1	4	73.9	103.0	0.04473		0.03062	37.1	57.1
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227	0.05458	-302.7	-268.9
							Open 314484	6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523	6CRITTDN 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	51.9	51.9
							Open 314522	6CHCKTUK 230 314538 6SUNRY 23 0 1					0.02948	-0.03288	-307.0	-327.3
							Open 314475	6HARBORV 230 314514 6VADKIN 23 0 1					-0.01226	-0.05698	220.3	185.1
							Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533	6SMITFLD 230 314538 6SUNRY 23 0 1					-0.00338	0.00000	87.8	87.8
							Open 314421	6WINGHST 230 314540 6POOLSVL 23 0 1					0.05819	-0.24262	-275.6	-425.5
							Open 314538	6SUNRY 230 314540 6POOLSVL 23 0 1					-0.00338	0.00000	19.0	19.0
							Open 314923	8SEPTA 500 314927 8VADKIN 50 0 1					-0.00483	0.07985	978.1	1027.4
							L:314377	3DOW 34 115 314378 3FTEUS34 115 1	4	73.9	103.0	0.04473		0.03062	37.1	57.1
							C:ROW 567									
							Open 314453	6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227			

From	To	Transfer Level	N	FCITC	beta	Limiting Constn Int	Contingency	Ncon	PreShif C	Rating	TDF	ΔODE	PTDF	Base Case Init	Base Case Final
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.05819	-0.24262	-275.6	-433.5
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00338	0.00000	19.0	19.0
							Open 314923 8SEPTA 500 314927 8YADKIN 50 0 1					0.00483	0.00000	978.1	1030.1
			6	668.7		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1		55.8	103.0	0.07063		0.03062	23.9	44.3
							C:ROW 568	5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24262	-275.6	-437.8
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00007	0.00000	19.0	19.0
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23918	109.1	269.0
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00001	0.00000	25.1	25.1
			7	695.2		L:314418	6WHEALTN 230 314421 6WINCHST 230 1		-395.7	-671.0	-0.39609		-0.24262	-164.9	-333.6
							C:Chickabominy	6							
							Open 314214 6CHCKAHM 230 314241 6OLDCHRC 23 0 1					0.00029	-0.08408	-36.3	-94.7
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.00348	-0.08467	-114.3	-173.1
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.01951	-0.05483	-194.2	-232.3
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.01951	-0.04154	-118.6	-147.5
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					-0.29917	0.12603	279.5	367.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					-0.29917	0.09722	216.1	283.7
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					-0.39261	0.21517	193.5	343.1
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1					-0.00468	0.00000	0.1	0.1
			8	833.1		L:314391	6LIGH209 230 314415 6WALR209 230 1		218.4	541.0	0.38730		0.20655	74.1	246.1
							C:ROW 568	5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.37531	-0.24262	-275.6	-477.7
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.00099	0.00000	19.0	19.0
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.37502	0.23918	109.1	308.3
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00086	0.00000	25.1	25.1
			9	947.8		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1		60.6	103.0	0.04473		0.03062	23.9	52.9
							C:ROW 567	4							
							Open 314453 6CHRLAND 230 314484 6HARBORV226 23 0 1					-0.01227	0.05458	-302.7	-251.0
							Open 314484 6HARBORV226 230 314523 6CRITTDN 23 0 1		NA						
							Open 314523 6CRITTDN 230 314538 6SURY 23 0 1					0.00338	0.00000	51.9	51.9
							Open 314522 6CHCKTUK 230 314538 6SURY 23 0 1					-0.02948	-0.03288	-307.0	-338.2
							Open 314475 6HARBORV 230 314514 6YADKIN 23 0 1					0.01228	-0.05698	220.3	166.3
							Open 314475 6HARBORV 230 314533 6SMITFLD 23 0 1		NA						
							Open 314533 6SMITFLD 230 314538 6SURY 23 0 1					0.00338	0.00000	87.8	87.8
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.05819	-0.24262	-275.6	-505.5
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00338	0.00000	19.0	19.0
							Open 314923 8SEPTA 500 314927 8YADKIN 50 0 1					0.00483	0.07983	978.1	1053.7
			10	984.8		L:314416	6WALRICK 230 314418 6WHEALTN 230 1		-167.1	-541.0	-0.37964		-0.22379	30.1	-190.3
							C:ROW 436	1							
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					-0.29177	0.12603	279.5	403.6
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					-0.29177	0.09722	216.1	311.8
							Open 314213 3PROV 92 115 314252 3TURN92 11 5 1		NA						
							Open 314213 3PROV 92 115 314387 6LANEXA 11 5 1								
							Open 314252 3TURN92 115 314284 3CHSTFLD 11 5 1					-0.27780	0.02887	35.8	64.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					-0.01254	-0.00110	36.8	35.7
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1					-0.38438	0.21517	193.5	405.4
												0.37414	0.00000	85.9	85.9

CATEGORY B

PSS(IN)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:30 < UDF000.0 >
 2015 SUMMER BASE CASE (LTS615S11) REV. 04/02/2012
 2013 LF WPREPROJECT ALT A GEN RET CSC NO SURRY230KV WGEN
 Case File X:\S2015\Generation Analysis\sum 2015(2013LF)_base_wpre_CSCNOSURRY230_230 kv ALT A_wgeneration.sav
 Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
 Monit.File X:\S2015\Generation Analysis\Transferyork.mon
 Contin.File X:\S2015\Vapsys.con
 Exclud.File none

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:30 <FC2001.0>

2015 SUMMER BASE CASE (LTS615S11) REV. 04/02/2012
 2013 LF WPREPROJECT ALT A GEN RET CSC NO SURRY230KV WGEN
 Case File X:\S2015\Generation Analysis\sum 2015(2013LF)_base_wpre_CSCNOSURRY230_230 kv ALT A_wgeneration.sav
 Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
 Monit.File X:\S2015\Generation Analysis\Transferyork.mon
 Contin.File X:\S2015\Vapsys.con
 Exclud.File none

From	To	Transfer Level	N	FCITC	Base L	Limiting Constraint	Contingency	Ncon	Preshift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	130		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1218	2915.8	2930.9	0.11651		0.06472	1391.8	1400.2
							Open 314901 8BATH CO 500 314926 8VALLEY	1218	2915.8	2930.9	0.11651	1.00000	0.05179	1524.0	1530.7
			2	130		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1218	2915.8	2930.9	0.11651		0.05179	1524.0	1530.7
							Open 314901 8BATH CO 500 314912 8LEXNGTN	1218	2915.8	2930.9	0.11651	1.00000	0.06472	1391.8	1400.2
			3	650.5		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:314214	371	297.5	441.8	0.22176		0.16773	197.3	306.4
							Open 314214 6CHCKRAH	371	297.5	441.8	0.22176	0.32618	0.16566	307.4	415.1
			4	779.7		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:314390	612	268.9	441.8	0.22176		0.16773	197.3	328.1
							Open 314390 6LIGH285	612	268.9	441.8	0.22176	0.32618	0.16566	219.6	348.7
			5	890.3	*	L:314391 6LIGH209 230 314415 6WALR209 230 1	C:314413	636	244.4	441.8	0.22176		0.16773	197.3	346.6
							Open 314413 6WALR285	636	244.4	441.8	0.22176	0.32618	0.16566	144.3	291.8
			7	920.8		L:314423 6YORKWVN 230 315620 6SKIFCREEK 230 1	C:314376	596	8.1	-441.8	-0.48861		-0.30568	20.5	-261.0
							Open 314376 6DENBIGH	596	8.1	-441.8	-0.48861	0.55318	-0.33070	-22.4	-326.9
			8	991.4		L:314296 6PENNTMAN 230 314415 6WALR209 230 1	C:314214	371	-221.9	-441.8	-0.22176		-0.16773	-121.7	-288.0
							Open 314214 6CHCKRAH	371	-221.9	-441.8	-0.22176	-0.32618	0.16566	307.4	471.6

CATEGORY B

PSS(nrc)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:49 < UDF000.0 >
 2015 SUMMER BASE CASE (LTS15S11) REV. 04/02/2012
 2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALTB WGENER
 2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALTB WGENER

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:49 <FC2001.0>
 2015 SUMMER BASE CASE (LTS15S11) REV. 04/02/2012
 2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALTB WGENER
 Case File X:\S2015\Generation Analysis\sum 2015(2013LF)_base_wpre_cscnosurrry230_230 kv ALTB B_vgenetaation.sav
 Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
 Monit. File X:\S2015\Generation Analysis\TransferYork.mon
 Contin. File X:\S2015\Veapsys.con
 Exclud. File none

From	To	Transfer Level	N	FCITC	Set	Limiting Constraint	Contingency	Ncon	Prashift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	130		L:314901	8BATH CO 500 314926 8VALLEY 500 1		2915.8	2930.9	0.11651		0.05168	1524.0	1530.8
						C:314901	8BATH CO 500 314912 8LEXNGTN 500 1	1219							
			2	130		L:314901	8BATH CO 500 314912 8LEXNGTN 500 1		2915.8	2930.9	0.11651	1.00000	0.06482	1391.7	1400.2
						C:314901	8BATH CO 500 314926 8VALLEY 500 1	1220					0.06482	1391.7	1400.2
			3	698.4		L:314391	6LIGH209 230 314415 6VALR285 230 1		294.1	441.8	0.21143	1.00000	0.05168	1524.0	1530.8
						C:314391	6LIGH209 230 314415 6VALR285 230 1	371					0.16124	197.2	309.9
			4	829.3		L:314391	6LIGH209 230 314415 6VALR285 230 1		266.5	441.8	0.21143		0.15925	307.4	418.6
						C:314391	6LIGH209 230 314415 6VALR285 230 1	612					0.16124	197.2	331.0
			5	907.4		L:314423	6YORKTWN 230 315620 6SKIFCREEK 230 1		7.4	-441.8	-0.49504		-0.31029	20.0	-261.5
						C:314376	6DENBIGH 230 315620 6SKIFCREEK 230 1	596					0.55035	-23.0	-327.6
			6	941.5		L:314391	6LIGH209 230 314415 6VALR285 230 1		242.7	441.8	0.21143		0.16124	197.2	349.1
						C:314413	6VALR285 230 315620 6SKIFCREEK 230 1	636							
			7	998.9		L:314423	6YORKTWN 230 315620 6SKIFCREEK 230 1		52.7	-441.8	-0.49504		0.31517	144.4	294.3
						C:314376	6DENBIGH 230 314423 6YORKTWN 230 1	595					-0.31029	20.0	-289.9
												-0.55035	0.33569	-59.3	276.0

Study 18C

CATEGORY B

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:33 < UDF000.0 >
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALT C WGEN

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:32 <FC2001.0>
2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALT C WGEN
Case.File X:\S2015\Generation Analysis\sum_2015(2013LF)_base_wpre_CSCNOSURRY230_alt_C_wgeneration.sav
Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit.File X:\S2015\Generation Analysis\Transferyork.mon
Contn.File X:\S2015\Vapsys.con
Exclud.File none

From	To	Transfer Level	N	FCITC	by Fe	Limiting Constraint	Contingency	Ncon	Preshift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	129.6		L:314901	8BATH CO C:314901	500 31 1214	2915.8	2930.9	0.11651		0.05294	1524.1	1531.0
							Open 314901	8BATH CO	500 314901	8BATH CO	500 314912	8LEXNGTN	1.00000	0.06357	1391.7
			2	129.6		L:314901	8BATH CO C:314901	500 31 1215	2915.8	2930.9	0.11651		0.06357	1391.7	1399.9
							Open 314901	8BATH CO	500 314901	8BATH CO	500 314926	8VALLEY	1.00000	0.05294	1524.1
			3	286.2		L:314377	3DOW 34 C:314387	115 31 609	-72.9	-83.7	-0.03752		-0.03127	-52.7	-61.6
							Open 314387	3LANEXA	115 314387	3LANEXA	115 314396	3NNEWS58	-0.23679	0.02641	85.4
			4	290.5		L:314377	3DOW 34 C:314396	115 31 620	-72.8	-83.7	-0.03752		-0.03127	-52.7	-61.8
							Open 314396	3NNEWS58	115 314396	3TOANO58	115 314411	3TOANO58	-0.23679	0.02641	84.8
			5	325.7		L:314377	3DOW 34 C:314387	115 31 609	71.4	83.7	0.03752		0.03127	51.2	61.4
							Open 314387	3LANEXA	115 314387	3LANEXA	115 314396	3NNEWS58	0.23679	0.02641	85.4
			6	330		L:314377	3DOW 34 C:314396	115 31 620	71.3	83.7	0.03752		0.03127	51.2	61.5
							Open 314396	3NNEWS58	115 314396	3TOANO58	115 314411	3TOANO58	-0.23679	0.02641	84.8
			7	352.7	*	L:314377	3DOW 34 C:314388	115 31 610	-67.0	-83.7	-0.04713		-0.03127	-52.7	-63.7
							Open 314388	6LANEXA	230 314388	6LIGH209	230 314391	6LIGH209	-0.07574	0.20952	189.4
			8	384.1	*	L:314377	3DOW 34 C:314388	115 31 610	65.6	83.7	0.04713		0.03127	51.2	63.2
							Open 314388	6LANEXA	230 314388	6LIGH209	230 314391	6LIGH209	0.07574	0.20952	189.4
			32	666.9		L:314378	3FTEUS34 C:314388	115 31 610	52.2	83.7	0.04713		0.03127	37.9	58.7
							Open 314388	6LANEXA	230 314388	6LIGH209	230 314391	6LIGH209	0.07574	0.20952	189.4
							Open 314388	6LANEXA	230 314388	6LIGH209	230 314391	6LIGH209	0.07574	0.20952	189.4

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:33 < UDF000.0 >
 2015 SUMMER BASE CASE (LTSG15S11) REV. 04/02/2012
 2013 LF WPREPROJECT GEN RET CSC NO SURRY230KV ALT C WGEN

From	To	Transfer Level	N	FCITC	beg	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			33	680.9		L:314378	3FTEUS34	115 31	58.1	83.7	0.03752		0.03127	37.9	59.2
							C:314387	609							
							Open 314387	3LANEXA	115	314396	3NNWS58	0.23679	0.02641	85.4	103.4
			34	685.2 *		L:314378	3FTEUS34	115 31	58.0	83.7	0.03752		0.03127	37.9	59.3
							C:314396	620							
							Open 314396	3NNWS58	115	314411	3TOANO58	0.23679	0.02641	84.8	102.9
			43	760.7		L:314391	6LIGH209	230 31	226.9	441.8	0.28250		0.20952	139.8	299.2
							C:314214	371							
							Open 314214	6CHCKAHM	230	314390	6LIGH285	0.33459	0.21812	260.3	426.2
			69	863.6		L:314391	6LIGH209	230 31	197.8	441.8	0.28250		0.20952	139.8	320.8
							C:314390	613							
							Open 314390	6LIGH285	230	314413	6WALR285	0.33459	0.21812	173.4	361.7
			91	925.6		L:314387	3LANEXA	115 31	97.6	134.4	0.03982		0.02641	85.4	109.9
							C:314388	610							
							Open 314388	6LANEXA	230	314391	6LIGH209	0.06399	0.20952	189.4	383.4
			99	952.6 *		L:314391	6LIGH209	230 31	172.7	441.8	0.28250		0.20952	139.8	339.4
							C:314376	595							
							Open 314376	6DENBIGH	230	314413	6WALR285	-0.33459	-0.21812	-98.2	-306.0

Study 19

1. The first part of the study was a pilot study.

2.

3. The second part of the study was a main study.

4. The third part of the study was a follow-up study.

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CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:31 <FC2001.0>
2021 SUMMER BASE CASE [ERAG/MMWG22511] REV. 04/02/2012
2013 LF WPRE GEN STUDY
Case File X:\S2021\Gen Analysis\sum 2021(2013LF)_wpre_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2015\Wapsys.com
Exclud File none

From	To	Transfe r Level	N	FCITC	beta	Limitin g Constra nt	Contingency	Ncon	Proshif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	90.7			L:314901 8BATH CO 500 314926 BVALLEY 500 1 C:314901 8BATH CO 500 314912 8LEXNGTN 500 1	1213	2920.8	2930.9	0.11149		0.05060	1880.2	1884.8
			2	90.7			Open 314901 8BATH CO 500 314912 8LEXNGTN 500 1 C:314901 8BATH CO 500 314926 BVALLEY 500 1	1214	2920.8	2930.9	0.11149		0.06089	1040.6	1046.2
			3	513.6			Open 314901 8BATH CO 500 314926 BVALLEY 500 1 L:314377 3DOW 34 115 314387 3LANEXA 115 1 C:314387 3LANEXA 115 314396 3NNENWS58 115 1	613	-61.5	-83.7	-0.04311		0.05060	1880.2	1884.8
			4	516.9			Open 314387 3LANEXA 115 314396 3NNENWS58 115 1 L:314377 3DOW 34 115 314387 3LANEXA 115 1 C:314396 3NNENWS58 115 314411 3TOANOS58 115 1	624	-61.4	-83.7	-0.04311		0.03026	79.4	94.9
			5	532.4			Open 314396 3NNENWS58 115 314411 3TOANOS58 115 1 L:314377 3DOW 34 115 314387 3LANEXA 115 1 C:314387 3LANEXA 115 314396 3NNENWS58 115 1	614	-54.5	-83.7	-0.05481		0.03026	78.8	94.4
			6	550			Open 314388 6LANEXA 230 314391 6LIGH209 230 1 L:314377 3DOW 34 115 314378 3FTEUS34 115 1 C:314387 3LANEXA 115 314396 3NNENWS58 115 1	613	60.0	83.7	0.04311		0.03582	40.8	60.5
			7	553.3			Open 314396 3NNENWS58 115 314378 3FTEUS34 115 1 L:314377 3DOW 34 115 314387 3LANEXA 115 1 C:314388 6LANEXA 230 314391 6LIGH209 230 1	624	59.8	83.7	0.04311		0.03026	79.4	96.0
			8	561.4			Open 314388 6LANEXA 230 314391 6LIGH209 230 1 L:314377 3DOW 34 115 314378 3FTEUS34 115 1 C:314388 6LANEXA 230 314391 6LIGH209 230 1	614	52.9	83.7	0.05481		0.03582	40.8	60.9
			28	764.4			Open 314387 3DOW 34 115 314387 3LANEXA 115 1 L:314421 6WINCHST 230 314540 6FOOLSVL 230 1 C:313818 6BENCHRCH 230 314522 6CHCTURK 230 1	30	-317.9	-525.5	-0.27158		0.08256	146.2	275.4
			34	801.3			Open 313818 6BENCHRCH 230 314522 6CHCTURK 230 1 L:314421 6WINCHST 230 314540 6FOOLSVL 230 1 C:313818 6BENCHRCH 230 314522 6CHCTURK 230 1	29	38.8	83.7	0.05481		0.03582	40.8	60.9
			38	817.7			Open 313818 6BENCHRCH 230 314522 6CHCTURK 230 1 L:314378 3FTEUS34 115 314387 3LANEXA 115 1 C:314388 6LANEXA 230 314391 6LIGH209 230 1	614	177.7	441.8	0.31899		0.03582	40.8	60.9
			40	827.8			Open 313818 6BENCHRCH 230 314522 6CHCTURK 230 1 L:314378 3FTEUS34 115 314387 3LANEXA 115 1 C:314388 6LANEXA 230 314391 6LIGH209 230 1	376					0.03582	40.8	60.9
			44	860.9			Open 314214 6CHCHRN 230 314390 6LIGH285 230 1 L:313818 6BENCHRCH 230 314398 6NP NEWS 230 1 C:314538 6SURY 230 314540 6FOOLSVL 230 1	815	283.0	549.0	0.30890		0.03582	26.8	56.0
			46	876.4			Open 314538 6SURY 230 314540 6FOOLSVL 230 1 L:314378 3FTEUS34 115 314387 3LANEXA 115 1 C:314387 3LANEXA 115 314396 3NNENWS58 115 1	613	45.9	83.7	0.04311		0.03582	26.8	56.2

From	To	Transfo Level	N	FCITC	Base P	Limitin g Constra int	Contingency	Ncon	ProShie t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			47	879.7		L:314378	3FTEUS34 115 314381 3GRAT34 115 1	624	45.7	83.7	0.04311		0.03582	26.8	58.3
							C:314396 3NNENS58 115 314411 3TOAN058 115 1								
			50	889		L:313818	6BENCHRCH 230 314398 6NP NEWS 230 1		274.4	549.0	0.30890	0.24089	0.03026	78.8	105.4
							C:314421 6WINCHST 230 314540 6POOLSVL 230 1	647					0.23174	172.5	379.6
							Open 314421 6WINCHST 230 314540 6POOLSVL 230 1								
			54	933.8		L:314391	6LIGH209 230 314415 6WALR209 230 1	617	143.9	441.8	0.31899	-0.41178	-0.18738	-244.8	-411.4
							C:314390 6LIGH285 230 314413 6WALR285 230 1						0.23011	94.0	308.9
							Open 314390 6LIGH285 230 314413 6WALR285 230 1								
			57	954.7		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1	815	154.4	449.3	0.30890	0.36989	0.24031	135.0	359.4
							C:314538 6SURREY 230 314540 6POOLSVL 230 1						0.23174	44.9	266.2
							Open 314538 6SURREY 230 314540 6POOLSVL 230 1								
			58	954.9		L:314399	6PEMBROK 230 314407 6SHELBK 230 1	815	154.3	449.3	0.30890	0.41178	0.18738	265.9	444.8
							C:314538 6SURREY 230 314540 6POOLSVL 230 1						0.23174	44.9	266.1
							Open 314538 6SURREY 230 314540 6POOLSVL 230 1								
			61	968.4		L:314387	3LANEXA 115 314396 3NNENS58 115 1	614	89.6	134.4	0.04631	0.41178	0.18738	265.9	444.8
							C:314388 6LANEXA 230 314391 6LIGH209 230 1						0.03026	79.4	108.7
							Open 314388 6LANEXA 230 314391 6LIGH209 230 1								
			62	973.3		L:314421	6WINCHST 230 314540 6POOLSVL 230 1	625	-261.1	-525.5	-0.27158	0.06975	0.23011	146.3	369.1
							C:314398 6NP NEWS 230 314399 6PEMBROK 230 1						-0.18738	-244.8	-427.2
							Open 314398 6NP NEWS 230 314399 6PEMBROK 230 1								
			66	982.8		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1	647	145.7	449.3	0.30890	-0.36331	0.23174	44.9	270.5
							C:314421 6WINCHST 230 314540 6POOLSVL 230 1						0.23174	44.9	272.7
							Open 314421 6WINCHST 230 314540 6POOLSVL 230 1								
			67	983		L:314399	6PEMBROK 230 314407 6SHELBK 230 1	647	145.7	449.3	0.30890	-0.41178	-0.18738	-244.8	-429.0
							C:314421 6WINCHST 230 314540 6POOLSVL 230 1						0.23174	44.9	272.7
							Open 314421 6WINCHST 230 314540 6POOLSVL 230 1						-0.41178	-244.8	-429.0

CATEGORY C

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:35 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE GEN STUDY
Case File X:\S2021\Gen Analysis\sum_2021(2013)LF_wpre_genstudy.sav
Subsys File X:\S2021\Generation Analysis\YorkFCITC.sub
Monit File X:\S2021\Generation Analysis\Transferyork.mon
Contn File X:\S2021\2021_rtep_tower_contingency_DVP.con
Exclud File none

From	To	Transfer Level	N	FCITC	Set A	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	366.2		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:2146263	9	-77.1	-103.0	-0.07063		-0.03582	-42.4	-55.5
							Open 314421 6WINCHST	230 314540 6POOLSVL				0.08285	-0.18738	-244.8	-313.4
							Open 314538 6SURREY	230 314540 6POOLSVL				0.00006	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				0.08324	-0.23174	-201.1	-286.0
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				0.08326	0.00000	27.6	27.6
			2	388.5		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	C:2146263	9	75.6	103.0	0.07063		0.03582	40.8	54.7
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.08285	-0.18738	-244.8	-317.6
							Open 314538 6SURREY	230 314540 6POOLSVL				0.00006	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.08324	-0.23174	-201.1	-291.1
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				-0.08326	0.00000	27.6	27.6
			3	587.7		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:2146263	9	61.5	103.0	0.07063		0.03582	26.8	47.8
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.08285	-0.18738	-244.8	-354.9
							Open 314538 6SURREY	230 314540 6POOLSVL				0.00006	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.08324	-0.23174	-201.1	-337.3
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				-0.08326	0.00000	27.6	27.6
			4	652		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:2113658	22	-59.2	-103.0	-0.06715		-0.03582	-42.4	-65.8
							Open 314388 6LANEXA	230 314391 6LIGH209				-0.10114	0.23011	146.3	296.3
							Open 314391 6LIGH209	230 314415 6NALR209				0.06684	0.00000	52.3	52.3
							Open 314379 3FTEUSNA								
							Open 314379 3FTEUSNA								
							Open 314382 3GRAFT58	115 314422 3YORKTN				-0.26635	0.03026	-27.3	-7.5
							Open 314384 3KINGSNA								
							Open 314384 3KINGSNA								
							Open 314387 3LANEXA	115 314396 3NNWS58				-0.11984	0.00000	106.7	106.7
							Open 314389 3LEBANNA								
							Open 314386 3NNWSNA								
			5	675.4		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	C:2113658	22	57.6	103.0	0.06715		0.03582	40.8	65.0
							Open 314388 6LANEXA	230 314391 6LIGH209				0.10114	0.23011	146.3	301.7
							Open 314391 6LIGH209	230 314415 6NALR209				-0.06684	0.00000	52.3	52.3
							Open 314379 3FTEUSNA								
							Open 314379 3FTEUSNA								
							Open 314382 3GRAFT58	115 314422 3YORKTN				0.26635	0.03026	-27.3	-6.6
							Open 314384 3KINGSNA								
							Open 314384 3KINGSNA								
							Open 314387 3LANEXA	115 314396 3NNWS58				-0.11984	0.00000	106.7	106.7
							Open 314389 3LEBANNA								
							Open 314386 3NNWSNA								

From	To	Transfer K Level	N	FCITC	Set Point	Limiting Constraint	Contingency	Recon	PreShift t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			6	739.2 *		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314396 3NNENNA	-38.4	-103.0	-0.08734			-0.03582	-42.4	-68.9
							C:2096285	21							
							Open 314296 6PENNNAN	230 314415 6WALR209				0.11809	-0.23011	-14.2	-184.3
							Open 314296 6PENNNAN								
							Open 314386 6KINGS M	230 314423 6YORKTWN				0.08711	0.00000	42.1	42.1
							Open 314376 6DENBIGH	230 314413 6WALR285				0.10132	-0.24031	-55.6	-233.2
							Open 314376 6DENBIGH	230 314423 6YORKTWN				0.08711	0.00000	87.2	87.2
			7	748.9		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:2146263	9	250.9	541.0	0.38734		0.23011	94.0	266.3
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.37531	-0.18738	-244.8	-385.1
							Open 314538 6SURREY	230 314540 6POOLSVL				-0.00079	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.37502	-0.23174	-201.1	-374.7
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				-0.37568	0.00000	27.6	27.6
			8	757.2 *		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	C:2096285	21	36.9	103.0	0.08734		0.03582	40.8	68.0
							Open 314296 6PENNNAN	230 314415 6WALR209				-0.11809	-0.23011	-14.2	-188.4
							Open 314296 6PENNNAN								
							Open 314386 6KINGS M	230 314423 6YORKTWN				-0.08711	0.00000	42.1	42.1
							Open 314376 6DENBIGH	230 314413 6WALR285				-0.10132	-0.24031	-55.6	-237.5
							Open 314376 6DENBIGH	230 314423 6YORKTWN				-0.08711	0.00000	87.2	87.2
			11	878.1		L:314214 6CHCKNAH 230 314388 6LANEXA 230 2	C:2102620	25	540.4	812.0	0.30932		0.10988	249.4	345.9
							Open 314214 6CHCKNAH	230 314390 6LIGH285				0.41645	0.24031	226.4	437.4
							Open 314390 6LIGH285	230 314413 6WALR285				-0.31167	0.00000	91.5	91.5
							Open 314214 6CHCKNAH	230 314388 6LANEXA				0.69758	0.14244	322.8	447.9
			12	884.9		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:2113658	22	43.6	103.0	0.06715		0.03582	26.8	58.5
							Open 314388 6LANEXA	230 314391 6LIGH209				0.10114	0.23011	146.3	349.9
							Open 314391 6LIGH209	230 314415 6WALR209				-0.06684	0.00000	52.3	52.3
							Open 314379 3FTEUSINA								
							Open 314379 3FTEUSINA								
							Open 314382 3GRAFT58	115 314422 3YORKTWN				0.26635	0.03026	-27.3	-0.5
							Open 314384 3KINGSINA								
							Open 314384 3KINGSINA								
							Open 314387 3LANEXA	115 314396 3NNENNS				0.11984	0.00000	106.7	106.7
							Open 314389 3LEBANINA								
							Open 314396 3NNENNS								
			13	918.3 *		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:2096285	21	22.8	103.0	0.08734		0.03582	26.8	59.7
							Open 314296 6PENNNAN	230 314415 6WALR209				-0.11809	-0.23011	-14.2	-225.5
							Open 314296 6PENNNAN								
							Open 314386 6KINGS M	230 314423 6YORKTWN				-0.08711	0.00000	42.1	42.1
							Open 314376 6DENBIGH	230 314413 6WALR285				-0.10132	-0.24031	-55.6	-276.3
							Open 314376 6DENBIGH	230 314423 6YORKTWN				-0.08711	0.00000	87.2	87.2
			14	955		L:314296 6PENNNAN 230 314415 6WALR209 230 1	C:2146263	9	-171.1	-541.0	-0.38734		-0.23011	-14.2	-233.9
							Open 314421 6WINCHST	230 314540 6POOLSVL				0.37531	-0.18738	-244.8	-423.8
							Open 314538 6SURREY	230 314540 6POOLSVL				0.00079	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.37502	-0.23174	-201.1	-422.4
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				0.37568	0.00000	27.6	27.6
			15	997.7		L:314296 6PENNNAN 230 314386 6KINGS M 230 1	C:2146263	9	154.5	541.0	0.38734		0.23011	-2.4	227.2

From	To	Transfer Level	N	FCITC	Base Case	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 314421 6WINCHST	230	314540	6FOOLSVL	-0.37531	-0.18738	-0.18738	-244.8	-431.8
							Open 314538 6SURREY	230	314540	6FOOLSVL	-0.00079	0.00000	0.00000	21.1	21.1
							Open 313818 6BENCHRCH	230	314522	6CHCTUK	-0.37502	-0.23174	-0.23174	-201.1	-432.3
							Open 313818 6BENCHRCH	230	314398	6NP NEWS	-0.37568	0.00000	0.00000	27.6	27.6

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:43 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE GEN STUDY
Case File X:\S2021\Gen Analysis\Sum 2021(2013LF) wpre_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transfer Level	N	FCITC	Set	Limiting Constraint	Contingency	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-1084.5		L:314378 3DOW 34	C:D:6BENC	51607	-3067.0	-0.06391		-0.04749	-1660.3	-1608.7
						L:314378 3DOW 34	Open 235105 01DOWB	500 314917 8MT STM			0.31742	-0.01567	-1911.6	-1894.6
						L:314378 3DOW 34	Open 235110 01DWBK	500 314913 8MOUTOUN			-0.54382	0.02104	1598.5	1575.7
			2	309		L:314378 3DOW 34	C:D:6BENC	3087	-81.2	-0.07063		-0.03582	-42.4	-53.5
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			0.08324	-0.23174	-201.1	-272.7
			3	331.2		L:314378 3DOW 34	Open 314538 6SURY	230 314540 6POOLSVL			-0.08285	0.18738	265.9	323.8
						L:314378 3DOW 34	C:D:6BENC	3087	79.6	103.0	0.07063	0.03582	40.8	52.7
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			-0.08324	-0.23174	-201.1	-277.9
			4	333.8		L:314378 3DOW 34	Open 314421 6WINDCHST	230 314540 6POOLSVL			0.08285	-0.18738	265.9	328.0
						L:314378 3DOW 34	C:D:6BENC	2942	-79.4	-0.07063		-0.03582	-42.4	-54.4
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			0.08324	-0.23174	-201.1	-278.5
			5	339.5		L:314378 3DOW 34	Open 314421 6WINDCHST	230 314540 6POOLSVL			-0.08285	-0.18738	-244.8	-307.3
						L:314378 3DOW 34	C:D:6LANE	20982	-73.4	-0.08734		-0.03582	-42.4	-54.6
						L:314378 3DOW 34	Open 314388 6LANEXA	230 314391 6LIGH209			-0.11809	0.23011	146.3	224.4
			7	356		L:314378 3DOW 34	Open 314390 6LIGH285	230 314413 6WALR285			-0.10132	0.24031	135.0	216.6
						L:314378 3DOW 34	C:D:6BENC	2942	77.9	103.0	0.07063	0.03582	40.8	53.6
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			-0.08324	-0.23174	-201.1	-263.6
						L:314378 3DOW 34	Open 314421 6WINDCHST	230 314540 6POOLSVL			-0.08285	-0.18738	-244.8	-311.5
			8	357.5		L:314378 3DOW 34	C:D:6LANE	20982	71.8	103.0	0.08734	0.03582	40.8	53.6
						L:314378 3DOW 34	Open 314388 6LANEXA	230 314391 6LIGH209			0.11809	0.23011	146.3	228.5
			75	518.6		L:314378 3DOW 34	Open 314390 6LIGH285	230 314413 6WALR285			0.10132	0.24031	135.0	220.9
						L:314378 3DOW 34	C:D:6LANE	20982	57.7	103.0	0.08734	0.03582	26.8	45.3
						L:314378 3DOW 34	Open 314388 6LANEXA	230 314391 6LIGH209			0.11809	0.23011	146.3	265.6
			83	530.4		L:314378 3DOW 34	Open 314390 6LIGH285	230 314413 6WALR285			0.10132	0.24031	135.0	259.6
						L:314378 3DOW 34	C:D:6BENC	3087	65.5	103.0	0.07063	0.03582	26.8	45.8
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			-0.08324	-0.23174	-201.1	-324.0
			100	555.2		L:314378 3DOW 34	Open 314538 6SURY	230 314540 6POOLSVL			0.08285	0.18738	265.9	365.3
						L:314378 3DOW 34	C:D:6BENC	2942	63.8	103.0	0.07063	0.03582	26.8	46.6
						L:314378 3DOW 34	Open 313818 6BENCHRCH	230 314522 6CHCKTUK			-0.08324	-0.23174	-201.1	-329.8
			106	562.5		L:314378 3DOW 34	Open 314421 6WINDCHST	230 314540 6POOLSVL			-0.08285	-0.18738	-244.8	-348.8
						L:314378 3DOW 34	C:D:6BENC	2942	-958.2	-1004.3	-0.08204	-0.05122	-342.2	-371.0

From	To	Transfer Level	N	FCITC	Deficit	Limiting Constraint	Contingency	Noncontingent	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							C:D:8SEP1	51445		500 314927 8YADKIN		-0.30659	0.06669	1010.2	1047.7
							Open 314923 8SEP1A			500 314928 8YADKIN		0.36878	-0.02814	-830.4	-846.3
			245	701.7			L:314391 6LIGH209	230 314415 6WALR209	230 1	269.2	541.0	0.38734		94.0	255.5
							C:D:6BENC	3087							
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.37502	-0.23174	-201.1	-363.7
							Open 314538 6SURY	230 314540 6POOLSVL				0.37531	0.18738	265.9	397.4
			263	722.1			L:314391 6LIGH209	230 314415 6WALR209	230 1	261.3	541.0	0.38734		94.0	260.2
							C:D:6BENC	2942				-0.37502	-0.23174	-201.1	-368.5
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				-0.37531	-0.18738	-244.8	-380.1
							Open 314421 6WINCHST	230 314540 6POOLSVL				0.37531	0.23011	94.0	261.6
			269	728.4			L:314391 6LIGH209	230 314415 6WALR209	230 1	258.9	541.0	0.38734		94.0	261.6
							C:D:6BENC	2776							
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				0.37502	0.23174	173.5	342.3
							Open 314538 6SURY	230 314540 6POOLSVL				0.37531	0.18738	265.9	402.4
			287	744.7			L:314421 6WINCHST	230 314540 6POOLSVL	230 1	-377.0	-650.0	-0.36660		-244.8	-384.3
							C:D:6BENC	2912							
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				0.44438	-0.23174	-201.1	-373.7
							Open 314390 6LIGH285	230 314413 6WALR285				-0.31722	0.24031	135.0	313.9
			343	778.1			L:314421 6WINCHST	230 314540 6POOLSVL	230 1	-364.7	-650.0	-0.36660		-244.8	-390.6
							C:D:6BENC	2601							
							Open 313818 6BENCHRCH	230 314398 6NP NEWS				-0.44438	0.23174	173.5	353.9
							Open 314390 6LIGH285	230 314413 6WALR285				-0.31722	0.24031	135.0	322.0
			347	779.2			L:313818 6BENCHRCH	230 314398 6NP NEWS	230 1	353.0	672.0	0.40946		173.5	354.1
							C:D:6LIGH	21889							
							Open 314390 6LIGH285	230 314413 6WALR285				0.35327	0.24031	135.0	322.2
							Open 314538 6SURY	230 314540 6POOLSVL				0.49540	0.18738	265.9	411.9
			354	785.9			L:314214 6CHCKAHM	230 314388 6LANEXA	230 2	568.9	812.0	0.30932		249.4	335.8
							C:D:6CHCK	52687							
							Open 314214 6CHCKAHM	230 314388 6LANEXA				0.69758	0.14244	322.8	434.8
							Open 314214 6CHCKAHM	230 314390 6LIGH285				0.41645	0.24031	226.4	415.3
			363	792.9			L:314398 6NP NEWS	230 314399 6PEMBROK	230 1	224.3	549.0	0.40946		44.9	228.7
							C:D:6LIGH	21889							
							Open 314390 6LIGH285	230 314413 6WALR285				0.35327	0.24031	135.0	325.5
							Open 314538 6SURY	230 314540 6POOLSVL				0.49540	0.18738	265.9	414.5
			364	793.1			L:314399 6PEMBROK	230 314407 6SHELBNK	230 1	224.3	549.0	0.40946		44.9	228.6
							C:D:6LIGH	21889							
							Open 314390 6LIGH285	230 314413 6WALR285				0.35327	0.24031	135.0	325.6
							Open 314538 6SURY	230 314540 6POOLSVL				0.49540	0.18738	265.9	414.5
			365	793.3			L:314421 6WINCHST	230 314540 6POOLSVL	230 1	-371.8	-650.0	-0.35074		-244.8	-393.5
							C:D:6BENC	2909							
							Open 313818 6BENCHRCH	230 314522 6CHCKTUK				0.42951	-0.23174	-201.1	-385.0
							Open 314388 6LANEXA	230 314391 6LIGH209				-0.27737	0.23011	146.3	328.8
			389	804.7			L:313818 6BENCHRCH	230 314398 6NP NEWS	230 1	342.5	672.0	0.40946		173.5	360.0
							C:D:6LIGH	21744							
							Open 314390 6LIGH285	230 314413 6WALR285				0.35327	0.24031	135.0	328.4
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.49540	-0.18738	-244.8	-395.6
			415	818.5			L:314398 6NP NEWS	230 314399 6PEMBROK	230 1	213.9	549.0	0.40946		44.9	234.6
							C:D:6LIGH	21744							
							Open 314390 6LIGH285	230 314413 6WALR285				0.35327	0.24031	135.0	331.7
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.49540	-0.18738	-244.8	-398.2
			416	818.6			L:314399 6PEMBROK	230 314407 6SHELBNK	230 1	213.8	549.0	0.40946		44.9	234.6
							C:D:6LIGH	21744							

From	To	Transfer z Level	N	FCITC	Det M	Limiting Constraint				Contingency	Noon	Prashift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
									Open 314390 6LIGH285	230 314413 6WALR285	0.35327	0.24031	135.0	331.7				
			431	828.4		L:313818 6BENCHRCH	230 314398 6NP NEWS	230 1	Open 314421 6WINCHST	230 314540 6POOLSVL	-0.49540	-0.18738	-244.8	-398.2				
									C:D:6LANE 21157		346.6	672.0	0.39303					
									Open 314388 6LANEXA	230 314391 6LIGH209	0.30989	0.23011	146.3	336.8				
									Open 314538 6SURY	230 314540 6POOLSVL	0.48023	0.18738	265.9	421.1				
			468	842.3		L:314398 6NP NEWS	230 314399 6PENBROK	230 1	Open 314538 6SURY	230 314540 6POOLSVL	0.48023	0.18738	265.9	421.1				
									C:D:6LANE 21157		217.9	549.0	0.39303					
									Open 314388 6LANEXA	230 314391 6LIGH209	0.30989	0.23011	146.3	340.1				
									Open 314538 6SURY	230 314540 6POOLSVL	0.48023	0.18738	265.9	423.7				
			469	842.5		L:314399 6PENBROK	230 314407 6SHELBNK	230 1	Open 314538 6SURY	230 314540 6POOLSVL	0.48023	0.18738	265.9	423.7				
									C:D:6LANE 21157		217.9	549.0	0.39303					
									Open 314388 6LANEXA	230 314391 6LIGH209	0.30989	0.23011	146.3	340.1				
									Open 314538 6SURY	230 314540 6POOLSVL	0.48023	0.18738	265.9	423.8				
			527	860.3		L:314387 3LANEXA	115 314396 3NNENWS58	115 1			105.5	169.0	0.07379					
									C:D:6LANE 20982									
									Open 314388 6LANEXA	230 314391 6LIGH209	0.09976	0.23011	146.3	344.2				
									Open 314390 6LIGH285	230 314413 6WALR285	0.08560	0.24031	135.0	341.7				
			571	868.5		L:314396 3NNENWS58	115 314411 3TOANOS8	115 1			104.9	169.0	0.07379					
									C:D:6LANE 20982									
									Open 314388 6LANEXA	230 314391 6LIGH209	0.09976	0.23011	146.3	346.1				
									Open 314390 6LIGH285	230 314413 6WALR285	0.08560	0.24031	135.0	343.7				
			948	907.7		L:314296 6PENNNAN	230 314415 6WALR209	230 1			-189.4	-541.0	-0.38734					
									C:D:6BENC 3087									
									Open 313818 6BENCHRCH	230 314522 6CHCKTUK	0.37502	-0.23174	-201.1	-411.5				
									Open 314538 6SURY	230 314540 6POOLSVL	-0.37531	0.18738	265.9	436.0				
			1221	928.2		L:314296 6PENNNAN	230 314415 6WALR209	230 1			-181.5	-541.0	-0.38734					
									C:D:6BENC 2942									
									Open 313818 6BENCHRCH	230 314522 6CHCKTUK	0.37502	-0.23174	-201.1	-416.2				
									Open 314421 6WINCHST	230 314540 6POOLSVL	0.37531	-0.18738	-244.8	-418.7				
			1233	929.4		L:314296 6PENNNAN	230 314415 6WALR209	230 1			-147.8	-541.0	-0.42303					
									C:D:6BENC 2912									
									Open 313818 6BENCHRCH	230 314522 6CHCKTUK	0.35608	-0.23174	-201.1	-416.5				
									Open 314390 6LIGH285	230 314413 6WALR285	-0.45944	0.24031	135.0	358.3				
			1240	931		L:314387 3LANEXA	115 314396 3NNENWS58	115 1			100.3	169.0	0.07379					
									C:D:6LIGH 21715									
									Open 314390 6LIGH285	230 314413 6WALR285	0.08560	0.24031	135.0	358.7				
									Open 314391 6LIGH209	230 314415 6WALR209	0.09976	0.23011	94.0	308.2				
			1307	939.2		L:314396 3NNENWS58	115 314411 3TOANOS8	115 1			99.7	169.0	0.07379					
									C:D:6LIGH 21715									
									Open 314390 6LIGH285	230 314413 6WALR285	0.08560	0.24031	135.0	360.7				
									Open 314391 6LIGH209	230 314415 6WALR209	0.09976	0.23011	94.0	310.1				
			1403	950.5		L:314296 6PENNNAN	230 314386 6KINGS M	230 1			172.8	541.0	0.38734					
									C:D:6BENC 3087									
									Open 313818 6BENCHRCH	230 314522 6CHCKTUK	-0.37502	-0.23174	-201.1	-421.4				
									Open 314538 6SURY	230 314540 6POOLSVL	0.37531	0.18738	265.9	444.0				
			1420	952.5		L:314387 3LANEXA	115 314396 3NNENWS58	115 1			98.7	169.0	0.07379					
									C:D:6BENC 17184									
									Open 314376 6DENBIGH	230 314413 6WALR285	-0.08560	-0.24031	-55.6	-284.5				
									Open 314388 6LANEXA	230 314391 6LIGH209	0.09976	0.23011	146.3	365.4				
			1568	960.6		L:314396 3NNENWS58	115 314411 3TOANOS8	115 1			98.1	169.0	0.07379					
									C:D:6BENC 17184									
									Open 314376 6DENBIGH	230 314413 6WALR285	-0.08560	-0.24031	-55.6	-286.4				

From	To	Transfo Level	N	FCITC	Def L	Limiting Constraint	Contingency	Ncon	PreShif Rating	TDR	LODF	PTDF	Base Case Init	Base Case Final
			2074	968.5		L:314296 6PENNINAN 230 314386 6KINGS M 230 1	Open 314388 6LANEXA	2912	230 314391 6LIGH209	0.42303	0.09976	0.23011	146.3	367.3
							C:D:6BENG		131.2	541.0		0.23011	-2.4	220.5
							Open 313818 6BENCHRCH		230 314522 6CHCKTUK	-0.35608	-0.23174		-201.1	-425.6
			2113	971.1		L:314296 6PENNINAN 230 314386 6KINGS M 230 1	Open 314390 6LIGH285		230 314413 6WALR285	0.45944	0.24031	0.23011	135.0	367.8
							C:D:6BENG	2942	164.9	541.0	0.38734		-2.4	221.0
							Open 313818 6BENCHRCH		230 314522 6CHCKTUK	-0.37502	-0.23174		-201.1	-426.1
							Open 314421 6FINCHST		230 314540 6POOLSVL	-0.37531	-0.18738		-244.8	-426.7
			2261	980.1		L:314387 3LANEXA 115 314388 6LANEXA 230 1	C:D:3LANE	20733	-138.8	-200.8	-0.06329	-0.02058	-78.6	-98.8
							Open 314387 3LANEXA						-72.7	-91.4
							Open 314388 6LANEXA	115 314388 6LANEXA	230 314391 6LIGH209	0.54527	-0.01907	0.23011	146.3	371.8

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:37 <FC2001.0>

2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPFE GEN STUDY
Case File X:\S2021\Gen Analysis\sum 2021(2013LF) wpfe_genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit. File X:\S2015\Generation Analysis\TransferYork.mon
Contin. File X:\S2021\2015 Category D.con
Exclud. File none

From	To	Transf Level	N	FCITC	Beta	Limitin g Consta nt	Contingency	Ncon	Proshif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	366.2		L:314377	3DOW 34 C:ROW 568 Open 314421 6WINGHST 230 314540 6FOOLSVL 23 0 1 Open 314538 6SURY 230 314540 6FOOLSVL 23 0 1 Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1 Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1	5	-77.1	-103.0	-0.07063		-0.03582	-42.4	-55.5
			2	388.5		L:314377	3DOW 34 C:ROW 569 Open 314421 6WINGHST 230 314540 6FOOLSVL 23 0 1 Open 314538 6SURY 230 314540 6FOOLSVL 23 0 1 Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1 Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1	5	75.6	103.0	0.07063		0.08285	-244.8	-313.4
			3	435.5		L:314421	6WINGHST 230 314540 6FOOLSVL 230 1 C:ROW 436 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2 Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1 Open 314243 3PROV 92 115 314387 3LANEXA 11 5 1 Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1 Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1 Open 314390 6LIGH285 230 314413 6WALR285 23 0 1	1	-490.1	-650.0	-0.36717		-0.18738	-244.8	-326.4
			4	446.6		L:313818	6BENCHRCH 230 314398 6NP NEWS 230 1 C:ROW 436 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2 Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1 Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1 Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1 Open 314390 6LIGH285 230 314413 6WALR285 23 0 1	1	470.6	672.0	0.45103		0.36278	173.5	277.0
			5	459.1		L:314398	6NP NEWS 230 314399 6PEMBROK 230 1 C:ROW 436 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2 Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1 Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1 Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1 Open 314390 6LIGH285 230 314413 6WALR285 23 0 1	1	341.9	549.0	0.45103		0.38467	322.8	386.4
			6	459.2		L:314398	6PEMBROK 230 314407 6SHELBNK 230 1 C:ROW 436 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1 Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2 Open 314243 3PROV 92 115 314252 3TURNR92 11 5 1 Open 314252 3TURNR92 115 314284 3CHSTFLD 11 5 1 Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1 Open 314390 6LIGH285 230 314413 6WALR285 23 0 1	1	341.9	549.0	0.45103		0.38467	322.8	386.4

From	To	Transfer Level	N	FCITC	Beta	Limiting Constrains	Contingency	Rcon	Preashift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final										
				7	520.4		L:314377	3DOW 34	115	314387	3LANEXA	115	1	4	-78.2	-103.0	-0.04766	-0.03582	-42.4	-61.0					
								C:ROW 567																	
								Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	2					0.38467	0.10988	249.4	299.9		
								Open 314243	3PROV 92	115	314252	3TURN92	11	5	1										
								Open 314243	3PROV 92	115	314387	3LANEXA	11	5	1					0.38467	0.10988	249.4	299.9		
								Open 314252	3TURN92	115	314284	3CHSTFLD	11	5	1					0.38467	0.10988	249.4	299.9		
								Open 314214	6CHCKAHM	230	314390	6LIGH285	23	0	1					-0.00319	-0.00105	42.7	42.2		
								Open 314214	6CHCKAHM	230	314390	6LIGH285	23	0	1					0.45463	0.24031	226.4	336.8		
								Open 314390	6LIGH285	230	314413	6WALR285	23	0	1					-0.45667	0.00000	91.5	91.5		
								Open 314377	3DOW 34	115	314387	3LANEXA	115	1						-0.03582	-42.4	-61.0			
				8	548.9		L:314421	6WINCHST	230	314540	6POOLSVL	230	1	6	-468.0	-650.0	-0.33158	-0.18738	-244.8	-347.7					
								C:Chickahominy																	
								Open 314214	6CHCKAHM	230	314241	6OLDCHRC	23	0	1					-0.00098	-0.09144	-38.0	-88.2		
								Open 314214	6CHCKAHM	230	314258	6ELKO	23	0	1					0.00129	-0.03254	-123.3	-174.1		
								Open 314214	6CHCKAHM	230	314286	6CHSTF A	23	0	1					0.01268	-0.06533	-217.4	-253.3		
								Open 314214	6CHCKAHM	230	314308	6ICI	23	0	1					0.01268	-0.04950	-134.6	-161.8		
								Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	1					-0.25159	0.14244	322.8	401.0		
								Open 314214	6CHCKAHM	230	314390	6LIGH285	23	0	1					-0.25159	0.10988	249.4	309.7		
								Open 314214	6CHCKAHM	230	314408	6CHCKA 1	23	0	1					-0.32969	0.24031	226.4	358.3		
								Open 314214	6CHCKAHM	230	314903	8CHCKAHM	50	0	1					-0.00239	0.00000	0.2	0.2		
			9	553.3		L:314377	3DOW 34	115	314378	3FTEOUS4	115	1	4	76.6	103.0	0.04766	0.03582	40.8	60.7						
							C:ROW 567																		
							Open 314453	6CHRHND	230	314484	6HARBORV226	23	0	1					-0.01094	0.04424	-336.8	-312.3			
							Open 314484	6HARBORV226	230	314523	6CRITTDN	23	0	1											
							Open 314523	6CRITTDN	230	314538	6SURY	23	0	1					0.00372	0.00000	55.6	55.6			
							Open 314522	6CHCKTUK	230	314538	6SURY	23	0	1					-0.02621	-0.04274	-362.7	-386.3			
							Open 314475	6HARBORV	230	314514	6YADKIN	23	0	1					0.01093	-0.04602	249.6	224.1			
							Open 314475	6HARBORV	230	314533	6SMITFLD	23	0	1					0.00372	0.00000	94.4	94.4			
							Open 314533	6SMITFLD	230	314538	6SURY	23	0	1					-0.06099	-0.18738	-244.8	-348.3			
							Open 314421	6WINCHST	230	314540	6POOLSVL	23	0	1					0.00372	0.00000	21.1	21.1			
			10	556.7		L:313818	6BENCHRCH	230	314398	6NP NEWS	230	1	6	444.2	672.0	0.40926	0.23174	173.5	302.5						
							C:Chickahominy																		
							Open 314214	6CHCKAHM	230	314241	6OLDCHRC	23	0	1					0.01326	-0.09144	-38.0	-88.9			
							Open 314214	6CHCKAHM	230	314258	6ELKO	23	0	1					0.01429	-0.09254	-123.3	-174.8			
							Open 314214	6CHCKAHM	230	314286	6CHSTF A	23	0	1					0.02039	-0.06533	-217.4	-253.8			
							Open 314214	6CHCKAHM	230	314308	6ICI	23	0	1					0.02039	-0.04950	-134.6	-162.2			
							Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	1					0.32351	0.14244	322.8	402.1			
							Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	2					0.32351	0.14244	322.8	402.1			
							Open 314214	6CHCKAHM	230	314390	6LIGH285	23	0	1					0.41933	0.10988	249.4	310.6			
							Open 314214	6CHCKAHM	230	314408	6CHCKA 1	23	0	1					0.41933	0.10988	249.4	310.6			
			11	570.4		L:314398	6NP NEWS	230	314399	6PMBROK	230	1	6	315.5	549.0	0.40926	0.23174	173.5	302.5						
							C:Chickahominy																		
							Open 314214	6CHCKAHM	230	314241	6OLDCHRC	23	0	1					0.01326	-0.09144	-38.0	-88.9			
							Open 314214	6CHCKAHM	230	314258	6ELKO	23	0	1					0.01429	-0.09254	-123.3	-174.8			
							Open 314214	6CHCKAHM	230	314286	6CHSTF A	23	0	1					0.02039	-0.06533	-217.4	-253.8			
							Open 314214	6CHCKAHM	230	314308	6ICI	23	0	1					0.02039	-0.04950	-134.6	-162.2			
							Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	1					0.32351	0.14244	322.8	402.1			
							Open 314214	6CHCKAHM	230	314388	6LANEXA	23	0	2					0.32351	0.14244	322.8	402.1			
							Open 314214	6CHCKAHM	230	314390	6LIGH285	23	0	1					0.41933	0.10988	249.4	310.6			
							Open 314214	6CHCKAHM	230	314408	6CHCKA 1	23	0	1					0.41933	0.10988	249.4	310.6			

From	To	Transfo r Level	N	FCITC	Per A	Limitin g Consta nt	Contingency	Ncon	Preschif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 314214 6CHCKAHM 230 314241 GOLDCHRC 23 0 1					0.01320	-0.09144	-38.0	-90.1
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01429	-0.09254	-123.3	-176.1
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02039	-0.06533	-217.4	-254.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02039	-0.04950	-134.6	-162.9
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32351	0.14244	322.8	404.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.32351	0.10988	249.4	312.1
							Open 314214 6CHCKAHM 230 314390 6LIGHZ85 23 0 1					0.41933	0.24031	226.4	363.5
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
12				570.6		L:314399	6PEMBROK 230 314407 6SHEJANK 230 1		315.5	549.0	0.40926	0.00333	0.00000	0.2	0.2
							C:Chickahominy	6							
							Open 314214 6CHCKAHM 230 314241 GOLDCHRC 23 0 1					0.01320	-0.09144	-38.0	-90.2
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					0.01429	-0.09254	-123.3	-176.1
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					0.02039	-0.06533	-217.4	-254.7
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					0.02039	-0.04950	-134.6	-162.9
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.32351	0.14244	322.8	404.1
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.32351	0.10988	249.4	312.1
							Open 314214 6CHCKAHM 230 314390 6LIGHZ85 23 0 1					0.41933	0.24031	226.4	363.6
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
13				587.7		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1		61.5	103.0	0.07063	0.00333	0.00000	0.2	0.2
							C:ROW 568	5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.18738	-244.8	-354.9
							Open 314538 6SUNRY 230 314540 6POOLSVL 23 0 1					0.00006	0.00000	21.1	21.1
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23174	173.5	309.7
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00002	0.00000	27.6	27.6
14				733.3		L:314243	3PROV 92 115 314387 3LANEXA 115 1		171.5	249.0	0.10565		0.03266	39.9	63.9
							C:Chickahominy	6							
							Open 314214 6CHCKAHM 230 314241 GOLDCHRC 23 0 1					-0.01019	-0.09144	-38.0	-105.0
							Open 314214 6CHCKAHM 230 314258 6ELKO 23 0 1					-0.01520	-0.09254	-123.3	-191.2
							Open 314214 6CHCKAHM 230 314286 6CHSTF A 23 0 1					-0.02508	-0.06533	-217.4	-265.3
							Open 314214 6CHCKAHM 230 314308 6ICI 23 0 1					-0.02508	-0.04950	-134.6	-170.9
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					0.16940	0.14244	322.8	427.3
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					0.16940	0.10988	249.4	330.0
							Open 314214 6CHCKAHM 230 314390 6LIGHZ85 23 0 1					0.10416	0.24031	226.4	402.6
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 6CHCKAHM 50 0 1								
15				748.9		L:314391	6LIGHZ09 230 314415 6WALR209 230 1		250.9	541.0	0.38734	0.00054	0.00000	0.2	0.2
							C:ROW 568	5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.18738	-244.8	-385.1
							Open 314538 6SUNRY 230 314540 6POOLSVL 23 0 1					0.00006	0.00000	21.1	21.1
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23174	173.5	347.1
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00006	0.00000	27.6	27.6
16				814.1		L:314418	6WHEATN 230 314421 6WINCHST 230 1		-372.1	-671.0	-0.36717		-0.18738	-126.8	-219.3
							C:ROW 436	1							
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 1					-0.31554	0.14244	322.8	438.8
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					-0.31554	0.10988	249.4	338.9
							Open 314243 3PROV 92 115 314252 3TURN92 11 5 1		NA						
							Open 314243 3PROV 92 115 314387 3LANEXA 11 5 1					-0.32882	0.03266	39.9	66.5
							Open 314252 3TURN92 115 314284 3CHSTFLD 11 5 1					-0.01189	-0.00105	42.7	41.8
							Open 314214 6CHCKAHM 230 314390 6LIGHZ85 23 0 1					-0.24031	0.24031	226.4	422.1
							Open 314390 6LIGHZ85 230 314413 6WALR285 23 0 1					0.36278	0.00000	91.5	91.5
17				848.5		L:314378	3FTEUS34 115 314381 3GRAFT34 115 1		62.6	103.0	0.04766		0.03582	26.8	57.2
							C:ROW 567	4							

From	To	Transfer Level	N	FCITC	Def	Limiting Const Int	Contingency	Ncon	Pre-Shift Rating	TDF	LODF	PTDF	Base Case Finit	Base Case Final
							Open 314296 6PENNIAN 230 314386 6KINGS M 23 0 1		NA					
							Open 314296 6PENNIAN 230 314415 6WALR209 23 0 1		NA					
							Open 314386 6KINGS M 230 314423 6YORKTNW 23 0 1				-0.48439	0.00000	174.2	174.2
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1				0.46865	0.24031	226.4	463.8
							Open 314386 6KINGS M 230 314413 6WALR285 23 0 1				-0.48439	0.00000	91.5	91.5
							Open 314377 3DOW 34 115 314378 3FTEUS34 11 5 1		NA					
							Open 314377 3DOW 34 115 314387 3LANEXA 11 5 1				-0.44683	-0.03582	-42.4	-77.8
							Open 314378 3FTEUS34 115 314381 3GRAFT34 11 5 1		NA					
							Open 314381 3GRAFT34 115 314422 3YORKTNW 11 5 1		NA		-0.49263	0.00000	45.3	45.3
							Open 314379 3FTEUS58 115 314382 3GRAFT58 11 5 1		NA					
							Open 314379 3FTEUS58 115 314389 3LEBAN58 11 5 1		NA					
							Open 314382 3GRAFT58 115 314422 3YORKTNW 11 5 1				0.44683	0.03026	-27.3	2.6
							Open 314384 3KINGS M 115 314411 3TOANO58 11 5 1		NA					
							Open 314384 3KINGS M 115 314424 3YRWS 58 11 5 1		NA					
							Open 314387 3LANEXA 115 314396 3NNENWS58 11 5 1		NA		-0.04580	0.00000	106.7	106.7
							Open 314389 3LEBAN58 115 314424 3YRWS 58 11 5 1		NA					
							Open 314396 3NNENWS58 115 314411 3TOANO58 11 5 1		NA					
22				997.7			L:314296 6PENNIAN 230 314386 6KINGS M 230 1		154.5	541.0	0.38734	0.23011	-2.4	227.2
							C:ROW 568	5						
							Open 314421 6MINCHST 230 314540 6POOLSVL 23 0 1							
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1				-0.37531	-0.18738	-244.8	-431.8
							Open 313818 6BENCHCH 230 314396 6NP NEWS 23 0 1				-0.00079	0.00000	21.1	21.1
							Open 313818 6BENCHCH 230 314522 6CHCKTUK 23 0 1				0.37502	0.23174	173.5	404.8
							Open 313818 6BENCHCH 230 314399 6PENBROK 230 1				-0.00066	0.00000	27.6	27.6
23				999.5			L:314388 6NP NEWS 230 314399 6PENBROK 230 1	2	70.0	549.0	0.47927	0.23174	44.9	276.5
							C:ROW 439							
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1							
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1		NA		0.45653	0.23011	146.3	376.2
							Open 314387 3LANEXA 115 314388 6LANEXA 23 0 2				-0.01794	-0.01907	-72.7	-91.7
							Open 314296 6PENNIAN 230 314386 6KINGS M 23 0 1		NA					
							Open 314386 6KINGS M 230 314423 6YORKTNW 23 0 1		NA					
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1				-0.48439	0.00000	174.2	174.2
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1				0.46865	0.24031	226.4	466.6
							Open 314377 3DOW 34 115 314378 3FTEUS34 11 5 1		NA		-0.48439	0.00000	91.5	91.5
							Open 314377 3DOW 34 115 314387 3LANEXA 11 5 1				-0.44683	-0.03582	-42.4	-78.2
							Open 314378 3FTEUS34 115 314381 3GRAFT34 11 5 1		NA					
							Open 314381 3GRAFT34 115 314422 3YORKTNW 11 5 1		NA		-0.49263	0.00000	45.3	45.3
							Open 314379 3FTEUS58 115 314382 3GRAFT58 11 5 1		NA					
							Open 314379 3FTEUS58 115 314389 3LEBAN58 11 5 1		NA					
							Open 314382 3GRAFT58 115 314422 3YORKTNW 11 5 1				0.44683	0.03026	-27.3	3.0
							Open 314384 3KINGS M 115 314411 3TOANO58 11 5 1		NA					
							Open 314384 3KINGS M 115 314424 3YRWS 58 11 5 1		NA					
							Open 314387 3LANEXA 115 314396 3NNENWS58 11 5 1				-0.04580	0.00000	106.7	106.7
							Open 314389 3LEBAN58 115 314424 3YRWS 58 11 5 1		NA					
							Open 314396 3NNENWS58 115 314411 3TOANO58 11 5 1		NA					
24				999.6			L:314399 6PENBROK 230 314407 6SHELANK 230 1	2	69.9	549.0	0.47927	0.23174	44.9	276.5
							C:ROW 439							
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1							
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1		NA		0.45653	0.23011	146.3	376.3
							Open 314387 3LANEXA 115 314388 6LANEXA 23 0 2				-0.01794	-0.01907	-72.7	-91.7
							Open 314296 6PENNIAN 230 314386 6KINGS M 23 0 1		NA					
							Open 314296 6PENNIAN 230 314415 6WALR209 23 0 1		NA					
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1				-0.48439	0.00000	174.2	174.2
							Open 314390 6LIGH285 230 314413 6WALR285 23 0 1				0.46865	0.24031	226.4	466.7

From	To	Transfer Level	N	FCITC	g	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 314390 6LIGH255	230 314413 6WALR285	23 0 1				-0.48439	0.00000	91.5
							Open 314377 3DOW 34	115 314378 3FTEUS34	11 5 1	NA					
							Open 314377 3DOW 34	115 314387 3LANEXA	11 5 1						
							Open 314378 3FTEUS34	115 314381 3GRAFT34	11 5 1	NA				-0.44683	-42.4
							Open 314381 3GRAFT34	115 314422 3YORKTWN	11 5 1						
							Open 314379 3FTEUS58	115 314382 3GRAFT58	11 5 1	NA				0.00000	45.3
							Open 314379 3FTEUS58	115 314389 3LEBAN58	11 5 1	NA					
							Open 314382 3GRAFT58	115 314422 3YORKTWN	11 5 1						
							Open 314384 3KINGS M	115 314424 3YNWS 58	11 5 1	NA				0.03026	-27.3
							Open 314384 3KINGS M	115 314424 3YNWS 58	11 5 1	NA					
							Open 314389 3LEBAN58	115 314424 3YNWS 58	11 5 1	NA					
							Open 314396 3NNEWS58	115 314411 3TOANO58	11 5 1	NA				0.00000	106.7
							Open 314396 3NNEWS58	115 314411 3TOANO58	11 5 1	NA					

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 10:33 <FC2001.0>
2021 SUMMER BASE CASE [ERAG/MMWG22511] REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV GEN STUDY
Case File X:\S2015\Gen Analysis\Sum 2021\2013LF\wpre_CSCNOSURRY230-genstudy.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transfers\York.mon
Contn File X:\S2015\Wapsys.com
Exclud File none

From	To	Transfer Level	N	FCITC	Base	Limiting Constraint	Contingency	Ncon	ProShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	122.3		L:314901 8BATH CO 500 314912 BLENGTN 500 1	C:314901	1214	2916.8	2930.9	0.11577		0.06337	1036.4	1044.1
						L:314901 8BATH CO 500 314926 8VALLEY 500 1	Open 314901 8BATH CO	1213	2916.8	2930.9	0.11577	1.00000	0.05240	1886.4	1886.8
			2	122.3		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1213	2916.8	2930.9	0.11577		0.05240	1886.4	1886.8
			3	189.7		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314901 8BATH CO	613	-75.4	-83.7	-0.04369	1.00000	0.06337	1036.4	1044.1
						L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	613	-75.4	-83.7	-0.04369		-0.03630	-53.9	-60.8
			4	193.6		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	613	-75.4	-83.7	-0.04369	-0.24089	0.03067	89.1	94.9
						L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	613	-75.4	-83.7	-0.04369		-0.03630	-53.9	-60.9
			5	225.7		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314396 3NNEN58	624	73.8	83.7	0.04369	-0.24089	0.03067	88.3	94.3
						L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314387 3LANEXA	613	73.8	83.7	0.04369		0.03630	52.3	60.5
			6	229.8		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314387 3LANEXA	613	73.8	83.7	0.04369	0.24089	0.03067	89.1	96.0
						L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314387 3LANEXA	613	73.8	83.7	0.04369		0.03630	52.3	60.7
			7	239.6		L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314396 3NNEN58	624	-70.4	-83.7	-0.05548	0.24089	0.03067	88.3	95.4
						L:314377 3DOW 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	614	-70.4	-83.7	-0.05548		-0.03630	-53.9	-62.6
			8	267.8		L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314388 6LANEXA	614	68.8	83.7	0.05548	-0.08256	0.23231	199.3	255.0
						L:314377 3DOW 34 115 314378 3FTEUS34 115 1	Open 314388 6LANEXA	614	68.8	83.7	0.05548		0.03630	52.3	62.1
			31	522.4		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA	614	54.7	83.7	0.05548	0.08256	0.23231	199.3	261.5
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA	614	54.7	83.7	0.05548		0.03630	38.2	57.2
			34	548.9		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314388 6LANEXA	614	59.7	83.7	0.04369	0.08256	0.23231	199.3	320.7
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314387 3LANEXA	613	59.7	83.7	0.04369		0.03630	38.2	58.1
			35	553.1		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314387 3LANEXA	613	59.7	83.7	0.04369	0.24089	0.03067	89.1	105.9
						L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	Open 314396 3NNEN58	624	59.5	83.7	0.04369		0.03630	38.2	58.3
			39	593.6		L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314396 3NNEN58	617	250.7	441.8	0.32203	0.24089	0.03067	88.3	105.3
						L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314391 6LIGH209	617	250.7	441.8	0.32203		0.23231	146.7	284.6
			53	670.8		L:314387 3LANEXA 115 314396 3NNEN58 115 1	Open 314214 6CHICAHM	376	103.0	134.4	0.04687	0.36989	0.24256	281.0	425.0
						L:314387 3LANEXA 115 314396 3NNEN58 115 1	Open 314388 6LANEXA	614	103.0	134.4	0.04687		0.03067	89.1	109.6
			60	699.7		L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314388 6LANEXA	614	216.5	441.8	0.32203	0.06975	0.23231	199.3	355.2
						L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314390 6LIGH209	617	216.5	441.8	0.32203		0.23231	146.7	309.2

From	To	Transfer Level	N	FCITC	Base	Limiting Constraint	Contingency	Ncon	Preship t	Rating	YDF	YODF	PTDF	Base Case Init	Base Case Final
			80	745.3		L:314387 3LANEXA 115 314396 3NNENS58 115 1	Open 314390 6LIGH285	230 314413 6WALR285	102.8	134.4	0.04248	0.36989	0.24256	188.6	359.4
							C:314214	376					0.03067	89.1	111.9
			83	749.1	*	L:314387 3LANEXA 115 314396 3NNENS58 115 1	Open 314214 6CHCKAHM	230 314390 6LIGH285	99.3	134.4	0.04687	0.04870	0.24256	281.0	461.8
							C:314391	618					0.03067	89.1	112.0
			91	766.9		L:314396 3NNENS58 115 314411 3TOANOS8 115 1	Open 314391 6LIGH209	230 314415 6WALR209	102.2	138.2	0.04687	0.06975	0.23231	146.7	320.7
							C:314388	614					0.03067	88.3	111.9
			106	791.2	*	L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314388 6LANEXA	230 314391 6LIGH209	187.0	441.8	0.32203	0.06975	0.23231	199.3	377.5
							C:314376	599					0.23231	146.7	330.5
			107	797.2		L:314214 6CHCKAHM 230 314388 6LANEXA 230 2	Open 314376 6DENBIGH	230 314413 6WALR285	500.7	663.6	0.20445	-0.36989	-0.24256	-109.0	-300.9
							C:314214	374					0.11079	271.5	359.8
			120	841.7		L:314296 6PENNTMAN 230 314415 6WALR209 230 1	Open 314214 6CHCKAHM	230 314388 6LANEXA	-170.7	-441.8	-0.32203	0.65214	0.14362	351.4	465.9
							C:314214	376					-0.23231	-66.8	-262.3
			121	845.2		L:314396 3NNENS58 115 314411 3TOANOS8 115 1	Open 314214 6CHCKAHM	230 314390 6LIGH285	98.6	138.2	0.04687	-0.36989	0.24256	281.0	485.2
							C:314391	618					0.03067	88.3	114.3
			123	851.3	*	L:314396 3NNENS58 115 314411 3TOANOS8 115 1	Open 314391 6LIGH209	230 314415 6WALR209	102.0	138.2	0.04248	0.06975	0.23231	146.7	343.1
							C:314214	376					0.03067	88.3	114.4
			138	893.2		L:314296 6PENNTMAN 230 314386 6KINGS M 230 1	Open 314214 6CHCKAHM	230 314390 6LIGH285	154.2	441.8	0.32203	0.04870	0.24256	281.0	487.5
							C:314214	376					0.23231	50.2	257.7
			160	947.8		L:314296 6PENNTMAN 230 314415 6WALR209 230 1	Open 314214 6CHCKAHM	230 314390 6LIGH285	-136.6	-441.8	-0.32203	0.36989	0.24256	281.0	497.7
							C:314390	617					-0.23231	-66.8	-287.0
			170	966.5		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314390 6LIGH285	230 314413 6WALR285	-53.9	-89.0	-0.03630	-0.36989	0.24256	188.6	418.6
							Base Case								
			174	972.6		L:314386 6KINGS M 230 314423 6YORNTWN 230 1	C:314214	376	128.6	441.8	0.32203		0.23231	24.7	250.6
							Open 314214 6CHCKAHM	230 314390 6LIGH285	120.0	441.8	0.32203	0.36989	0.24256	281.0	516.9
			179	999.3		L:314296 6PENNTMAN 230 314386 6KINGS M 230 1	C:314390	617					0.23231	50.2	282.4
							Open 314390 6LIGH285	230 314413 6WALR285				0.36989	0.24256	188.6	431.0

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:05 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT A WGEN YORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_AltA_wgenyork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2021\Vapsys.con
Exclud File none

From	To	Transf er Level	N	FCITC	Set Id	Limiting Constraint	Conting ency	Ncon	Pres hif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	90.7		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1217	2920.8	2930.9	0.11149	1.00000	0.04851	1877.3	1881.7
							Open 314901 8BATH CO		2920.8	2930.9	0.11149		0.06297	1043.5	1049.2
			2	90.7		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1218					0.06297	1043.5	1049.2
							Open 314901 8BATH CO		565.1	940.0	0.51963	1.00000	0.04851	1877.3	1881.7
			3	721.4		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:314214	376					0.43362	477.4	790.2
							Open 314214 6CHCKAHM		544.9	940.0	0.53312	0.54094	0.15900	162.2	276.9
			4	741		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:313818	30					0.43362	477.4	798.7
							Open 313818 6BENCHRCH		573.0	940.0	0.48675	-0.69407	-0.14336	-97.3	-203.6
			5	753.9 *		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:314538	818					0.43362	477.4	804.3
							Open 314538 6SURREY		-45.5	-441.8	-0.48999	0.05136	0.06241	112.3	159.4
			9	808.8		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	600					-0.30654	-12.1	-260.0
							Open 314376 6DENBIGH		2.7	-441.8	-0.48999	0.55318	-0.33163	-60.4	-328.6
			16	907.3		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	599					-0.30654	-12.1	-290.2
							Open 314376 6DENBIGH		230	314423 6YORKTWN		-0.55318	0.33163	-26.9	274.0

CATEGORY C

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:02 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE ALT A WGEN YORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_AltA_wgenyork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Conting File X:\S2021\2021_rtep_tower_contingency_DVP_alt.con
Exclud File none

From	To	Transfe r Level	N	FCITC	Beta	Limiting Constraint	Conting ency	Ncon	PreShif t	Rating	TDF	LODF	PFDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	610.6		L:314538 6SURY 230 315620 6SKIFCREEK 230 1	C:2146263	9	630.9	1000.0	0.60457		0.43362	477.4	742.1
							Open 314421 6WINCHST 230 314540 6POOLSVL					-0.92534	-0.06241	-93.9	-132.0
							Open 314538 6SURY 230 314540 6POOLSVL					0.32437	0.00000	18.5	18.5
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					-0.78962	-0.14336	-97.3	-184.9
							Open 313818 6BENCHRCH 230 314398 6NF NEWS					-0.59806	0.00000	27.1	27.1
			2	685.5		L:314538 6SURY 230 315620 6SKIFCREEK 230 1	C:2236290	4	752.5	1000.0	0.36103		0.43362	477.4	774.6
							Open 314475 6HARBORV 230 314514 6YADKIN					0.43525	-0.09624	198.3	132.3
							Open 314475 6HARBORV 230 314538 6SURY					0.48129	0.00000	93.4	93.4
							Open 314533 6SMITFLD 230 314538 6SURY					-0.56004	0.05481	-256.9	-219.3
			3	692.5	*	L:314538 6SURY 230 315620 6SKIFCREEK 230 1	C:2146226	3	683.6	1000.0	0.45685		0.43362	477.4	777.7
							Open 314538 6SURY 230 314540 6POOLSVL					0.85824	0.06241	112.3	155.6
							Open 314421 6WINCHST 230 314540 6POOLSVL					-0.45231	0.00000	18.5	18.5
							Open 314453 6CHRLAND 230 314484 6HARBORV22					-0.33153	0.09149	-288.8	-225.4
							Open 314484 6HARBORV 230 314538 6SURY					0.40593	0.00000	55.3	55.3
			7	867.9		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:12856new	29	-56.1	-541.0	-0.55868		-0.30654	-12.1	-278.2
							Open 314376 6DENBIGH 230 315620 6SKIFCREEK					0.63924	-0.33163	-60.4	-346.2
							Open 314376 6DENBIGH 230 314423 6YORKTWN					0.55389	0.00000	87.2	87.2
							Open 315620 6SKIFCREEK 230 315622 6HARMTCKB					-0.46727	0.08593	174.0	248.6
							Open 314418 6HHEALTN 230 315622 6HARMTCKB					0.38192	0.00000	72.2	72.2

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 7:59 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT A WGEN YORK
Case File X:\S2021\Gen Analysis\sum_2021(2013)F_wpre_AltA_wgenyork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transf r Level	N	FCITC	Br	Limiting Constraint	Contingency	Ncon	PreShift	Rating	PDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-1066.7		L:314916 8MORSVL 500 314928 8FRONT ROYAL 500 1	C:D:01DOL	53548	-3132.6	-3067.0	-0.06154		-0.04613	-1658.9	-1608.8
			2	269.6		L:314537 6SUUFFOLK 230 314928 8SULFOLK 500 2	C:D:8SEPT	53344	-972.9	-1004.3	-0.11646		-0.06278	-352.3	-369.2
			3	565.4		L:314538 6SURY 230 315620 6SKIFCREK 230 1	C:D:6BENC	3143	658.2	1000.0	0.60457		0.43362	477.4	722.5
			4	584.9		L:314538 6SURY 230 315620 6SKIFCREK 230 1	C:D:6LANE	20664	599.6	1000.0	0.68465		0.43362	477.4	731.0
			5	593.6*		L:314538 6SURY 230 315620 6SKIFCREK 230 1	C:D:6BENC	2994	641.1	1000.0	0.60457		0.43362	477.4	734.8
			23	692.1		L:314537 6SUUFFOLK 230 314928 8SULFOLK 500 1	C:D:8SEPT	53344	-972.9	-1053.5	-0.11646		-0.06278	-352.3	-395.7
			36	732		L:314423 6YORNTWN 230 315620 6SKIFCREK 230 1	C:D:6BENC	17790	-132.0	-541.0	-0.55068		-0.30654	-12.1	-236.5
			54	756.5		L:314423 6YORNTWN 230 315620 6SKIFCREK 230 1	C:D:6BENC	2948	-99.6	-541.0	-0.56342		-0.30654	-12.1	-244.0
			72	780.7*		L:314423 6YORNTWN 230 315620 6SKIFCREK 230 1	C:D:6BENC	2631	-85.5	-541.0	-0.58342		-0.30654	-12.1	-251.4
			132	826.6		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:D:6LIGH	21669	224.5	541.0	0.38283		0.16095	32.2	165.2
			1672	930.8		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:D:6LIGH	21669	224.5	541.0	0.38283		0.16095	32.2	165.2

From	To	Transfer z Level	N	FCITC	Base Case	Limiting Constraint	Contingency	NCON	Pre-shif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							C:D:6WALF	27417							
							Open 314413 6WALR285	230	315620	6SKIFCREEK	0.50327	0.15900		-7.7	140.3
							Open 314538 6SUNRY	230	315620	6SKIFCREEK	0.32739	0.43362		477.4	881.0

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:03 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT A WGEN YORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_alta_wgenyork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2021\2015 Category D Alts.con
Exclud File none

From	To	Transfe r Level	N	FCITC	Pa rt	Limiting Constraint	Conting ency	Ncon	Preshif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-641.4		L:314538 6SURRY 230 315620 6SKIFCREEK 230 1			1209.4	1000.0	0.32641		0.43362	477.4	199.2
							C:ROW 567	4							
							Open 314453 6CHRHND	230 314484 6HARBORV22				-0.67224	0.09149	-288.8	-347.5
							Open 314484 6HARBORV22								
							Open 314523 6CRITTDN	230 314538 6SURRY				0.64059	0.00000	55.3	55.3
							Open 314522 6CHCKTUK	230 314538 6SURRY				-0.74615	0.05461	-256.9	-292.0
							Open 314475 6HARBORV	230 314514 6YADKIN				0.67220	-0.09624	198.3	260.0
							Open 314475 6HARBORV								
							Open 314533 6SMITFLD	230 314538 6SURRY				0.64059	0.00000	93.4	93.4
							Open 314421 6WINCHST	230 314540 6POOLSVL				-0.92931	-0.06241	-93.9	-53.9
							Open 314538 6SURRY	230 314540 6POOLSVL				0.64059	0.00000	18.5	18.5
							Open 314923 8SEPTA	500 314927 6YADKIN				0.01771	0.10700	1049.7	981.1
			2	233.1		L:314538 6SURRY 230 315620 6SKIFCREEK 230 1			852.7	1000.0	0.63206		0.43362	477.4	578.4
							C:Chickah	6							
							Open 314214 6CHCKAHM	230 314241 6OLDCHRC				0.00321	-0.06603	-13.5	-29.1
							Open 314214 6CHCKAHM	230 314258 6ELKO				-0.00140	-0.06429	-95.4	-110.4
							Open 314214 6CHCKAHM	230 314286 6CHSTF A				-0.02375	-0.02500	-177.7	-183.5
							Open 314214 6CHCKAHM	230 314308 6ICCI				-0.02375	-0.01894	-104.6	-109.0
							Open 314214 6CHCKAHM	230 314388 6LANEXA				0.55656	0.08130	282.1	271.1
							Open 314214 6CHCKAHM	230 314388 6LANEXA				0.55656	0.06271	194.8	209.4
							Open 314214 6CHCKAHM	230 314390 6LIGH285				0.73819	0.15900	162.2	199.3
							Open 314214 6CHCKAHM								
							Open 314214 6CHCKAHM	230 314903 6CHCKAHM				0.00521	0.00000	0.1	0.1
			3	237.4		L:314538 6SURRY 230 315620 6SKIFCREEK 230 1			842.7	1000.0	0.66254		0.43362	477.4	580.3
							C:ROW 436	1							
							Open 314214 6CHCKAHM	230 314388 6LANEXA				0.65813	0.09130	252.1	271.4
							Open 314214 6CHCKAHM	230 314388 6LANEXA				0.65813	0.06271	194.8	209.7
							Open 314243 3PROV NA								
							Open 314252 3TURNR92	115 314387 3LANEXA				0.65804	0.01512	19.3	22.9
							Open 314252 3TURNR92	115 314284 3CHSTFLD				0.02215	-0.00105	42.3	42.0
							Open 314214 6CHCKAHM	230 314390 6LIGH285				0.78124	0.15900	162.2	200.0
							Open 314390 6LIGH285	230 314413 6WALR285				-0.76365	0.00000	90.6	90.6

CATEGORY B

FCITC Single Study

BSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:16 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE ALT B WGENYORK
Case File X:\S2021\Gen Analysis\sum 2021(2013LF) wpre_Alt B_wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2021\Vapsys.con
Exclud File none

From	To	Transf r Level	N	FCITC	Set	Limiting Constraint	Conting ency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	90.7		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1218	2920.8	2930.9	0.11149		0.04838	1877.1	1881.5
							Open 314901 8BATH CO					1.00000		0.06310	1049.4
			2	90.7		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1219	2920.8	2930.9	0.11149			1043.7	1049.4
							Open 314901 8BATH CO					1.00000		0.04838	1877.1
			3	781.1		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	600	-53.8	-441.8	-0.49668		-0.31132	-17.4	-260.6
							Open 314376 6DENBIGH					0.55035		-0.33681	-329.2
			4	877.8		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	599	-5.8	-441.8	-0.49669		-0.31132	-17.4	-290.7
							Open 314376 6DENBIGH					-0.55035		0.33681	274.6

CATEGORY C

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:08 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE ALT B WGENYORK
Case.File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_Alt B_wgenYork.sav
Subsys.File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit.File X:\S2015\Generation Analysis\Transferyork.mon
ContIn.File X:\S2021\2021_rtep_tower_contingency_DVP_alt.con
Exclud.File none

From	To	Transfer Level	N	FCITC	by of Fe	Limitin g Constra int	Conting ency	Ncon	PresShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	839.2		L:314423	6YORKTWN	230 31	-65.3	-541.0	-0.56686		-0.31132	-17.4	-278.7
							C:285&new	29							
							Open 314376	6DENBIGH	230 315620	6SKIFCREEK	0.63330	-0.33681	-66.2	-348.8	
							Open 314376	6DENBIGH	230 314423	6YORKTWN	0.56178	0.00000	87.2	87.2	
							Open 315620	6SKIFCREEK	230 315622	6WARWICKB	-0.45722	0.09238	181.3	258.8	
							Open 314418	6WHEALTN	230 315622	6WARWICKB	0.38570	0.00000	72.3	72.3	

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:03 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2021 LF WP RE ALT B WGENYORK
Case File X:\S2015\Gen Analysis\Ssum_2021(2013LF)_wpre_Alt B_wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\peninsula.con
Exclud File none

From	To	Transfe r Level	N	FCITC	Data	Limiting Constraint	Contingency	Ncon	Pre-shif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-1065		L:314916 8HORSVL 500 314929 8FRONT ROYAL 500 1	C:D:01DOE	53875	-3132.4	-3067.0	-0.06140		-0.04604	-1657.8	-1609.8
			2	256.6		L:314537 6SUFFOLK 230 314928 8SULFOLK 500 2	C:D:8SEPT	53658	-973.9	-1004.3	-0.11850		-0.06338	-352.9	-369.2
			3	671.0		L:314537 6SUFFOLK 230 314928 8SULFOLK 500 1	C:D:8SEPT	53658	-973.9	-1053.5	-0.11850		-0.06338	-352.9	-395.5
			4	703.5		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:D:6DENE	17849	-142.2	-541.0	-0.56886		-0.31132	-17.4	-236.4
			5	741.5		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:D:6DENE	2957	-104.8	-541.0	-0.58823		-0.31132	-17.4	-248.3
			6	761.0*		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:D:6DENE	17848	-109.2	-541.0	-0.56886		-0.31132	-17.4	-254.6
			11	853.6		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:D:6BENC	3225	544.9	1000.0	0.53312		0.23220	255.7	453.9
			12	853.6		L:314538 6SURREY 230 315620 6SKIFCREEK 230 2	C:D:6BENC	3218	544.9	1000.0	0.53312		0.23220	255.7	453.9
			15	877.2		L:314538 6SURREY 230 315620 6SKIFCREEK 230 1	C:D:6BENC	51000	573.0	1000.0	0.48675		0.23220	255.7	459.4
			16	877.2		L:314538 6SURREY 230 315620 6SKIFCREEK 230 2	C:D:6BENC	50993	573.0	1000.0	0.48675		0.23220	255.7	459.4
			21	888.9*		L:314538 6SURREY 230 315620 6SKIFCREEK 230 2	C:D:6BENC	50993	573.0	1000.0	0.48675		0.23220	255.7	459.4

From	To	Transfer Level	N	FCITC	Base Load	Limiting Constraint	Contingency	Wcon	Preship b	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							C:D:6BENC	2900							
							Open 313818 6BENCHRCH	230	314398	GNP NEWS	0.69407	0.13625	0.13625	62.2	183.4
							Open 314538 6SURREY	230	315620	6SKIFCREEK	0.88875	0.23220	0.23220	255.7	462.1
			22	888.9		L:314538 6SURREY	230	315620	6SKIFCREEK	230	1	0.53312	0.23220	255.7	462.1
							C:D:6BENC	2907							
							Open 313818 6BENCHRCH	230	314398	GNP NEWS	0.69407	0.13625	0.13625	62.2	183.4
							Open 314538 6SURREY	230	315620	6SKIFCREEK	0.88875	0.23220	0.23220	255.7	462.1

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:09 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT B WGENYORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_Alt B_wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2021\2015 Category D Alts.con
Exclud File none

From	To	Transfer Level	N	FCITC	Set	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	1312		L:314423 6YORKTHN 230 315620 6SKIFCREEK 230 1	C:ROM 567	4	-156.6	-541.0	-0.29297		-0.31132	-17.4	-425.9
							Open 314453 6CHRHLD 230 314484 6HARBORV22					0.10377	0.09469	-285.4	-161.1
							Open 314523 6CRITTDN 230 314536 6SURY					-0.07446	0.00000	55.3	55.3
							Open 314522 6CHCKTUK 230 314536 6SURY					0.16810	0.06190	-249.0	-167.8
							Open 314475 6HARBORV 230 314514 6YADKIN					-0.10372	-0.09965	194.6	63.9
							Open 314475 6HARBORV 230 314536 6SMITFLD					-0.07446	0.00000	93.4	93.4
							Open 314421 6WINGHST 230 314540 6POOLSVL					0.19394	-0.05279	-83.3	-152.5
							Open 314538 6SURY 230 314540 6POOLSVL					-0.07446	0.00000	18.4	18.4
							Open 314923 8SEPTA 500 314927 8YADKIN					-0.01803	0.10954	1052.5	1196.2

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:28 <FC2001.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE ALT C WGENYORK
Case File X:\S2021\Gen Analysis\sum.2021(2013LF) wpre Alt C wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC_sub
Monit File X:\S2015\Generation Analysis\TransfersYork.mon
Contn File X:\S2015\Vapsys.con
Exclud File none

From	To	Transf r Level	N	FCITC	Base	Limiting Constraint	Conting ency	PreShif t	Rating	PDF	LODF	PDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	90.7		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1212	2920.8	2930.9	0.11149	0.04991	1879.3	1883.8
			2	90.7		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	Open 314901 8BATH CO	500	314912 8LEXNGTN	1.00000	0.06158	0.06158	1041.5	1047.1
			3	669		L:314418 6WHEALTN 230 314421 6WINCHST 230 1	C:314901	1213	2920.8	2930.9	0.11149	0.06158	1041.5	1047.1
			4	705.4		L:314418 6WHEALTN 230 314421 6WINCHST 230 1	Open 314901 8BATH CO	500	314926 8VALLEY	1.00000	0.04991	0.04991	1879.3	1883.8
			5	750.9		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:313818	29	-300.2	-539.6	-0.35782	-0.24332	-214.3	-377.1
			6	773.4		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 313818 6BENCHRCH	230	314522 6CHCNTUK	0.47869	-0.23919	-0.23919	-179.3	-339.3
			7	777.4		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:313818	29	-287.2	-539.6	-0.35782	-0.24332	-214.3	-386.0
			8	789		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 313818 6BENCHRCH	230	314390 6NP NEWS	-0.47869	0.23919	0.23919	152.1	320.8
			9	811.5		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314538	814	-52.8	-83.7	-0.04116	-0.03056	-37.3	-60.3
			10	811.5		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314538 6SURREY	230	314540 6POOLSVL	-0.04357	0.24332	0.24332	353.6	536.3
			11	811.5		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314421	647	-51.8	-83.7	-0.04116	-0.03056	-37.3	-61.0
			12	819.8		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314421 6WINCHST	230	314540 6POOLSVL	0.04357	-0.24332	-0.24332	-332.4	-520.5
			13	819.8		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314387	613	-55.2	-83.7	-0.03667	-0.03056	-37.3	-61.1
			14	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	115	314396 3NNWS58	-0.23679	0.02582	0.02582	75.3	95.3
			15	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314538	814	51.2	83.7	0.04116	0.03056	35.8	59.9
			16	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314538 6SURREY	230	314540 6POOLSVL	0.04357	0.24332	0.24332	353.6	545.6
			17	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314421	647	50.3	83.7	0.04116	0.03056	35.8	60.6
			18	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314421 6WINCHST	230	314540 6POOLSVL	-0.04357	-0.24332	-0.24332	-332.4	-529.8
			19	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314387	613	53.6	83.7	0.03667	0.03056	35.8	60.8
			20	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314387 3LANEXA	115	314396 3NNWS58	0.23679	0.02582	0.02582	75.3	96.4
			21	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:314522	789	-320.6	-539.6	-0.25106	-0.24332	-214.3	-424.0
			22	861.7		L:314377 3DOM 34 115 314387 3LANEXA 115 1	Open 314522 6CHCNTUK	230	314538 6SURREY	0.31752	-0.03381	-0.03381	-334.8	-363.9

CATEGORY C

FCITC Single Study

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2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012

Case File X:\S2021\Gen Analysis\sum 2021(2013LF) wpre Alt C wgenYork.sav

Subsys File X:\S2015\Generation Analysis\YorkFCITC sub

Monit File X:\S2015\Generation Analysis\Transferyork.mon

Contln File X:\S2021\2021_rtep_tower_contingency_DWP.con

Exclud File none

From	To	Transf	N	FCITC	Set	Limitin g Constra int	Contingency	Ncon	Prashif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	360.4		L:314377	3DOW 34 115 314387 3LANEXA 115 1 C:2144263	9	-77.5	-103.0	-0.07063	-0.03056	-0.03056	-37.3	-48.4
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					0.08285	-0.24332	-332.4	-620.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.00006	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314522 6CHCTURK 23 0 1					0.08324	-0.23919	-179.3	-265.5
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.08326	0.00000	27.2	27.2
			2	382.6		L:314377	3DOW 34 115 314378 3PTBUS34 115 1 C:2144263	9	76.0	103.0	0.07063	-0.03056	0.03056	35.8	47.5
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24332	-332.4	-625.5
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00006	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314522 6CHCTURK 23 0 1					-0.08324	-0.23919	-179.3	-270.8
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08326	0.00000	27.2	27.2
			3	581.6		L:314378	3PTBUS34 115 314381 3GRAFT34 115 1 C:2144263	9	61.9	103.0	0.07063	-0.03056	0.03056	21.7	39.5
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24332	-332.4	-473.9
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00006	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314522 6CHCTURK 23 0 1					-0.08324	-0.23919	-179.3	-318.4
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.08326	0.00000	27.2	27.2
			4	751		L:314391	6LIGH209 230 314415 6WALR209 230 1 C:2144263	9	250.1	541.0	0.38734	-0.03056	0.03056	68.3	223.3
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.37531	-0.24332	-332.4	-515.1
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.00079	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314522 6CHCTURK 23 0 1					-0.37502	-0.23919	-179.3	-359.0
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.37568	0.00000	27.2	27.2
			5	932.1		L:314377	3DOW 34 115 314387 3LANEXA 115 1 C:2113458	22	-50.5	-103.0	-0.05627	-0.03056	-0.03056	-37.3	-65.8
							Open 314388 6LANEXA 230 314391 6LIGH209 23 0 1					-0.09228	0.20631	120.5	312.8
							Open 314391 6LIGH209 230 314415 6WALR209 23 0 1					0.05604	0.00000	52.2	52.2
							Open 314379 3PTBUS58 115 314382 3GRAFT58 11 5 1	NA							
							Open 314379 3PTBUS58 115 314389 3LEBAN58 11 5 1	NA							
							Open 314382 3GRAFT58 115 314422 3YORNTWN 11 5 1	NA							
							Open 314384 3KINGS M 115 314411 3TORNOS58 11 5 1	NA							
							Open 314384 3KINGS M 115 314424 3YHWS 58 11 5 1	NA							
							Open 314387 3LANEXA 115 314396 3NNWS58 11 5 1	NA				-0.12282	0.00000	106.5	106.5
							Open 314389 3LEBAN58 115 314424 3YHWS 58 11 5 1	NA							
							Open 314396 3NNWS58 115 314411 3TORNOS58 11 5 1	NA							
			6	957		L:314296	6PENNINAN 230 314415 6WALR209 230 1 C:2144263	9	-170.3	-541.0	-0.38734	-0.03056	-0.03056	-37.3	-186.0
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					0.37531	-0.24332	-332.4	-565.2
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00079	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314522 6CHCTURK 23 0 1					0.37502	-0.23919	-179.3	-408.2
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.37568	0.00000	27.2	27.2

From	To	Transferring Level	IN	FCITC	Set	Limiting Constraint	Contingency	Ncon	Preshift	Rating	TDE	LODF	PTDF	Base Case Init	Base Case Final
			7	960		L:314377 C:2113458	200W 34 115 314378 3FTEUS34 115 1	22	49.0	103.0	0.05627		0.03056	35.8	65.1
						Open 314388 6LANEXA	230 314391 6LIGH209 23 0 1					0.09228	0.20631	120.5	318.6
						Open 314391 6LIGH209	230 314415 6WALR209 23 0 1					-0.05604	0.00000	52.2	52.2
						Open 314379 3FTEUS58	115 314382 3GRAFT58 11 5 1		NA						
						Open 314379 3FTEUS58	115 314389 3LEBAN58 11 5 1		NA						
						Open 314382 3GRAFT58	115 314422 3YOKATWN 11 5 1					0.25852	0.02582	-31.3	-6.5
						Open 314384 3KINGS M	115 314411 3TOAN058 11 5 1		NA						
						Open 314384 3KINGS M	115 314424 3YNWS 58 11 5 1		NA						
						Open 314387 3LANEXA	115 314396 3NNEWS58 11 5 1					0.12282	0.00000	106.5	106.5
						Open 314389 3LEBAN58	115 314424 3YNWS 58 11 5 1		NA						
						Open 314396 3NNEWS58	115 314411 3TOAN058 11 5 1		NA						
			8	998.9		L:314418 C:2236290	6WHEAUTN 230 314421 6WINCHST 230 1	4	-430.4	-671.0	-0.24087		-0.24332	-214.3	-457.4
						Open 314475 6HARBORV	230 314514 6VADKIN 23 0 1					-0.26928	-0.05612	236.1	180.0
						Open 314475 6HARBORV	230 314533 6SMITFLD 23 0 1		NA						
						Open 314533 6SMITFLD	230 314538 6SUGURY 23 0 1					-0.28787	0.00000	94.1	94.1
						Open 314522 6CHCKTUK	230 314538 6SUGURY 23 0 1					0.37453	-0.03381	-334.8	-368.6
			9	999.8		L:314296 C:2144263	6PENNIAN 230 314386 6KINGS M 230 1	9	153.7	541.0	0.38734		0.20631	-28.0	178.3
						Open 314421 6WINCHST	230 314540 6POOLSVL 23 0 1							-332.4	-575.6
						Open 314538 6SUGURY	230 314540 6POOLSVL 23 0 1					-0.00079	0.00000	21.2	21.2
						Open 313818 6BENCHRCH	230 314522 6CHCKTUK 23 0 1					-0.37502	-0.23919	-179.3	-418.5
						Open 313818 6BENCHRCH	230 314398 6NP NEWS 23 0 1					-0.37568	0.00000	27.2	27.2

FCITC Single Study

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2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT C WGENYORK
Case File X:\S2021\Gen Analysis\sum 2021(2013LF) wpse Alt C wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2015\peninsula.com
Exclud File none

From	To	Transfe r Level	N	FCITC	Set P	Limiting Constraint	Contingency	Ncon	Preschif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	-1079.5		L:314916 RMORSVL 500 314929 8FRONT ROYAL 500 1	C:D:01DOU	51287	-3135.2	-3067.0	-0.06313		-0.04704	-1659.5	-1608.7
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					0.31742	-0.01533	-1911.1	-1894.6
							Open 314538 6SURY 230 314540 6POOLSVL					-0.54361	0.02065	1598.0	1575.7
			2	303.4		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:D:6BENC	3080	-81.6	-103.0	-0.07063		-0.03056	-37.3	-46.6
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					0.08324	-0.23919	-179.3	-251.9
							Open 314538 6SURY 230 314540 6POOLSVL					-0.08285	0.24332	353.6	427.4
			3	325.7		L:314377 3DOM 34 115 314378 3PTEUS34 115 1	C:D:6BENC	3080	80.0	103.0	0.07063		0.03056	35.8	45.7
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					-0.08324	-0.23919	-179.3	-257.2
							Open 314538 6SURY 230 314540 6POOLSVL					0.08285	0.24332	353.6	432.8
			4	328.3		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:D:6BENC	2933	-79.8	-103.0	-0.07063		-0.03056	-37.3	-47.4
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					0.08324	-0.23919	-179.3	-257.9
							Open 314421 6WINCHST 230 314540 6POOLSVL					0.08285	-0.24332	-332.4	-412.3
			5	335.5		L:314377 3DOM 34 115 314387 3LANEXA 115 1	C:D:6BENC	2770	-79.3	-103.0	-0.07063		-0.03056	-37.3	-47.6
							Open 313818 6BENCHRCH 230 314398 6NP NEWS					-0.08324	0.23919	152.1	232.4
							Open 314538 6SURY 230 314540 6POOLSVL					-0.08285	0.24332	353.6	435.2
			6	350.6		L:314377 3DOM 34 115 314378 3PTEUS34 115 1	C:D:6BENC	2933	78.2	103.0	0.07063		0.03056	35.8	46.5
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					-0.08324	-0.23919	-179.3	-263.2
							Open 314421 6WINCHST 230 314540 6POOLSVL					-0.08285	-0.24332	-332.4	-417.7
			7	357.7		L:314377 3DOM 34 115 314378 3PTEUS34 115 1	C:D:6BENC	2770	77.7	103.0	0.07063		0.03056	35.8	46.7
							Open 313818 6BENCHRCH 230 314398 6NP NEWS					0.08324	0.23919	152.1	237.7
							Open 314538 6SURY 230 314540 6POOLSVL					0.08285	0.24332	353.6	440.6
			10	429.2		L:314537 6SUFFOLK 230 314928 8SULFOLK 500 2	C:D:8SEPT	51146	-963.8	-1004.3	-0.09444		-0.05756	-345.3	-370.0
							Open 314923 8SEPTA 500 314928 8SULFOLK					-0.30336	0.07915	1022.5	1056.5
							Open 314927 8YADKIN 500 314928 8SULFOLK					0.36672	-0.03508	-840.6	-855.6
			22	524.6		L:314378 3PTEUS34 115 314381 3GRAFT34 115 1	C:D:6BENC	3080	65.9	103.0	0.07063		0.03056	21.7	37.8
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					-0.08324	-0.23919	-179.3	-304.8
							Open 314538 6SURY 230 314540 6POOLSVL					0.08285	0.24332	353.6	481.2
			27	549.5		L:314378 3PTEUS34 115 314381 3GRAFT34 115 1	C:D:6BENC	2933	64.2	103.0	0.07063		0.03056	21.7	38.5
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK					-0.08324	-0.23919	-179.3	-310.8
							Open 314421 6WINCHST 230 314540 6POOLSVL					-0.08285	-0.24332	-332.4	-466.1
			28	556.7		L:314378 3PTEUS34 115 314381 3GRAFT34 115 1	C:D:6BENC	2933	63.7	103.0	0.07063		0.03056	21.7	38.7

From	To	Transf er Level	N	FCITC	Base Case	Limiting Constraint	Contingency	PreShift	Rating	TDF	LODF	PMDF	Base Case Init	Base Case Final
							C:D:6BENC 2770							
							Open 313818 6BENCHRCH 230 314398 GNP NEWS				0.08324	0.23919	152.1	285.3
							Open 314538 6SURY 230 314540 6POOLSVL				0.08285	0.24332	353.6	489.0
							L:314418 6WHEALTN 230 314421 6WINCHST 230 1					-0.24332	-214.3	-378.1
							C:D:6BENC 2903							
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				0.56272	-0.23919	-179.3	-340.3
							Open 314390 6LIGH285 230 314413 6WALR285				-0.40170	0.21482	107.8	252.4
							C:D:6BENC 3080					0.20631	68.3	213.6
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				-0.37502	-0.23919	-179.3	-347.7
							Open 314538 6SURY 230 314540 6POOLSVL				0.37531	0.24332	353.6	524.9
							C:D:6BENC 2900					-0.24332	-214.3	-386.1
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				-0.37502	-0.23919	-179.3	-347.7
							Open 314390 6LIGH285 230 314413 6WALR285				-0.40170	0.21482	107.8	252.4
							C:D:6BENC 2933					0.20631	68.3	217.8
							Open 313818 6BENCHRCH 230 314398 GNP NEWS				-0.56272	0.23919	152.1	321.0
							Open 314390 6LIGH285 230 314413 6WALR285				-0.40170	0.21482	107.8	259.4
							C:D:6BENC 2933					0.20631	68.3	217.8
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				-0.37502	-0.23919	-179.3	-347.7
							Open 314421 6WINCHST 230 314540 6POOLSVL				-0.37531	-0.24332	-332.4	-508.7
							C:D:6BENC 2770					0.20631	68.3	219.0
							Open 313818 6BENCHRCH 230 314398 GNP NEWS				0.37502	0.23919	152.1	326.8
							Open 314538 6SURY 230 314540 6POOLSVL				0.37531	0.24332	353.6	531.3
							L:314406 3SHELBNK 115 314407 6SHELBNK 230 1				-0.01324	-70.6	-81.7	
							C:D:6BENC 25550							
							Open 314402 6PENINSL 230 314407 6SHELBNK				0.46811	-0.22595	141.5	-47.2
							Open 314538 6SURY 230 314540 6POOLSVL				-0.29602	0.24332	353.6	556.8
							C:D:6BENC 25403					-0.01324	-70.6	-82.1
							Open 314402 6PENINSL 230 314407 6SHELBNK				0.46811	-0.22595	141.5	-54.6
							Open 314421 6WINCHST 230 314540 6POOLSVL				0.29602	-0.24332	-332.4	-543.5
							C:D:6BENC 3080					-0.20631	11.4	-176.3
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				0.37502	-0.23919	-179.3	-397.0
							Open 314538 6SURY 230 314540 6POOLSVL				-0.37531	0.24332	353.6	575.0
							C:D:6BENC 2933					-0.20631	11.4	-180.6
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				0.37502	-0.23919	-179.3	-401.9
							Open 314421 6WINCHST 230 314540 6POOLSVL				0.37531	-0.24332	-332.4	-558.8
							C:D:6BENC 2770					-0.20631	11.4	-181.7
							Open 313818 6BENCHRCH 230 314398 GNP NEWS				-0.37502	0.23919	152.1	376.1
							Open 314538 6SURY 230 314540 6POOLSVL				-0.37531	0.24332	353.6	581.4
							L:314387 3LANEXA 115 314396 3NNEWS58 115 1				-0.07032	0.07032	-179.3	-405.3
							C:D:6BENC 3080					-0.20631	11.4	-180.6
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK				0.37502	-0.23919	-179.3	-405.3
							Open 314538 6SURY 230 314540 6POOLSVL				0.07000	-0.07000	-345.3	-400.0
							C:D:6BENC 51146							

From	To	Transfer Level	N	FCITC	Base Rate	Limiting Constraint	Contingency	Ncon	Prehif t	Rating	TDE	LODF	PTDF	Base Case Init	Base Case Final
							Open 314923 SEPTA	500	314927 8YADKIN			-0.30336	0.07915	1022.5	1097.7
			296	952.8		L:314296 6PENNNIMAN 230 314386 6KINGS M 230 1	Open 314927 8YADKIN	500	314928 8SULFOLK			-0.36672	-0.03508	-840.6	-873.9
							C:D:6BENC 3080	172.0	541.0	0.38734		0.20631	-0.28.0	-28.0	168.6
							Open 313818 6BENCHRCH	230	314522 6CHCKTUK			-0.37502	-0.23919	-179.3	-407.2
			299	953.9		L:314396 3NNNEWS58 115 314411 3TOANOS8	Open 314538 6SURY	230	314540 6POOLSVL			0.37531	0.24332	353.6	585.4
							C:D:6BENC 3080	112.1	169.0	0.05967		0.02582	74.7	74.7	99.3
							Open 313818 6BENCHRCH	230	314522 6CHCKTUK			-0.07032	-0.23919	-179.3	-407.5
			326	969.7		L:314387 3LANEXA 115 314396 3NNNEWS58 115 1	Open 314538 6SURY	230	314540 6POOLSVL			0.07000	0.24332	353.6	585.7
							C:D:6BENC 2933	111.1	169.0	0.05967		0.02582	75.3	75.3	100.3
							Open 313818 6BENCHRCH	230	314522 6CHCKTUK			-0.07032	-0.23919	-179.3	-411.3
			331	973.4		L:314296 6PENNNIMAN 230 314386 6KINGS M 230 1	Open 314421 6WINCHST	230	314540 6POOLSVL			-0.07000	-0.24332	-332.4	-568.3
							C:D:6BENC 2933	164.0	541.0	0.38734		0.20631	-28.0	-28.0	172.8
							Open 313818 6BENCHRCH	230	314522 6CHCKTUK			-0.37502	-0.23919	-179.3	-412.2
			339	976.8 *		L:314387 3LANEXA 115 314396 3NNNEWS58 115 1	Open 314421 6WINCHST	230	314540 6POOLSVL			-0.37531	-0.24332	-332.4	-569.2
							C:D:6BENC 2770	110.7	169.0	0.05967		0.02582	75.3	75.3	100.5
							Open 313818 6BENCHRCH	230	314398 GNP NEWS			0.07032	0.23919	152.1	385.8
			341	978.8		L:314396 3NNNEWS58 115 314411 3TOANOS8	Open 314538 6SURY	230	314540 6POOLSVL			0.07000	0.24332	353.6	591.3
							C:D:6BENC 2933	110.6	169.0	0.05967		0.02582	74.7	74.7	100.0
							Open 313818 6BENCHRCH	230	314522 6CHCKTUK			-0.07032	-0.23919	-179.3	-413.5
			343	979.1 *		L:314296 6PENNNIMAN 230 314386 6KINGS M 230 1	Open 314421 6WINCHST	230	314540 6POOLSVL			-0.07000	-0.24332	-332.4	-570.5
							C:D:6BENC 2770	161.8	541.0	0.38734		0.20631	-28.0	-28.0	174.0
							Open 313818 6BENCHRCH	230	314398 GNP NEWS			0.37502	0.23919	152.1	386.3
			353	986 *		L:314396 3NNNEWS58 115 314411 3TOANOS8	Open 314538 6SURY	230	314540 6POOLSVL			0.37531	0.24332	353.6	591.8
							C:D:6BENC 2770	110.2	169.0	0.05967		0.02582	74.7	74.7	100.2
							Open 313818 6BENCHRCH	230	314398 GNP NEWS			0.07032	0.23919	152.1	388.0
							Open 314538 6SURY	230	314540 6POOLSVL			0.07000	0.24332	353.6	593.5

CATEGORY D

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:16 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE ALT C WGENYORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre Alt C wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2021\2015 Category D.con
Exclud File none

From	To	Transfer Level	N	FCITC	Setp	Limiting Constraint	Contingency	Ncon	ProShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final	
DVP	YORK	1000.0	1	360.4		L:314377	3DOV 34 115 314387 3LANEXA 115 1	5	-77.5	-103.0	-0.07063		-0.03056	-37.3	-48.4	
						G:ROW 568										
						Open 314421	6WICHST 230 314540 6POOLSVL 23 0 1					0.08285	-0.24332	-332.4	-420.1	
						Open 314538	6SURY 230 314540 6POOLSVL 23 0 1					-0.00006	0.00000	21.2	21.2	
						Open 313818	6BENCHIRCH 230 314398 6NP NEWS 23 0 1					-0.08324	0.23919	152.1	238.3	
						Open 313818	6BENCHIRCH 230 314522 6CHCKTUK 23 0 1					0.00002	0.00000	27.2	27.2	
			2	392.6		L:314377	3DOV 34 115 314378 3FEUS34 115 1	5	76.0	103.0	0.07063		0.03056	35.8	47.5	
						G:ROW 569										
						Open 314421	6WICHST 230 314540 6POOLSVL 23 0 1					-0.08285	-0.24332	-332.4	-425.5	
						Open 314538	6SURY 230 314540 6POOLSVL 23 0 1					0.00006	0.00000	21.2	21.2	
						Open 313818	6BENCHIRCH 230 314398 6NP NEWS 23 0 1					0.08324	0.23919	152.1	243.6	
						Open 313818	6BENCHIRCH 230 314522 6CHCKTUK 23 0 1					-0.00002	0.00000	27.2	27.2	
			3	449.7		L:314418	6WHEALTN 230 314421 6WICHST 230 1	1	-477.3	-671.0	-0.43060		-0.24332	-214.3	-323.8	
						G:ROW 436										
						Open 314214	6CHCKRAH 230 314388 6LANEXA 23 0 1					-0.37042	0.12552	304.7	361.2	
						Open 314214	6CHCKRAH 230 314388 6LANEXA 23 0 2					-0.37042	0.09682	235.4	279.0	
						Open 314243	3PROV 92 115 314252 3TURNR92 11 5 1	NA								
						Open 314243	3PROV 92 115 314387 3LANEXA 11 5 1					-0.38646	0.02870	36.2	49.1	
						Open 314252	3TURNR92 115 314284 3CHSTFLD 11 5 1					-0.01621	-0.00105	42.6	42.1	
						Open 314214	6CHCKRAH 230 314390 6LIGH285 23 0 1					-0.43682	0.21482	198.8	295.4	
						Open 314390	6LIGH285 230 314413 6WALR285 23 0 1					0.42405	0.00000	91.1	91.1	
			4	530.2		L:314418	6WHEALTN 230 314421 6WICHST 230 1	6	-460.9	-671.0	-0.39636		-0.24332	-214.3	-343.3	
						G:Chickahominy										
						Open 314214	6CHCKRAH 230 314241 6OLDCHRC 23 0 1					0.00027	-0.08408	-30.2	-74.8	
						Open 314214	6CHCKRAH 230 314258 6ELKO 23 0 1					0.00345	-0.08424	-114.5	-159.1	
						Open 314214	6CHCKRAH 230 314286 6CHSTF A 23 0 1					0.01949	-0.05430	-205.1	-233.9	
						Open 314214	6CHCKRAH 230 314308 61C1 23 0 1					0.01949	-0.04114	-125.3	-147.2	
						Open 314214	6CHCKRAH 230 314388 6LANEXA 23 0 1					-0.29918	0.12552	304.7	371.3	
						Open 314214	6CHCKRAH 230 314388 6LANEXA 23 0 2					-0.29918	0.09683	235.4	296.8	
						Open 314214	6CHCKRAH 230 314390 6LIGH285 23 0 1					-0.39261	0.21482	198.8	312.7	
						Open 314214	6CHCKRAH 230 314408 6CHCKA 1 23 0 1	NA								
						Open 314214	6CHCKRAH 230 314903 6CHCKRAH 50 0 1	NA								
			5	535.2		L:314377	3DOV 34 115 314387 3LANEXA 115 1	4	-79.1	-103.0	-0.04475		-0.00281	0.00000	0.2	0.2
						G:ROW 567							-0.03056	-37.3	-53.7	
						Open 314553	6CHRIAND 230 314484 6HARBORV226 23 0 1					0.01226	0.05374	-324.5	-295.8	
						Open 314484	6HARBORV226 230 314523 6CRITTON 23 0 1	NA								
						Open 314523	6CRITTON 230 314538 6SURY 23 0 1					-0.00415	0.00000	55.5	55.5	
						Open 314522	6CHCKTUK 230 314538 6SURY 23 0 1					0.02947	-0.03381	-334.8	-352.9	
						Open 314475	6HARBORV 230 314514 6YADKIN 23 0 1					-0.01225	-0.05612	236.1	206.0	
						Open 314475	6HARBORV 230 314533 6SMITFLD 23 0 1	NA								
						Open 314533	6SMITFLD 230 314538 6SURY 23 0 1					-0.00415	0.00000	94.1	94.1	
						Open 314421	6WICHST 230 314540 6POOLSVL 23 0 1					0.05818	-0.24332	-332.4	-462.6	

From	To	Transfo	IN	FCITC	Base	Limitin	Contingency	Noon	PreShift	Rating	PDF	ZODF	PDF	Base	Base
						g								Case	Case
						Constra								Init	Final
						intc									
							Open 314538 6SURY	23 0 1						21.2	21.2
							Open 314923 8SEPTA	50 0 1						1022.5	1064.9
							L:314377 3DOW 34	115 1						35.8	53.2
							C:ROW 567								
							Open 314453 6CHRLND	230 314484 6HARBORV226	23 0 1					-324.5	-293.9
							Open 314484 6HARBORV226	230 314523 6CRITTON	23 0 1						
							Open 314523 6CRITTON	230 314538 6SURY	23 0 1					55.5	55.5
							Open 314522 6CHCKTUK	230 314538 6SURY	23 0 1					-334.8	-354.1
							Open 314475 6HARBORV	230 314514 6VADKIN	23 0 1					236.1	204.1
							Open 314475 6HARBORV	230 314533 6SMITFLD	23 0 1						
							Open 314533 6SMITFLD	230 314538 6SURY	23 0 1					94.1	94.1
							Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1					-332.4	-471.1
							Open 314538 6SURY	230 314540 6POOLSVL	23 0 1					21.2	21.2
							Open 314923 8SEPTA	500 314927 8VADKIN	50 0 1					1022.5	1067.7
							L:314378 3FTEUS34	115 1						0.03056	39.5
							C:ROW 568								
							Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1					-332.4	-473.9
							Open 314538 6SURY	230 314540 6POOLSVL	23 0 1					21.2	21.2
							Open 313818 6BENCHRCH	230 314398 6NP NEWS	23 0 1					152.1	291.2
							Open 313818 6BENCHRCH	230 314322 6CHCKTUK	23 0 1					27.2	27.2
							L:314391 6LIGH209	230 1						68.3	223.3
							C:ROW 568								
							Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1					-332.4	-515.1
							Open 314538 6SURY	230 314540 6POOLSVL	23 0 1					21.2	21.2
							Open 313818 6BENCHRCH	230 314398 6NP NEWS	23 0 1					152.1	331.8
							Open 313818 6BENCHRCH	230 314322 6CHCKTUK	23 0 1					27.2	27.2
							L:314416 6WARNICK	230 1						-2.0	-196.2
							C:ROW 436								
							Open 314214 6CHCKKAHM	230 314388 6LANEXA	23 0 1					304.7	413.4
							Open 314214 6CHCKKAHM	230 314388 6LANEXA	23 0 2					235.4	319.2
							Open 314243 3PROV 92	115 314252 3TURNR92	11 5 1					36.2	61.0
							Open 314243 3PROV 92	115 314387 3LANEXA	11 5 1					42.6	41.7
							Open 314252 3TURNR92	115 314284 3CHSTFLD	11 5 1					198.8	384.8
							Open 314214 6CHCKKAHM	230 314390 6LIGH285	23 0 1					91.1	91.1
							Open 314390 6LIGH285	230 314413 6WALJ285	23 0 1					0.03056	46.7
							L:314378 3FTEUS34	115 1						-324.5	-277.0
							C:ROW 567							55.5	55.5
							Open 314538 6CHRLND	230 314484 6HARBORV226	23 0 1					-334.8	-364.7
							Open 314484 6HARBORV226	230 314523 6CRITTON	23 0 1					236.1	186.5
							Open 314523 6CRITTON	230 314538 6SURY	23 0 1						
							Open 314522 6CHCKTUK	230 314538 6SURY	23 0 1					94.1	94.1
							Open 314475 6HARBORV	230 314533 6SMITFLD	23 0 1					-332.4	-547.5
							Open 314475 6HARBORV	230 314538 6SURY	23 0 1					21.2	21.2
							Open 314533 6SMITFLD	230 314540 6POOLSVL	23 0 1					1022.5	1092.5
							Open 314421 6WINCHST	230 314540 6POOLSVL	23 0 1					-2.0	-213.0
							Open 314538 6SURY	230 314540 6POOLSVL	23 0 1						
							Open 314923 8SEPTA	500 314927 8VADKIN	50 0 1					-30.2	-109.3
							L:314416 6WARNICK	230 1						-114.5	-192.7
							C:Chickahominy							-205.1	-256.2
							Open 314214 6CHCKKAHM	230 314241 6OLDCHRC	23 0 1					125.3	-164.0
							Open 314214 6CHCKKAHM	230 314258 6ELKO	23 0 1					304.7	422.8
							Open 314214 6CHCKKAHM	230 314286 6CHSTF A	23 0 1						
							Open 314214 6CHCKKAHM	230 314308 6TCT	23 0 1						
							Open 314214 6CHCKKAHM	230 314388 6LANEXA	23 0 1						

From	To	Transf z Level	N	FCITC	beta	Limitin g Constra int	Contingency	Ncon	Prashif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
							Open 314214 6CHCKAHM 230 314388 6LANEXA 23 0 2					-0.24133	0.09683	235.4	326.5
							Open 314214 6CHCKAHM 230 314390 6LIGH285 23 0 1					-0.35336	0.21482	198.8	400.9
							Open 314214 6CHCKAHM 230 314408 6CHCKA 1 23 0 1		NA						
							Open 314214 6CHCKAHM 230 314903 8CHCKAHM 50 0 1					-0.00227	0.00000	0.2	0.2
			12	956.9		L:314418 6WHEALTN 230 314421 6WINCHST 230 1			-341.0	-671.0	-0.34487		-0.24332	-214.3	-447.2
						C:Chuckatuk		11							
							Open 314522 6CHCKTUK 230 314525 6KINGSFO 23 0 1					0.40145	-0.20538	155.3	-41.2
							Open 314522 6CHCKTUK 230 314538 6SURY 23 0 1					0.56167	-0.03381	-334.9	-367.1
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					0.35950	0.00000	0.1	0.1
			13	957		L:314296 6PENNIHAN 230 314415 6WALR209 230 1			-170.3	-541.0	-0.38734		-0.20631	11.4	-186.0
						C:ROW 568		5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					0.37531	-0.24332	-332.4	-565.2
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					0.00079	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					-0.37502	0.23919	152.1	381.0
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					0.00066	0.00000	27.2	27.2
			14	999.8		L:314296 6PENNIHAN 230 314386 6KINGS M 230 1			153.7	541.0	0.38734		0.20631	-28.0	178.3
						C:ROW 568		5							
							Open 314421 6WINCHST 230 314540 6POOLSVL 23 0 1					-0.37531	-0.24332	-332.4	-575.6
							Open 314538 6SURY 230 314540 6POOLSVL 23 0 1					-0.00079	0.00000	21.2	21.2
							Open 313818 6BENCHRCH 230 314398 6NP NEWS 23 0 1					0.37502	0.23919	152.1	391.3
							Open 313818 6BENCHRCH 230 314522 6CHCKTUK 23 0 1					-0.00066	0.00000	27.2	27.2

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:07 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT A WGENYORK
Case File X:\S2021\Gen Analysis\sum_2021(2013)LF_wpre_CSCNOSURRY230 Alt A_wgenYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2021\Vapays.con
Exclud File none

From	To	Transfer Level	N	FCITC	Set	Limiting Constraint	Contingency	Ncon	PreShift	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	122.3		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1217	2916.8	2930.9	0.11577		0.05037	1879.4	1885.5
							Open 314901 8BATH CO	500	314912 8LEXNGTN	1.00000			0.06540	1037.4	1045.4
			2	122.3		L:314901 8BATH CO 500 314912 8LEXNGTN 500 1	C:314901	1218	2916.8	2930.9	0.11577		0.06540	1037.4	1045.4
							Open 314901 8BATH CO	500	314926 8VALLEY	1.00000			0.05037	1879.4	1885.5
			3	803		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:314214	376	265.0	441.8	0.22013		0.16649	168.7	302.4
							Open 314214 6CHCKAHH	230	314390 6LIGH205	0.32617			0.16445	295.3	427.3
			4	823.7		L:314927 8YADKIN 500 314928 8SUIFOLK 500 1	C:314923	1259	-1930.7	-1953.3	-0.14886		-0.06441	-945.3	-958.3
							Open 314923 8SEPTA	500	314927 8YADKIN	-0.75831			0.11139	1167.6	1259.3
			5	868.4		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	600	-17.3	-441.8	-0.48883		-0.30581	5.6	-260.0
							Open 314376 6DENBIGH	230	315620 6SKIFCREEK	0.55318			-0.33085	-41.3	-328.6
			6	914.3		L:314361 6LIGH209 230 314415 6WALR209 230 1	C:314538	822	205.4	441.8	0.25851		0.16649	168.7	321.0
							Open 314538 6SURREY	230	315620 6SKIFCREEK	0.21867			0.42083	167.9	552.6
			7	940.3 *		L:314391 6LIGH209 230 314415 6WALR209 230 1	C:314390	616	234.8	441.8	0.22013		0.16649	168.7	325.3
							Open 314390 6LIGH205	230	314413 6WALR285	0.32617			0.16445	202.6	357.3
			8	967.1		L:314423 6YORKTWN 230 315620 6SKIFCREEK 230 1	C:314376	599	31.0	-441.8	-0.48883		-0.30581	5.6	-290.2
							Open 314376 6DENBIGH	230	314423 6YORKTWN	-0.55318			0.33085	-45.9	274.0

CATEGORY B

FCITC Single Study

PSS(IN)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 8:17 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT B WGENYORK
Case File X:\S2021\Gen Analysis\sum 2021(2013LF) wpre CSCNOSURRY230 Alt B wgenyork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\TransferYork.mon
Contn File X:\S2021\Vapysys.con
Exclud File none

From	To	Transf r Level	N	FCITC	Set	Limitin g Consta nt	Contingency				Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DVP	YORK	1000.0	1	122.3		L:314901 8BATH CO	500 314912 8LEXNGTN	500 1				2916.8	2930.9	0.11577		0.06553	1037.4	1045.5
						C:314901 8BATH CO	500 314926 8VALLEY	500 1			1219							
			2	122.3		L:314901 8BATH CO	500 314926 8VALLEY	500 1				2916.8	2930.9	0.11577	1.00000	0.05024	1879.3	1885.5
						C:314901 8BATH CO	500 314912 8LEXNGTN	500 1			1219					0.05024	1879.3	1885.5
			3	796.9		L:314927 8YADKIN	500 314928 8SULFOLK	500 1				-1831.5	-1953.3	-0.15286	1.00000	0.06553	1037.4	1045.5
						C:314923 8SEPTA	500 314927 8YADKIN	500 1			1260					-0.06659	-946.1	-999.2
						Open 314923 8SEPTA	500 314927 8YADKIN	500 1							-0.75768	0.11386	1168.5	1259.3
			4	851.6		L:314423 6YORKTWN	230 315620 6SKIFECREEK	230 1			600	-20.0	-441.8	-0.49530		-0.31045	3.8	-260.6
						C:314376 6DENBIGH	230 315620 6SKIFECREEK	230 1										
			5	873.8		Open 314376 6DENBIGH	230 315620 6SKIFECREEK	230 1				258.5	441.8	0.20976	0.55035	-0.33587	-43.2	-329.3
						L:314391 6LICH209	230 314415 6WALA209	230 1			376					0.15996	166.2	306.0
						C:314214 6CHCKNAH	230 314390 6LICH285	230 1										
						Open 314214 6CHCKNAH	230 314390 6LICH285	230 1							0.31516	0.15800	292.8	430.9
			6	948.5		L:314423 6YORKTWN	230 315620 6SKIFECREEK	230 1			599	28.0	-441.8	-0.49530		-0.31045	3.8	-290.7
						C:314376 6DENBIGH	230 314423 6YORKTWN	230 1										
						Open 314376 6DENBIGH	230 314423 6YORKTWN	230 1							-0.55035	0.33587	-44.0	274.6

CATEGORY B

FCITC Single Study

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, FEB 21 2013 9:30 <FC2001.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE CSCNOSURRY230KV ALT C WGENYORK
Case File X:\S2021\Gen Analysis\sum_2021(2013LF)_wpre_CSCNOSURRY230 Alt C *genYork.sav
Subsys File X:\S2015\Generation Analysis\YorkFCITC.sub
Monit File X:\S2015\Generation Analysis\Transferyork.mon
Contn File X:\S2015\Vapsys.com
Exclud File none

From	To	Transf F Level	N	FCITC	Set	Limiting Constraint	Contingency	Ncon	PreShif t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
DWP	YORK	1000.0	1	122.3		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1213	2916.8	2930.9	0.11577	1.00000	0.05172	1879.9	1886.2
			2	122.3		L:314901 8BATH CO 500 314926 8VALLEY 500 1	C:314901	1214	2916.8	2930.9	0.11577	1.00000	0.06405	1036.9	1044.7
			3	320.5		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			4	332.9		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			5	370.4		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			6	374.9		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			7	402 *		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			8	435.4 *		L:314377 3DOW 34 115 314387 3LANEXA 115 1	C:314387	613	-71.4	-83.7	-0.03737	1.00000	0.05172	1879.9	1886.2
			34	735.8		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314388	614	63.2	83.7	0.04696	0.07574	0.20893	183.5	267.4
			35	748		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314388	614	63.2	83.7	0.04696	0.07574	0.20893	183.5	267.4
			36	752.5 *		L:314378 3FTEUS34 115 314381 3GRAFT34 115 1	C:314388	614	63.2	83.7	0.04696	0.07574	0.20893	183.5	267.4
			42	709.5		L:314391 6LIGH209 230 314415 6VALR209 230 1	C:314391	614	55.7	83.7	0.03737	0.23679	0.02631	86.6	106.3
			63	898.8		L:314391 6LIGH209 230 314415 6VALR209 230 1	C:314391	614	55.7	83.7	0.03737	0.23679	0.02631	86.6	106.3
			65	910		L:314387 3LANEXA 115 314386 3NNEWS58 115 1	C:314388	614	98.3	134.4	0.03967	0.33459	0.21751	172.2	367.7

From	To	Transfer R Level	N	FCITC	Seq	Limiting Constraint	Contingency	Ncon	PreShift t	Rating	TDF	LODF	PTDF	Base Case Init	Base Case Final
			94	993.3	+	L:314391 6LIGH209 230 314415 6WALR209 230 1	Open 314388 6LANEXA	599	162.0	230 314391 6LIGH209	0.28170	0.06399	0.20893	183.5	173.6
							C:314376	6DENBIGH					0.20893	131.0	338.5
			96	994.7		L:314387 3LANEXA 115 314396 3NNENUS58 115 1	Open 314376 6DENBIGH	618	95.0	230 314413 6WALR205	0.03967	-0.33459	-0.21751	-92.7	-308.7
							C:314391			134.4			0.02631	86.6	112.7
							Open 314391 6LIGH209		230 314415 6WALR209			0.06399	0.20893	131.0	338.8

CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 9:44 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\dvp_sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\Vapsys.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314123	3WELGTH	115	314141	3LIBERTY	115 1	LN	171.3	180.0	95.2	75	314014 3CANNONB
314029	6DUMFRES	230	314074	6POSSUM	230 1	LN	664.2	705.0	94.2	158	314054 6KEENE M
314029	6DUMFRES	230	314074	6POSSUM	230 1	LN	680.8	705.0	96.6	160	314057 6LAKERD
314756	3DOUBLDY	115	314776	3SOMRSET	115 1	LN	246.7	262.0	94.2	1102	314766 6LOUISA
314913	8LOUDOUN	500	314933	8BRAMBLETON	500 1	LN	2205.9	2323.0	95.0	1272	235105 01DOUBS
							1465.7				500 314917 8MT STM

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 9:44 <VOV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET

Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav

Subsys File X:\S2021\vdvp.sub

Monit File X:\S2021\vpapsys.mon

Contn File X:\S2021\vpapsys.con

Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro p	VoltRise e	Viol	Noon	Contingency Description
315218	1CUNINGC	18.0	345	366	1.0707	1.0707	0.9300	1.0700	1.0172	1.1242	H		
313810	6DAHLGREN	230.0	345	354	0.9478	0.9930	0.9300	1.0700	0.9434	1.0427	D	16	313810 6DAHLGREN 230 314131 GARNOLDS 230 1
314014	3CANNONB	115.0	345	353	0.8435	0.9976	0.9300	1.0700	0.9478	1.0475	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9058	0.9978	0.9300	1.0700	0.9479	1.0477	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOMA172	115.0	345	353	0.9260	0.9656	0.9300	1.0700	0.9173	1.0138	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.9356	1.0034	0.9300	1.0700	0.9332	1.0535	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8436	0.9967	0.9300	1.0700	0.9469	1.0466	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.9254	0.9972	0.9300	1.0700	0.9473	1.0471	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLGTON	115.0	345	353	0.9284	0.9680	0.9300	1.0700	0.9196	1.0164	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.9306	0.9996	0.9300	1.0700	0.9496	1.0496	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MTCR172	115.0	345	353	0.9166	0.9656	0.9300	1.0700	0.9173	1.0139	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MTCR197	115.0	345	353	0.8438	0.9962	0.9300	1.0700	0.9464	1.0460	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.9237	0.9969	0.9300	1.0700	0.9470	1.0467	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GODW172	115.0	345	353	0.9211	0.9666	0.9300	1.0700	0.9183	1.0149	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GODW197	115.0	345	353	0.8441	0.9960	0.9300	1.0700	0.9462	1.0458	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.9254	0.9972	0.9300	1.0700	0.9473	1.0471	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9059	0.9978	0.9300	1.0700	0.9479	1.0477	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.9306	0.9996	0.9300	1.0700	0.9496	1.0496	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.9356	1.0034	0.9300	1.0700	0.9532	1.0535	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9352	0.9978	0.9300	1.0700	0.9479	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	3LOMA172	115.0	345	353	0.9290	0.9656	0.9300	1.0700	0.9173	1.0138	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	3LOMA197	115.0	345	353	0.8769	0.9967	0.9300	1.0700	0.9469	1.0466	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MTCR172	115.0	345	353	0.9295	0.9656	0.9300	1.0700	0.9173	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GODW197	115.0	345	353	0.8768	0.9962	0.9300	1.0700	0.9464	1.0460	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8769	0.9969	0.9300	1.0700	0.9470	1.0467	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MTCR197	115.0	345	353	0.9352	0.9978	0.9300	1.0700	0.9479	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314160	1 TX503	13.2	345	353	0.9352	0.9978	0.9300	1.0700	0.9479	1.0477	D	102	314025 1 TX500 13.2 314148 3MTCR197 115 1
314025	1 TX500	13.2	345	353	0.8969	0.9978	0.9300	1.0700	0.9479	1.0477	D	102	314025 1 TX500 13.2 314148 3MTCR197 115 1
314160	1 TX503	13.2	345	353	0.8969	0.9978	0.9300	1.0700	0.9479	1.0477	D	102	314025 1 TX500 13.2 314148 3MTCR197 115 1
314160	1 TX503	13.2	345	353	1.8809	0.9978	0.9300	1.0700	0.9479	1.0477	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314051	3140A197	115.0	345	353	0.9317	0.9667	0.9300	1.0700	0.9469	1.0466	D	152	314051 3140A197 115 314155 3CANBR T 115 1
314114	3141NDL	115.0	345	353	0.9272	0.9899	0.9300	1.0700	0.9404	1.0394	LD	186	314068 60X 230 314167 30X 115 1
314118	3141NIEV	115.0	345	353	0.9255	0.9925	0.9300	1.0700	0.9428	1.0421	LD	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9256	1.0019	0.9300	1.0700	0.9518	1.0520	LD	186	314068 60X 230 314167 30X 115 1
314114	3141NDL	115.0	345	353	0.9322	0.9899	0.9300	1.0700	0.9404	1.0394	D	261	314118 3MINNIEV 115 314167 30X 115 1
314116	3141NIEV	115.0	345	353	0.9305	0.9925	0.9300	1.0700	0.9428	1.0421	D	261	314118 3MINNIEV 115 314167 30X 115 1
314122	3141SOWEGO	115.0	345	353	0.9316	1.0003	0.9300	1.0700	0.9503	1.0503	D	265	314122 3SOWEGO 115 314156 3BRISTER 115 1
314049	3140A172	115.0	345	353	0.9243	0.9656	0.9300	1.0700	0.9173	1.0138	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3141WELLGTN	115.0	345	353	0.9240	0.9680	0.9300	1.0700	0.9196	1.0164	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3141WELLGTN	115.0	345	353	0.9240	0.9656	0.9300	1.0700	0.9173	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3141WELLGTN	115.0	345	353	0.9240	0.9666	0.9300	1.0700	0.9183	1.0149	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3141SOWEGO	115.0	345	353	0.9322	1.0003	0.9300	1.0700	0.9503	1.0503	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314136	3141SOWEGO	115.0	345	353	0.9322	1.0041	0.9300	1.0700	0.9539	1.0543	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
313810	6DAHLGREN	230.0	345	354	0.9367	0.9930	0.9300	1.0700	0.9434	1.0427	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9363	0.9959	0.9300	1.0700	0.9471	1.0468	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314139	60AKGROV	230.0	345	354	0.9442	0.9939	0.9300	1.0700	0.9442	1.0436	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
313810	6DAHLGREN	230.0	345	354	0.9309	0.9930	0.9300	1.0700	0.9434	1.0427	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9301	0.9959	0.9300	1.0700	0.9471	1.0468	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
314139	60AKGROV	230.0	345	354	0.9300	0.9939	0.9300	1.0700	0.9442	1.0436	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9300	0.9976	0.9300	1.0700	0.9471	1.0474	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
314190	6WESTHOR	230.0	345	354	0.9440	0.9939	0.9300	1.0700	0.9442	1.0435	D	273	314132 6BRICHDND 230 314175 6COMORN 230 1
314049	3140A172	115.0	345	353	0.9244	0.9656	0.9300	1.0700	0.9173	1.0138	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3141WELLGTN	115.0	345	353	0.9221	0.9680	0.9300	1.0700	0.9196	1.0164	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3141LIBERTY	115.0	345	353	0.9221	0.9680	0.9300	1.0700	0.9196	1.0164	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314175	6COMORN	230.0	345	354	0.9300	0.9976	0.9300	1.0700	0.9471	1.0474	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314179	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314025	1 TX500	13.2	345	353	0.9441	0.9978	0.9300	1.0700	0.9479	1.0477	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314148	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314158	3141WELLGTN	115.0	345	353	0.9242	0.9656	0.9300	1.0700	0.9173	1.0139	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9441	0.9978	0.9300	1.0700	0.9479	1.0477	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314180	6HAYES	230.0	345	354	0.9648	1.0273	0.9300	1.0700	0.9759	1.0766	D	328	314180 6HAYES 230 314423 6YORKTWN 230 1
314207	60AK GRE	230.0	345	363	0.9393	0.9983	0.9300	1.0700	0.9484	1.0482	D	352	314207 60AK GRE 230 314232 6NO ANNA 230 1
314249	3SHOCKOE	115.0	345	355	0.9340	0.9832	0.9300	1.0700	0.9340	1.0324	D	360	314211 3ACCA 115 314249 3SHOCKOE 115 1
314259	3CAR56 1	115.0	345	362	1.0470	1.0232	0.9300	1.0700	0.9720	1.0743	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314526	3HANDSON	115.0	345	360	1.0754	1.0255	0.9300	1.0700	0.9742	1.0768	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314534	3S HAMPT	115.0	345	360	1.0732	1.0273	0.9300	1.0700	0.9760	1.0787	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314541	3WATKINS	115.0	345	360	1.0731	1.0284	0.9300	1.0700	0.9769	1.0798	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314558	3BOYKINS	115.0	345	362	1.0807	1.0244	0.9300	1.0700	0.9703	1.0724	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314587	3BARGTSV	115.0	345	362	1.1040	1.0207	0.9300	1.0700	0.9697	1.0717	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314604	3SEABORO	115.0	345	362	1.1154	1.0205	0.9300	1.0700	0.9695	1.0715	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314826	3WATKI 1	115.0	345	360	1.0736	1.0289	0.9300	1.0700	0.9774	1.0803	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314827	3WATKI 2	115.0	345	360	1.0736	1.0289	0.9300	1.0700	0.9774	1.0803	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314835	3CAROL 1	115.0	345	362	1.1481	1.0242	0.9300	1.0700	0.9730	1.0754	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
315083	3ISPRUNCA	13.8	345	357	1.0444	0.9832	0.9300	1.0700	0.9341	1.0324	R	468	314275 6BEIMCAD 230 314276 6BASIN 230 1
315085	3ISPRUNCC	13.8	345	357	1.0515	0.9849	0.9300	1.0700	0.9356	1.0341	R	468	314275 6BEIMCAD 230 314276 6BASIN 230 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowVlimi t	UpplLimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
3150831	SPRINCA	13.8	345	357	1.0326	0.9832	0.9300	1.0700	0.9341	1.0324	R	561	314332 6MDLTHAN 230 314914 BMDLTHAN 500 1
314680	2CHATHAM	69.0	345	358	0.9450	0.9952	0.9300	1.0700	0.9454	1.0450	D	569	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314685	2CHTH TP	69.0	345	358	0.9457	0.9958	0.9300	1.0700	0.9460	1.0456	D	569	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CJMX DP	69.0	345	358	0.9422	0.9925	0.9300	1.0700	0.9426	1.0421	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMX TP	69.0	345	358	0.9429	0.9932	0.9300	1.0700	0.9436	1.0429	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9455	0.9956	0.9300	1.0700	0.9459	1.0454	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314379	3FTEUS58	115.0	345	356	0.9330	0.9919	0.9300	1.0700	0.9423	1.0415	D	604	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314389	3LEBAN58	115.0	345	356	0.9330	0.9891	0.9300	1.0700	0.9397	1.0386	D	604	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314424	3YNWS 58	115.0	345	356	0.9337	0.9884	0.9300	1.0700	0.9369	1.0378	D	605	314379 3FTEUS58 115 314389 3LEBAN58 115 1
314384	3KINGS M	115.0	345	356	0.9374	0.9865	0.9300	1.0700	0.9372	1.0358	D	605	314379 3FTEUS58 115 314389 3LEBAN58 115 1
314389	3LEBAN58	115.0	345	356	0.9328	0.9891	0.9300	1.0700	0.9397	1.0386	D	605	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314424	3YNWS 58	115.0	345	356	0.9336	0.9919	0.9300	1.0700	0.9423	1.0415	D	605	314379 3FTEUS58 115 314389 3LEBAN58 115 1
314379	3FTEUS58	115.0	345	356	0.9336	0.9919	0.9300	1.0700	0.9423	1.0415	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314382	3GRAFT58	115.0	345	356	0.9336	0.9919	0.9300	1.0700	0.9423	1.0415	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314389	3LEBAN58	115.0	345	356	0.9335	0.9891	0.9300	1.0700	0.9397	1.0386	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314424	3YNWS 58	115.0	345	356	0.9342	0.9884	0.9300	1.0700	0.9389	1.0378	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
315111	1LKKINGB	13.8	345	359	0.9934	0.9432	0.9300	1.0700	0.8961	0.9904	R	674	314444 6BOWERS 230 314453 6CHRLND 230 1
315112	1LKKINGB	13.8	345	359	0.9927	0.9432	0.9300	1.0700	0.8961	0.9904	R	701	314453 6CHRLND 230 314653 6CHRL 1 230 1
315113	1LKKINGB	13.8	345	359	0.9927	0.9432	0.9300	1.0700	0.8961	0.9904	R	701	314453 6CHRLND 230 314653 6CHRL 1 230 1
314527	3HOLLAND	115.0	345	360	1.0669	1.0142	0.9300	1.0700	0.9635	1.0649	R	802	314527 3HOLLAND 115 314536 3UFFOLK 115 1
314524	3PENLN	115.0	345	360	1.0723	1.0268	0.9300	1.0700	0.9755	1.0782	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0753	1.0273	0.9300	1.0700	0.9760	1.0787	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0830	1.0261	0.9300	1.0700	0.9748	1.0774	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATRINS	115.0	345	360	1.0776	1.0284	0.9300	1.0700	0.9769	1.0798	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP	115.0	345	360	1.0837	1.0266	0.9300	1.0700	0.9755	1.0782	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATRI 1	115.0	345	360	1.0781	1.0289	0.9300	1.0700	0.9774	1.0803	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATRI 2	115.0	345	360	1.0781	1.0289	0.9300	1.0700	0.9774	1.0803	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	1SHAPETI	13.8	345	360	1.0468	0.9970	0.9300	1.0700	0.9471	1.0468	R	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314516	3BRUNS 1	115.0	345	358	1.0723	1.0095	0.9300	1.0700	0.9590	1.0600	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314565	3CLBHS71	115.0	345	362	1.0923	1.0046	0.9300	1.0700	0.9544	1.0549	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314675	3BRONAX	115.0	345	358	1.0621	1.0070	0.9300	1.0700	0.9567	1.0574	R	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314676	3BRONAX	115.0	345	358	1.0718	1.0090	0.9300	1.0700	0.9586	1.0595	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314693	3FMAN D	115.0	345	358	1.0865	1.0062	0.9300	1.0700	0.9559	1.0565	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314704	3LAWENC	115.0	345	358	1.0770	1.0080	0.9300	1.0700	0.9576	1.0584	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314782	2BRUNSWC	69.0	345	358	1.0937	1.0289	0.9300	1.0700	0.9775	1.0804	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314785	2DNLITWN	69.0	345	358	1.0401	0.9750	0.9300	1.0700	0.9263	1.0238	R	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314786	2GRASBURG	69.0	345	358	1.0780	1.0122	0.9300	1.0700	0.9616	1.0628	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314787	2GRUNSW2	69.0	345	358	1.0647	1.0014	0.9300	1.0700	0.9513	1.0514	R	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314850	3CLBHS 1	115.0	345	362	1.0958	1.0052	0.9300	1.0700	0.9549	1.0554	HR	861	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314872	2BRUNSWCKDP	69.0	345	358	1.0518	0.9876	0.9300	1.0700	0.9382	1.0370	R	946	314635 3COLNGTP 115 314720 3 52T190 115 1
313830	3KJAWK 1	115.0	345	361	1.0828	1.0407	0.9300	1.0700	0.9886	1.0927	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314634	3COLNGTN	115.0	345	361	1.0733	1.0302	0.9300	1.0700	0.9787	1.0817	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314635	3COLNGTP	115.0	345	361	1.0930	1.0304	0.9300	1.0700	0.9789	1.0820	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314636	3COLNG2	115.0	345	361	1.0982	1.0354	0.9300	1.0700	0.9836	1.0872	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0823	1.0402	0.9300	1.0700	0.9881	1.0922	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0823	1.0402	0.9300	1.0700	0.9881	1.0922	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0823	1.0411	0.9300	1.0700	0.9891	1.0932	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Noon	Contingency Description
314829	3COLIN 1	115.0	345	361	1.0987	1.0359	0.9300	1.0700	0.9841	1.0877	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314830	3COLNG 1	115.0	345	361	1.0739	1.0307	0.9300	1.0700	0.9792	1.0823	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315146	1KITVHNA	13.8	345	361	1.0823	1.0402	0.9300	1.0700	0.9881	1.0922	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315147	1KITVHKB	13.8	345	361	1.0833	1.0412	0.9300	1.0700	0.9892	1.0933	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
B51162	KITT 3W4	1.0	345	361	1.0823	1.0402	0.9300	1.0700	0.9881	1.0922	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
B51163	KITT 3W5	1.0	345	361	1.0833	1.0412	0.9300	1.0700	0.9892	1.0933	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0777	1.0082	0.9300	1.0700	0.9578	1.0586	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0774	1.0079	0.9300	1.0700	0.9576	1.0583	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW35T57	69.0	345	358	1.0676	1.0126	0.9300	1.0700	0.9620	1.0633	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0621	1.0068	0.9300	1.0700	0.9565	1.0572	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0676	1.0126	0.9300	1.0700	0.9620	1.0633	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0709	1.0082	0.9300	1.0700	0.9578	1.0586	HR	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314731	2GRETN	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9576	1.0583	HR	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9406	0.9981	0.9300	1.0700	0.9482	1.0480	D	1062	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9422	1.0034	0.9300	1.0700	0.9532	1.0536	D	1105	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9407	0.9992	0.9300	1.0700	0.9492	1.0492	D	1197	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9283	0.9789	0.9300	1.0700	0.9300	1.0278	LD	1200	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	1N ANNA2	22.0	345	366	1.0709	1.0603	0.9300	1.0700	1.0073	1.1133	H	1212	314897 8MORRS 1 500 314916 8MORRSVL 500 1
315226	1N ANNA2	22.0	345	366	1.0705	1.0603	0.9300	1.0700	1.0073	1.1133	H	1255	314918 8NO ANNA 500 315225 1N ANNA1 22.0 1
315226	1N ANNA2	22.0	345	366	1.0714	1.0603	0.9300	1.0700	1.0073	1.1133	H	1272	235105 01DOUBS 500 314917 8MT STM 500 1
315226	1N ANNA2	22.0	345	366	1.0726	1.0603	0.9300	1.0700	1.0073	1.1133	H	1274	235110 01MWBK 500 314913 8LOWDOWN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 8:31 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	**	To bus	**	GKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314123	3WELIGN	115	314141	3LIBERTY	115	1	LN	172.2	84.2	180.0	95.6	322	LN 2011
314913	8LOUDOUN	500	314933	8BRAMBLETON	500	1	LN	2204.9	1465.7	2323.0	94.9	284	LN 551
314029	6DUMFRES	230	314074	6POSSUM	230	1	LN	661.5	548.1	705.0	93.8	207	LN 237
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	LN	245.8	139.8	262.0	93.8	224	LN 255

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 8:32 <VOV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum.2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vpssys.mon
Contn.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315218	ICUNINGC	18.0	345	366	1.0707	1.0707	0.9300	1.0700	1.0172	1.1242	H	**	Base Case **
314524	3FRNKLN	115.0	345	360	1.0794	1.0268	0.9300	1.0700	0.9755	1.0782	HR	60 LN 68	
314534	3S HAMPT	115.0	345	360	1.0755	1.0273	0.9300	1.0700	0.9760	1.0787	H	60 LN 68	
314539	3UNCAMP	115.0	345	360	1.0831	1.0261	0.9300	1.0700	0.9748	1.0774	HR	60 LN 68	
314541	3WATKINS	115.0	345	360	1.0777	1.0284	0.9300	1.0700	0.9769	1.0798	H	60 LN 68	
314824	3UNCAM 1	115.0	345	360	1.0839	1.0268	0.9300	1.0700	0.9755	1.0782	HR	60 LN 68	
314826	3WATKI 1	115.0	345	360	1.0783	1.0289	0.9300	1.0700	0.9774	1.0803	H	60 LN 68	
314827	3WATKI 2	115.0	345	360	1.0783	1.0289	0.9300	1.0700	0.9774	1.0803	H	60 LN 68	
315115	1SHAMPT1	13.8	345	360	1.0470	0.9970	0.9300	1.0700	0.9471	1.0466	R	60 LN 68	
314249	3SHOCKOE	115.0	345	355	0.9340	0.9832	0.9300	1.0700	0.9340	1.0324	D	140 LN 159	
314147	3MICR172	115.0	345	353	0.9283	0.9656	0.9300	1.0700	0.9173	1.0139	L	150 LN 172	
314348	3GRETN 1	69.0	345	358	1.0709	1.0082	0.9300	1.0700	0.9578	1.0586	HR	151 LN 173	
314731	3GRETN	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	151 LN 173	
314732	3GRNA FB	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9576	1.0583	HR	151 LN 173	
314874	21N 174	69.0	345	351	1.0571	1.0018	0.9300	1.0700	0.9517	1.0519	R	152 LN 174	
314878	21N 178	69.0	345	351	1.0570	1.0018	0.9300	1.0700	0.9517	1.0519	R	154 LN 178	
314879	21N 179	69.0	345	351	1.0572	1.0018	0.9300	1.0700	0.9517	1.0519	R	155 LN 179	
314880	21N 180	69.0	345	351	1.0573	1.0018	0.9300	1.0700	0.9517	1.0519	R	156 LN 180	
314122	3SOWEGO	115.0	345	353	0.9316	1.0003	0.9300	1.0700	0.9503	1.0503	D	157 LN 181	
314025	1 TX500	13.2	345	353	0.9257	0.9978	0.9300	1.0700	0.9479	1.0477	LD	170 LN 197	
314049	3LOHAI172	115.0	345	353	0.9284	0.9656	0.9300	1.0700	0.9173	1.0138	L	170 LN 197	
314051	3LOHAI197	115.0	345	353	0.9293	0.9667	0.9300	1.0700	0.9469	1.0466	LD	170 LN 197	
314147	3MICR172	115.0	345	353	0.9287	0.9656	0.9300	1.0700	0.9173	1.0139	L	170 LN 197	
314148	3MICR197	115.0	345	353	0.9286	0.9662	0.9300	1.0700	0.9462	1.0460	LD	170 LN 197	
314158	3GOWDI197	115.0	345	353	0.9250	0.9960	0.9300	1.0700	0.9462	1.0458	LD	170 LN 197	
314160	1 TX503	13.2	345	353	0.9257	0.9978	0.9300	1.0700	0.9479	1.0477	LD	170 LN 197	
315111	1IRKINGA	13.8	345	359	0.9937	0.9432	0.9300	1.0700	0.8961	0.9904	R	237 LN 267	

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315112	ILKKNGB	13.8	345	359	0.9937	0.9432	0.9300	1.0700	0.8961	0.9904 R		237 LN 267	
315226	IN ANNA2	22.0	345	366	1.0726	1.0603	0.9300	1.0700	1.0073	1.1133 H		273 LN 535	
315226	IN ANNA2	22.0	345	366	1.0714	1.0603	0.9300	1.0700	1.0073	1.1133 H		284 LN 551	
315083	ISPRUNCA	13.8	345	357	1.0327	0.9832	0.9300	1.0700	0.9341	1.0324 R		308 LN 576	
314014	3CANNONB	115.0	345	353	0.8412	0.9976	0.9300	1.0700	0.9478	1.0477 LD		322 LN 2011	
314025	1 TX500	13.2	345	353	0.9010	0.9978	0.9300	1.0700	0.9479	1.0477 LD		322 LN 2011	
314049	31OMA172	115.0	345	353	0.9100	0.9656	0.9300	1.0700	0.9173	1.0138 LD		322 LN 2011	
314051	31OMA197	115.0	345	353	0.8415	0.9967	0.9300	1.0700	0.9469	1.0466 LD		322 LN 2011	
314123	3WELLGTN	115.0	345	353	0.9224	0.9680	0.9300	1.0700	0.9196	1.0164 L		322 LN 2011	
314141	3LIBERTY	115.0	345	353	0.9261	0.9692	0.9300	1.0700	0.9207	1.0176 L		322 LN 2011	
314147	3MICR172	115.0	345	353	0.9106	0.9656	0.9300	1.0700	0.9173	1.0139 LD		322 LN 2011	
314148	3MICR197	115.0	345	353	0.8415	0.9962	0.9300	1.0700	0.9464	1.0460 LD		322 LN 2011	
314155	3CANBR T	115.0	345	353	0.8414	0.9969	0.9300	1.0700	0.9470	1.0467 LD		322 LN 2011	
314157	3GOWM172	115.0	345	353	0.9152	0.9666	0.9300	1.0700	0.9183	1.0149 LD		322 LN 2011	
314158	3GOWM197	115.0	345	353	0.8417	0.9960	0.9300	1.0700	0.9462	1.0458 LD		322 LN 2011	
314160	1 TX503	13.2	345	353	0.9010	0.9978	0.9300	1.0700	0.9479	1.0477 LD		322 LN 2011	
315083	ISPRUNCA	13.8	345	357	1.0444	0.9832	0.9300	1.0700	0.9341	1.0324 R		363 LN 2055	
315085	ISPRUNCC	13.8	345	357	1.0515	0.9849	0.9300	1.0700	0.9356	1.0341 R		363 LN 2055	
314180	6HAYES	230.0	345	354	0.9279	1.0273	0.9300	1.0700	0.9759	1.0796 LD		419 LN 2122	
314207	60AK GRE	230.0	345	363	0.9067	0.9983	0.9300	1.0700	0.9484	1.0482 LD		427 LN 2133	
314025	1 TX500	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9479	1.0477 LD		456 TX-1 3MICR19	
314160	1 TX503	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9479	1.0477 LD		456 TX-1 3MICR19	
314114	3LINNDL	115.0	345	353	0.9338	0.9899	0.9300	1.0700	0.9404	1.0394 D		473 TX-1 60X	
314118	3MINNIEV	115.0	345	353	0.9322	0.9925	0.9300	1.0700	0.9518	1.0520 D		473 TX-1 60X	
314167	3OX	115.0	345	352	0.9322	1.0019	0.9300	1.0700	0.9518	1.0520 D		473 TX-1 60X	
314122	3SOWEGO	115.0	345	353	0.9322	1.0003	0.9300	1.0700	0.9503	1.0503 D		495 TX-1 6BRISTE	
314156	3BRISTER	115.0	345	353	0.8958	0.9656	0.9300	1.0700	0.9173	1.0138 LD		495 TX-1 6BRISTE	
314049	31OMA172	115.0	345	353	0.8958	0.9656	0.9300	1.0700	0.9173	1.0138 LD		498 TX-1 6LIBERT	
314123	3WELLGTN	115.0	345	353	0.8936	0.9680	0.9300	1.0700	0.9196	1.0164 LD		498 TX-1 6LIBERT	
314141	3LIBERTY	115.0	345	353	0.8936	0.9692	0.9300	1.0700	0.9207	1.0176 LD		498 TX-1 6LIBERT	
314147	3MICR172	115.0	345	353	0.8956	0.9656	0.9300	1.0700	0.9173	1.0139 LD		498 TX-1 6LIBERT	
314157	3GOWM172	115.0	345	353	0.8949	0.9666	0.9300	1.0700	0.9183	1.0149 LD		498 TX-1 6LIBERT	
315226	IN ANNA2	22.0	345	366	1.0705	1.0603	0.9300	1.0700	1.0073	1.1133 H		683 TX-1 8NO AN2	

CATEGORY C

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 13:13 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vapsys.mon
Contn.File X:\S2021\rtep_tower_contingency_DVP.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 85.0 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
242701	05LEESVI	138	314667	4ALTVSTA	138	LN	176.3	176.3	205.0	86.0		** Base Case **
314559	3CAROLINA	115	315126	1ROARAP2	14.4	TR	51.2	51.2	56.0	91.4		** Base Case **
314559	3CAROLINA	115	315128	1ROARAP4	14.4	TR	48.3	48.3	56.0	86.2		** Base Case **
314757	3GORDNVL	115	314758	6GORDNVL	230	TR	228.2	122.6	267.2	85.4	6	2054&2135
314377	3DOW 34	115	314378	3FTEUS34	115	LN	91.3	31.4	103.0	88.7	9	214&263
314377	3DOW 34	115	314387	3LANEXA	115	LN	93.0	33.2	103.0	90.3	9	214&263
314391	6LIGH209	230	314415	6WALR209	230	LN	480.7	210.4	541.0	88.9	9	214&263
314006	6ASHBURA	230	314171	6BRABL	230	LN	503.9	275.4	541.0	93.1	49	295AA
314064	6N POT YD	230	314126	6S CARL	230	LN	567.4	402.9	637.0	89.1	51	204&241
314033	6FRANCON	230	314088	6VANDORN	230	LN	485.6	218.9	541.0	89.8	54	215&248
314029	6DUMFRES	230	314074	6POSSUM	230	LN	747.3	548.1	811.0	92.2	55	215&2001
314064	6N POT YD	230	314126	6S CARL	230	LN	549.3	402.9	637.0	86.2	56	220&243
314029	6DUMFRES	230	314074	6POSSUM	230	LN	728.8	548.1	811.0	89.9	59	237&2097
314041	6GLEBE	230	314185	6RADNOR	230	LN	366.7	174.6	354.0	103.6	62	250&258
314021	6CLARK	230	314048	6HUNTER	230	LN	505.4	155.8	594.0	85.1	68	265&2008

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- TUE, MAR 05 2013 13:15 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\2021_rtep_tower_contingency_DVP.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltrAs e	Viol	Ncon	Contingency Description Base Case **
315218	1CUNINGC	18.0	345	366	1.0707	1.0707	0.9300	1.0700	1.0172	1.1242	H		**
314800	6ENDICAV	230.0	345	364	1.0858	1.0278	0.9300	1.0700	0.9764	1.0792	HR	7	201769020
313812	6ROCKLAND	230.0	345	356	0.9677	1.0190	0.9300	1.0700	0.9681	1.0700	D	9	2146263
314398	6NP NEWS	230.0	345	356	0.9610	1.0234	0.9300	1.0700	0.9722	1.0746	D	9	2146263
314399	6PEMBROK	230.0	345	356	0.9593	1.0207	0.9300	1.0700	0.9697	1.0717	D	9	2146263
314402	6PENINSL	230.0	345	356	0.9622	1.0205	0.9300	1.0700	0.9695	1.0716	D	9	2146263
314407	6SHELBNK	230.0	345	356	0.9577	1.0178	0.9300	1.0700	0.9669	1.0686	D	9	2146263
314409	6TABB	230.0	345	356	0.9657	1.0216	0.9300	1.0700	0.9705	1.0727	D	9	2146263
314416	6WARWICK	230.0	345	356	0.9672	1.0185	0.9300	1.0700	0.9676	1.0694	D	9	2146263
314418	6WHEALTN	230.0	345	356	0.9665	1.0174	0.9300	1.0700	0.9666	1.0683	D	9	2146263
314421	6WINCHST	230.0	345	356	0.9663	1.0172	0.9300	1.0700	0.9663	1.0680	D	9	2146263
314442	6NP NE 1	230.0	345	356	0.9630	1.0255	0.9300	1.0700	0.9742	1.0768	D	9	2146263
314445	6WHEAL 1	230.0	345	356	0.9684	1.0195	0.9300	1.0700	0.9685	1.0705	D	9	2146263
314497	6SEWLSPT	230.0	345	359	0.8676	1.0081	0.9300	1.0700	0.9576	1.0585	LD	45	25762099
314500	6NAVYS	230.0	345	359	0.8676	1.0080	0.9300	1.0700	0.9576	1.0584	LD	45	25762099
314501	6NAVYS1	230.0	345	359	0.8675	1.0080	0.9300	1.0700	0.9576	1.0584	LD	45	25762099
314505	6NAVYN	230.0	345	359	0.8676	1.0081	0.9300	1.0700	0.9577	1.0585	LD	45	25762099
314510	6NAVYN1	230.0	345	359	0.8674	1.0079	0.9300	1.0700	0.9575	1.0583	LD	45	25762099
315226	1N ANNA2	22.0	345	366	1.0709	1.0603	0.9300	1.0700	1.0073	1.1133	H	92	53562114
315226	1N ANNA2	22.0	345	366	1.0722	1.0603	0.9300	1.0700	1.0073	1.1133	H	93	53562030

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 6:53 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\2013LF_wpren No Gen Ret.sav
Subsys.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\2021\peninsula_AC.sub
Monit.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\2021\vpapsys.mon
Contn.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\2021\peninsula.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 99.0 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
313813	30CRAN	115	314178	3LANCAST	11	1LN	321.1	23.7	269.0	119.4	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	30CRAN	115	314191	3WHITE S	11	1LN	339.7	35.5	269.0	126.3	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314178	3LANCAST	11	1LN	279.0	23.7	249.0	112.0	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314181	3NORNECK	11	1LN	246.5	45.7	249.0	99.0	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115	314191	3WHITE S	11	1LN	353.8	44.6	169.0	209.4	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	30CRAN	115	314178	3LANCAST	11	1LN	354.0	23.7	269.0	131.6	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313813	30CRAN	115	314191	3WHITE S	11	1LN	376.5	35.5	269.0	140.0	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178	3LANCAST	11	1LN	317.2	23.7	249.0	127.4	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314181	3NORNECK	11	1LN	248.3	45.7	249.0	99.7	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	1LN	408.5	44.6	169.0	241.7	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	1LN	274.0	44.6	169.0	162.1	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
313813	30CRAN	115	314178	3LANCAST	11	1LN	311.4	23.7	269.0	115.8	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
313813	30CRAN	115	314191	3WHITE S	11	1LN	329.5	35.5	269.0	122.5	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178	3LANCAST	11	1LN	266.1	23.7	249.0	106.9	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	1LN	343.6	44.6	169.0	203.3	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314401	3PENINS	115	314412	3U CARBD	11	1LN	138.0	6.7	136.0	101.4	1862	D:6ROCKLAN-6YORKTWN1 +6SUNRY -6POOLSVL1
314412	3U CARBD	115	314417	3WHEALTN	11	1LN	138.0	6.6	136.0	101.4	1862	D:6ROCKLAN-6YORKTWN1 +6SUNRY -6POOLSVL1
313813	30CRAN	115	314178	3LANCAST	11	1LN	338.8	23.7	269.0	126.0	3838	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	30CRAN	115	314191	3WHITE S	11	1LN	360.4	35.5	269.0	134.0	3838	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314178	3LANCAST	11	1LN	292.4	23.7	249.0	117.4	3838	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115	314191	3WHITE S	11	1LN	363.5	44.6	169.0	226.9	3838	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	30CRAN	115	314178	3LANCAST	11	1LN	409.1	23.7	269.0	152.1	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1

**	From bus	**	**	To bus	**	CKT	Type	ContMVA	BaseFLo w	Rating	Loading %	Ncon	Contingency Description
313813	3OCRAN	115	314191	3WHITE S	11	LN		434.8	35.5	269.0	161.6	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178	3LANCAST	11	LN		360.2	23.7	249.0	144.7	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	LN		466.2	44.6	169.0	275.8	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314178	3LANCAST	11	LN		276.7	23.7	269.0	102.9	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314191	3WHITE S	11	LN		290.6	35.5	269.0	108.0	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115	314191	3WHITE S	11	LN		293.7	44.6	169.0	173.8	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314178	3LANCAST	11	LN		407.1	23.7	269.0	151.3	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314191	3WHITE S	11	LN		433.0	35.5	269.0	161.0	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178	3LANCAST	11	LN		357.6	23.7	249.0	143.6	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	LN		468.2	44.6	169.0	277.0	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	LN		191.0	44.6	169.0	113.0	4771	D:6OAKGROV-6WESTMOR1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314191	3WHITE S	11	LN		266.5	35.5	269.0	99.1	4772	D:6OAKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	LN		279.2	44.6	169.0	165.2	4772	D:6OAKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191	3WHITE S	11	LN		172.6	44.6	169.0	102.1	5097	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314174	3HARMONY	115	314191	3WHITE S	11	LN		189.6	44.6	169.0	112.2	5404	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
314174	3HARMONY	115	314191	3WHITE S	11	LN		242.9	44.6	169.0	143.7	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314443	3BOWERS	115	314462	3DEEPC87	11	LN		204.7	59.9	202.0	101.3	32541	D:6BOWERS -6YADKIN 1 +6HARBORV-6CRITTDN1
314448	3CHESAPK	115	314462	3DEEPC87	11	LN		204.7	59.8	202.0	101.3	32541	D:6BOWERS -6YADKIN 1 +6HARBORV-6CRITTDN1
314443	3BOWERS	115	314462	3DEEPC87	11	LN		216.3	59.9	202.0	107.1	32580	D:6BOWERS -6YADKIN 1 +6CRITTDN-6SURREY 1
314448	3CHESAPK	115	314462	3DEEPC87	11	LN		216.3	59.8	202.0	107.1	32580	D:6BOWERS -6YADKIN 1 +6CRITTDN-6SURREY 1
314441	3BERKLS1	115	314469	3GOSPORT	11	LN		295.9	137.8	278.0	106.4	33279	D:3CHESAPK-3CRADOCK1 +3CHESAPK-3REEVES 1
314441	3BERKLS1	115	314493	3REEVES	11	LN		285.4	127.3	278.0	102.7	33279	D:3CHESAPK-3CRADOCK1 +3CHESAPK-3REEVES 1
314764	3LOCST G	115	314815	3OAK GRE	11	LN		239.6	105.1	235.0	101.9	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMTH1
314061	6LOUDOUN	230	314913	8LOUDOUN	50	TR		1044.9	605.0	1048.4	99.7	52025	D:8CLIFTON-8LOUDOUN1 +8LOUDOUN-8BRAMBLE1
314061	6LOUDOUN	230	314913	8LOUDOUN	50	TR		1038.7	601.4	1041.3	99.8	52025	D:8CLIFTON-8LOUDOUN1 +8LOUDOUN-8BRAMBLE1
314207	6OAK GRE	230	314815	3OAK GRE	11	TR		318.9	106.3	287.5	110.9	52548	D:8LDYSMTH-8NO ANNAL +8MORRSVL-8NO ANNAL
314764	3LOCST G	115	314815	3OAK GRE	11	LN		239.4	105.1	235.0	101.9	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 6:54 <VOW003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET

Case.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\sum 2021(2013LF)_wpre No Gen Ret.sav

Subsys.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\peninsula_AC.sub

Monit.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\vapsys.mon

Contin.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\peninsula.con

Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.2169	0.9930	0.9300	1.0700	0.9434	1.0427	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115.0	345	354	0.6415	1.0001	0.9300	1.0700	0.9501	1.0501	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313828	3WHITEMAR	115.0	345	354	0.9984	1.0052	0.9300	1.0700	0.9549	1.0554	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314139	6OAKGROV	230.0	345	354	0.2264	0.9939	0.9300	1.0700	0.9442	1.0436	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.4205	0.9990	0.9300	1.0700	0.9491	1.0490	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115.0	345	354	0.8103	1.0035	0.9300	1.0700	0.9533	1.0537	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314178	3BLANCAST	115.0	345	354	0.6089	1.0010	0.9300	1.0700	0.9510	1.0511	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314182	3NORNECK	115.0	345	354	0.2734	1.0073	0.9300	1.0700	0.9569	1.0576	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.2384	0.9933	0.9300	1.0700	0.9437	1.0430	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314184	3SHACKLE	115.0	345	354	0.8712	1.0015	0.9300	1.0700	0.9514	1.0516	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314187	3JWAN 176	115.0	345	354	0.7880	0.9866	0.9300	1.0700	0.9372	1.0359	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314188	3WEST PT	115.0	345	354	0.9025	1.0006	0.9300	1.0700	0.9505	1.0506	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314190	3WESTMOR	230.0	345	354	0.2334	0.9939	0.9300	1.0700	0.9442	1.0435	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.6763	0.9999	0.9300	1.0700	0.9499	1.0499	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314385	3HARMO 1	115.0	345	354	0.8108	1.0042	0.9300	1.0700	0.9540	1.0544	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314395	3HARMO 2	115.0	345	354	0.8107	1.0040	0.9300	1.0700	0.9538	1.0542	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314400	3LANCA 1	115.0	345	354	0.6092	1.0015	0.9300	1.0700	0.9514	1.0516	LD	663	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313810	6DAHLGREN	230.0	345	354	0.0566	0.9930	0.9300	1.0700	0.9434	1.0427	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115.0	345	354	0.5420	1.0001	0.9300	1.0700	0.9501	1.0501	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.8773	1.0052	0.9300	1.0700	0.9549	1.0554	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314139	6OAKGROV	230.0	345	354	0.0496	0.9939	0.9300	1.0700	0.9442	1.0436	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.0641	0.9974	0.9300	1.0700	0.9475	1.0472	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.2709	0.9990	0.9300	1.0700	0.9491	1.0490	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.7529	1.0035	0.9300	1.0700	0.9533	1.0537	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314176	6HARMONY	230.0	345	354	0.8999	1.0147	0.9300	1.0700	0.9640	1.0655	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314177	3HAYES889	115.0	345	354	0.9497	1.0054	0.9300	1.0700	0.9551	1.0557	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.5014	1.0010	0.9300	1.0700	0.9510	1.0511	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.9562	1.0073	0.9300	1.0700	0.9569	1.0576	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314182	3NORNECK	230.0	345	354	0.0655	0.9935	0.9300	1.0700	0.9438	1.0431	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.0615	0.9933	0.9300	1.0700	0.9437	1.0430	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314184	3SHACKLE	115.0	345	354	0.8707	1.0015	0.9300	1.0700	0.9514	1.0516	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314187	3SWAN 176	115.0	345	354	0.7205	0.9866	0.9300	1.0700	0.9372	1.0359	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.8710	1.0006	0.9300	1.0700	0.9505	1.0506	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.0566	0.9939	0.9300	1.0700	0.9442	1.0435	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.5853	0.9999	0.9300	1.0700	0.9499	1.0499	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.7534	1.0042	0.9300	1.0700	0.9540	1.0544	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7532	1.0040	0.9300	1.0700	0.9536	1.0542	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.5016	1.0015	0.9300	1.0700	0.9514	1.0516	LD	664	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9424	0.9930	0.9300	1.0700	0.9434	1.0427	LD	669	D:6DAHLGRE-6ARNOLDS1 +3HARMONY-3WHITE S1
314139	6OAKGROV	230.0	345	354	0.9499	0.9939	0.9300	1.0700	0.9442	1.0436	LD	669	D:6DAHLGRE-6ARNOLDS1 +3HARMONY-3WHITE S1
314180	6HAYES	230.0	345	354	0.9487	1.0273	0.9300	1.0700	0.9759	1.0786	LD	676	D:6DAHLGRE-6ARNOLDS1 +6HAYES -6YORKTWN1
314189	6PAPERMI1	230.0	345	354	0.9464	1.0116	0.9300	1.0700	0.9610	1.0621	LD	705	D:6DAHLGRE-6ARNOLDS1 +6CORRTN-6LANEXA 1
314375	6CORRTN	230.0	345	354	0.9460	1.0120	0.9300	1.0700	0.9614	1.0626	LD	705	D:6DAHLGRE-6ARNOLDS1 +6CORRTN-6LANEXA 1
313813	3OCCAN	115.0	345	354	0.8388	1.0001	0.9300	1.0700	0.9501	1.0501	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314139	6OAKGROV	230.0	345	354	0.6268	0.9939	0.9300	1.0700	0.9442	1.0436	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314178	3LANCAST	115.0	345	354	0.8251	1.0010	0.9300	1.0700	0.9510	1.0511	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314181	3NORNECK	115.0	345	354	0.6801	1.0073	0.9300	1.0700	0.9569	1.0576	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314182	6SANDERS	230.0	345	354	0.6431	0.9935	0.9300	1.0700	0.9438	1.0431	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314187	3SWAN 176	115.0	345	354	0.6424	0.9933	0.9300	1.0700	0.9437	1.0430	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314190	6WESTMOR	230.0	345	354	0.9056	0.9866	0.9300	1.0700	0.9372	1.0359	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.6429	0.9939	0.9300	1.0700	0.9442	1.0435	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314400	3LANCA 1	115.0	345	354	0.8544	0.9999	0.9300	1.0700	0.9499	1.0499	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
313813	3OCCAN	115.0	345	354	0.8255	1.0015	0.9300	1.0700	0.9514	1.0516	LD	985	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
314139	6OAKGROV	230.0	345	354	0.7472	1.0001	0.9300	1.0700	0.9501	1.0501	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.4278	0.9939	0.9300	1.0700	0.9442	1.0436	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.5749	0.9974	0.9300	1.0700	0.9475	1.0472	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.8667	1.0035	0.9300	1.0700	0.9533	1.0537	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9179	1.0147	0.9300	1.0700	0.9640	1.0655	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.7222	1.0010	0.9300	1.0700	0.9510	1.0511	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.4284	1.0073	0.9300	1.0700	0.9569	1.0576	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314182	6SANDERS	230.0	345	354	0.4276	0.9933	0.9300	1.0700	0.9438	1.0431	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314187	3SWAN 176	115.0	345	354	0.8669	0.9933	0.9300	1.0700	0.9437	1.0430	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.8659	0.9866	0.9300	1.0700	0.9372	1.0359	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.7745	0.9999	0.9300	1.0700	0.9442	1.0435	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.7745	0.9999	0.9300	1.0700	0.9499	1.0499	LD	986	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314385	3HARMO 1	115.0	345	354	0.8873	1.0042	0.9300	1.0700	0.9540	1.0544	LD	986	D:6DAHLGRE-60AKGROV1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.8871	1.0040	0.9300	1.0700	0.9538	1.0542	LD	986	D:6DAHLGRE-60AKGROV1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.7226	1.0015	0.9300	1.0700	0.9514	1.0516	LD	986	D:6DAHLGRE-60AKGROV1 +6DUNNSVL-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8953	1.0147	0.9300	1.0700	0.9640	1.0655	LD	1987	D:3OCRAN -3LANCAST1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8890	1.0116	0.9300	1.0700	0.9610	1.0621	LD	1987	D:3OCRAN -3LANCAST1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8886	1.0120	0.9300	1.0700	0.9614	1.0626	LD	1987	D:3OCRAN -3LANCAST1 +6CORRCTN-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9157	0.9930	0.9300	1.0700	0.9434	1.0427	LD	2259	D:3OCRAN -3WHITE S1 +6ARNOLDS-6COMORN 1
314131	6ARNOLDS	230.0	345	354	0.9152	0.9969	0.9300	1.0700	0.9471	1.0468	LD	2259	D:3OCRAN -3WHITE S1 +6ARNOLDS-6COMORN 1
313810	6DAHLGREN	230.0	345	354	0.9091	0.9930	0.9300	1.0700	0.9471	1.0427	LD	2260	D:3OCRAN -3WHITE S1 +6BIRCHWD-6COMORN 1
314131	6ARNOLDS	230.0	345	354	0.9082	0.9969	0.9300	1.0700	0.9471	1.0468	LD	2260	D:3OCRAN -3WHITE S1 +6BIRCHWD-6COMORN 1
314139	60AKGROV	230.0	345	354	0.9175	0.9939	0.9300	1.0700	0.9442	1.0436	LD	2260	D:3OCRAN -3WHITE S1 +6BIRCHWD-6COMORN 1
314175	6COMORN	230.0	345	354	0.9082	0.9976	0.9300	1.0700	0.9477	1.0474	LD	2260	D:3OCRAN -3WHITE S1 +6BIRCHWD-6COMORN 1
313810	6DAHLGREN	230.0	345	354	0.9167	0.9930	0.9300	1.0700	0.9434	1.0427	LD	2577	D:6BENCHRC-6NP NEWS1 +6BIRCHWD-6COMORN 1
314131	6ARNOLDS	230.0	345	354	0.9158	0.9976	0.9300	1.0700	0.9477	1.0474	LD	2577	D:6BENCHRC-6NP NEWS1 +6BIRCHWD-6COMORN 1
314398	6NP NEWS	230.0	345	356	0.9107	1.0234	0.9300	1.0700	0.9722	1.0746	LD	2657	D:6BENCHRC-6NP NEWS1 +6PENINSL-6SHELBNK1
314399	6PEMBROK	230.0	345	356	0.9093	1.0207	0.9300	1.0700	0.9697	1.0717	LD	2657	D:6BENCHRC-6NP NEWS1 +6PENINSL-6SHELBNK1
314407	6SHELBNK	230.0	345	356	0.9080	1.0178	0.9300	1.0700	0.9669	1.0686	LD	2657	D:6BENCHRC-6NP NEWS1 +6PENINSL-6SHELBNK1
314442	6NP NE 1	230.0	345	356	0.9125	1.0255	0.9300	1.0700	0.9742	1.0768	LD	2657	D:6BENCHRC-6NP NEWS1 +6PENINSL-6SHELBNK1
314398	6NP NEWS	230.0	345	356	0.8748	1.0234	0.9300	1.0700	0.9722	1.0746	LD	2663	D:6BENCHRC-6NP NEWS1 +6TABB -6YORKTWN1
314399	6PEMBROK	230.0	345	356	0.8736	1.0207	0.9300	1.0700	0.9697	1.0717	LD	2663	D:6BENCHRC-6NP NEWS1 +6TABB -6YORKTWN1
314402	6PENINSL	230.0	345	356	0.8725	1.0178	0.9300	1.0700	0.9695	1.0716	LD	2663	D:6BENCHRC-6NP NEWS1 +6TABB -6YORKTWN1
314409	6TABB	230.0	345	356	0.8716	1.0216	0.9300	1.0700	0.9705	1.0727	LD	2663	D:6BENCHRC-6NP NEWS1 +6TABB -6YORKTWN1
314442	6NP NE 1	230.0	345	356	0.8766	1.0255	0.9300	1.0700	0.9742	1.0768	LD	2892	D:6BENCHRC-6CHCKTUK1 +6ARNOLDS-6COMORN 1
313810	6DAHLGREN	230.0	345	354	0.9199	0.9930	0.9300	1.0700	0.9434	1.0427	LD	2892	D:6BENCHRC-6CHCKTUK1 +6BIRCHWD-6COMORN 1
314131	6ARNOLDS	230.0	345	354	0.9194	0.9969	0.9300	1.0700	0.9471	1.0468	LD	2892	D:6BENCHRC-6CHCKTUK1 +6BIRCHWD-6COMORN 1
314402	6PENINSL	230.0	345	354	0.9153	0.9930	0.9300	1.0700	0.9434	1.0427	LD	2893	D:6BENCHRC-6CHCKTUK1 +6ARNOLDS-6COMORN 1
314175	6COMORN	230.0	345	354	0.9144	0.9976	0.9300	1.0700	0.9477	1.0474	LD	2893	D:6BENCHRC-6CHCKTUK1 +6BIRCHWD-6COMORN 1
314180	6HAYES	230.0	345	354	0.9167	1.0273	0.9300	1.0700	0.9759	1.0786	LD	2909	D:6BENCHRC-6CHCKTUK1 +6HAYES -6YORKTWN1
313818	6BENCHRC	230.0	345	360	0.8861	1.0278	0.9300	1.0700	0.9764	1.0792	LD	2973	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6SHELBNK1
314398	6NP NEWS	230.0	345	356	0.8881	1.0234	0.9300	1.0700	0.9722	1.0746	LD	2973	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6SHELBNK1
314399	6PEMBROK	230.0	345	356	0.8872	1.0207	0.9300	1.0700	0.9697	1.0717	LD	2973	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6SHELBNK1
314407	6SHELBNK	230.0	345	356	0.8863	1.0178	0.9300	1.0700	0.9669	1.0686	LD	2973	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6SHELBNK1
314442	6NP NE 1	230.0	345	356	0.8859	1.0255	0.9300	1.0700	0.9742	1.0768	LD	2973	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6SHELBNK1
313818	6BENCHRC	230.0	345	360	0.9101	1.0278	0.9300	1.0700	0.9764	1.0792	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
314398	6NP NEWS	230.0	345	356	0.9109	1.0234	0.9300	1.0700	0.9722	1.0746	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
314399	6PEMBROK	230.0	345	356	0.9119	1.0207	0.9300	1.0700	0.9697	1.0717	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
314402	6PENINSL	230.0	345	356	0.9119	1.0205	0.9300	1.0700	0.9695	1.0716	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
314407	6SHELBNK	230.0	345	356	0.9100	1.0178	0.9300	1.0700	0.9669	1.0686	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
314442	6NP NE 1	230.0	345	356	0.9139	1.0255	0.9300	1.0700	0.9742	1.0768	LD	2974	D:6BENCHRC-6CHCKTUK1 +6PENINSL-6TABB 1
313818	6BENCHRC	230.0	345	360	0.8645	1.0278	0.9300	1.0700	0.9764	1.0792	LD	2979	D:6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314398	6NP NEWS	230.0	345	356	0.8665	1.0234	0.9300	1.0700	0.9722	1.0746	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314399	6PEMBROK	230.0	345	356	0.8657	1.0207	0.9300	1.0700	0.9697	1.0717	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314402	6PENINSL	230.0	345	356	0.8657	1.0205	0.9300	1.0700	0.9695	1.0716	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314407	6SHELLENK	230.0	345	356	0.8650	1.0178	0.9300	1.0700	0.9669	1.0686	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314409	6TABB	230.0	345	356	0.8640	1.0216	0.9300	1.0700	0.9705	1.0727	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314442	6NP NE 1	230.0	345	356	0.8683	1.0255	0.9300	1.0700	0.9742	1.0768	LD	2979	D: 6BENCHRC-6CHCKTUK1 +6TABB -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8919	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3231	D: 3WHITEMA-3HARMONY1 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8868	1.0116	0.9300	1.0700	0.9610	1.0621	LD	3231	D: 3WHITEMA-3HARMONY1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8582	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3253	D: 3WHITEMA-3HARMONY1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8516	1.0116	0.9300	1.0700	0.9610	1.0621	LD	3253	D: 3WHITEMA-3HARMONY1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8512	1.0120	0.9300	1.0700	0.9614	1.0626	LD	3253	D: 3WHITEMA-3HARMONY1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9001	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3545	D: 3WHITEMA-3HAYES891 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8951	1.0116	0.9300	1.0700	0.9610	1.0621	LD	3545	D: 3WHITEMA-3HAYES891 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8557	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3567	D: 3WHITEMA-3HAYES891 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8490	1.0116	0.9300	1.0700	0.9610	1.0621	LD	3567	D: 3WHITEMA-3HAYES891 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8486	1.0120	0.9300	1.0700	0.9614	1.0626	LD	3567	D: 3WHITEMA-3HAYES891 +6CORRCTN-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.1745	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
313813	3OC-RAN	115.0	345	354	0.6172	1.0001	0.9300	1.0700	0.9501	1.0501	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
313828	3WHITEMAR	115.0	345	354	0.9003	1.0052	0.9300	1.0700	0.9549	1.0544	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314131	3GARNOLDS	230.0	345	354	0.1742	0.9969	0.9300	1.0700	0.9471	1.0468	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314139	6OARGROV	230.0	345	354	0.1849	0.9939	0.9300	1.0700	0.9442	1.0436	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314173	3GARNER	115.0	345	354	0.3857	0.9990	0.9300	1.0700	0.9491	1.0490	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314174	3HARMONY	115.0	345	354	0.7956	1.0035	0.9300	1.0700	0.9533	1.0537	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314176	6HARMONY	230.0	345	354	0.9119	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314178	3LANCAST	115.0	345	354	0.5829	1.0010	0.9300	1.0700	0.9510	1.0511	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314181	3GNORNECK	115.0	345	354	0.2331	1.0073	0.9300	1.0700	0.9569	1.0576	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314182	6GNORNECK	230.0	345	354	0.2022	0.9935	0.9300	1.0700	0.9437	1.0431	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314183	6SANDERS	230.0	345	354	0.1977	0.9933	0.9300	1.0700	0.9437	1.0430	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314184	3SHACKLE	115.0	345	354	0.8606	1.0015	0.9300	1.0700	0.9514	1.0516	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314187	3WAN 176	115.0	345	354	0.7735	0.9866	0.9300	1.0700	0.9372	1.0359	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314188	3WEST PT	115.0	345	354	0.8941	1.0006	0.9300	1.0700	0.9505	1.0506	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314190	6WESTMOR	230.0	345	354	0.1924	0.9939	0.9300	1.0700	0.9442	1.0435	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314191	3WHITE S	115.0	345	354	0.6538	0.9999	0.9300	1.0700	0.9499	1.0499	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314385	3HARMO 1	115.0	345	354	0.7961	1.0042	0.9300	1.0700	0.9540	1.0544	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314395	3HARMO 2	115.0	345	354	0.7960	1.0040	0.9300	1.0700	0.9538	1.0542	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
314400	3LANCA 1	115.0	345	354	0.5832	1.0015	0.9300	1.0700	0.9514	1.0516	LD	3838	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6GNORNECK1
313810	6DAHLGREN	230.0	345	354	0.0016	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OC-RAN	115.0	345	354	0.5044	1.0001	0.9300	1.0700	0.9501	1.0501	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.8737	1.0052	0.9300	1.0700	0.9549	1.0544	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314131	3GARNOLDS	230.0	345	354	0.0022	0.9969	0.9300	1.0700	0.9471	1.0468	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314139	6OARGROV	230.0	345	354	0.0072	0.9939	0.9300	1.0700	0.9442	1.0436	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.0187	0.9974	0.9300	1.0700	0.9475	1.0472	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.2064	0.9990	0.9300	1.0700	0.9491	1.0490	LD	3839	D: GARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314174	3HARMONY	115.0	345	354	0.7402	1.0035	0.9300	1.0700	0.9533	1.0537	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314176	3HARMONY	230.0	345	354	0.8892	1.0147	0.9300	1.0700	0.9640	1.0655	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.9178	1.0054	0.9300	1.0700	0.9551	1.0557	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.4598	1.0010	0.9300	1.0700	0.9510	1.0511	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.0440	1.0073	0.9300	1.0700	0.9569	1.0576	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.0202	0.9935	0.9300	1.0700	0.9438	1.0431	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.0169	0.9933	0.9300	1.0700	0.9437	1.0430	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314184	3SHACKLE	115.0	345	354	0.8257	1.0015	0.9300	1.0700	0.9514	1.0516	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.7473	0.9866	0.9300	1.0700	0.9372	1.0359	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.8689	1.0006	0.9300	1.0700	0.9505	1.0506	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314190	6WESTHOR	230.0	345	354	0.0130	0.9939	0.9300	1.0700	0.9442	1.0435	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.5532	0.9999	0.9300	1.0700	0.9499	1.0499	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.7407	1.0042	0.9300	1.0700	0.9540	1.0544	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7406	1.0040	0.9300	1.0700	0.9538	1.0542	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.4590	1.0015	0.9300	1.0700	0.9514	1.0516	LD	3839	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9038	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3844	D:6ARNOLDS-6COMORN 1 +3HARMONY-3WHITE S1
314131	6ARNOLDS	230.0	345	354	0.9033	0.9969	0.9300	1.0700	0.9471	1.0468	LD	3844	D:6ARNOLDS-6COMORN 1 +3HARMONY-3WHITE S1
314139	6OAKGROV	230.0	345	354	0.9117	0.9939	0.9300	1.0700	0.9442	1.0436	LD	3844	D:6ARNOLDS-6COMORN 1 +3HARMONY-3WHITE S1
314180	6WESTHOR	230.0	345	354	0.9194	0.9933	0.9300	1.0700	0.9437	1.0430	LD	3844	D:6ARNOLDS-6COMORN 1 +3HARMONY-3WHITE S1
314190	6WESTHOR	230.0	345	354	0.9165	0.9939	0.9300	1.0700	0.9442	1.0435	LD	3844	D:6ARNOLDS-6COMORN 1 +3HARMONY-3WHITE S1
314180	6HAYES	230.0	345	354	0.9488	1.0273	0.9300	1.0700	0.9759	1.0786	LD	3851	D:6ARNOLDS-6COMORN 1 +6HAYES -6YORKTWN1
313810	6DAHLGREN	230.0	345	354	0.9200	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3858	D:6ARNOLDS-6COMORN 1 +6PAPERMI-6CORRECTN1
314131	6ARNOLDS	230.0	345	354	0.9196	0.9969	0.9300	1.0700	0.9471	1.0468	LD	3858	D:6ARNOLDS-6COMORN 1 +6PAPERMI-6CORRECTN1
314176	6HARMONY	230.0	345	354	0.9242	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3880	D:6ARNOLDS-6COMORN 1 +6CORRECTN-6LANEXA 1
314189	6PAPERMI1	230.0	345	354	0.9093	1.0147	0.9300	1.0700	0.9610	1.0621	LD	3880	D:6ARNOLDS-6COMORN 1 +6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.9089	1.0120	0.9300	1.0700	0.9614	1.0626	LD	3880	D:6ARNOLDS-6COMORN 1 +6CORRECTN-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9489	0.9930	0.9300	1.0700	0.9434	1.0427	LD	3897	D:6ARNOLDS-6COMORN 1 +6LANEXA -6LANEX_11
314131	6ARNOLDS	230.0	345	354	0.9156	0.9930	0.9300	1.0700	0.9471	1.0468	LD	3897	D:6ARNOLDS-6COMORN 1 +6LANEXA -6LANEX_11
313813	6OCCAN	115.0	345	354	0.6873	1.0001	0.9300	1.0700	0.9501	1.0501	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314131	6ARNOLDS	230.0	345	354	0.3451	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314139	6OAKGROV	230.0	345	354	0.3244	0.9939	0.9300	1.0700	0.9442	1.0436	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.4934	0.9990	0.9300	1.0700	0.9491	1.0490	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115.0	345	354	0.8357	1.0035	0.9300	1.0700	0.9533	1.0537	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314175	6COMORN	230.0	345	354	0.3150	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314178	3LANCAST	115.0	345	354	0.6589	1.0010	0.9300	1.0700	0.9510	1.0511	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314181	3NORNECK	115.0	345	354	0.3653	1.0073	0.9300	1.0700	0.9569	1.0576	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314182	6NORNECK	230.0	345	354	0.3383	0.9935	0.9300	1.0700	0.9438	1.0431	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.3347	0.9933	0.9300	1.0700	0.9437	1.0430	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314184	3SHACKLE	115.0	345	354	0.8891	1.0015	0.9300	1.0700	0.9514	1.0516	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314187	3WAN 176	115.0	345	354	0.8133	0.9866	0.9300	1.0700	0.9372	1.0359	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UpLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314188	3WEST PT	115.0	345	354	0.9164	1.0006	0.9300	1.0700	0.9505	1.0506	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314190	6WESTMOR	230.0	345	354	0.3305	0.9939	0.9300	1.0700	0.9442	1.0435	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.7179	0.9999	0.9300	1.0700	0.9499	1.0499	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314395	3HARMO 1	115.0	345	354	0.8363	1.0042	0.9300	1.0700	0.9540	1.0544	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314395	3HARMO 2	115.0	345	354	0.8562	1.0040	0.9300	1.0700	0.9538	1.0542	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314400	3LANCA 1	115.0	345	354	0.6591	1.0015	0.9300	1.0700	0.9514	1.0516	LD	4150	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
313810	6DAHILGREN	230.0	345	354	0.0017	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCBAN	115.0	345	354	0.5003	1.0001	0.9300	1.0700	0.9501	1.0501	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.8710	1.0052	0.9300	1.0700	0.9549	1.0554	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314131	6ARNOLDS	230.0	345	354	0.0024	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314139	6OAKGROV	230.0	345	354	0.0076	0.9939	0.9300	1.0700	0.9442	1.0436	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.0205	0.9974	0.9300	1.0700	0.9475	1.0472	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.2063	0.9990	0.9300	1.0700	0.9491	1.0490	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.7957	1.0035	0.9300	1.0700	0.9533	1.0537	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314175	6COMORN	230.0	345	354	0.0024	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8851	1.0147	0.9300	1.0700	0.9640	1.0655	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.4552	1.0054	0.9300	1.0700	0.9551	1.0557	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.4552	1.0010	0.9300	1.0700	0.9510	1.0511	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.0458	1.0073	0.9300	1.0700	0.9569	1.0576	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.0216	0.9935	0.9300	1.0700	0.9438	1.0431	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.0281	0.9933	0.9300	1.0700	0.9437	1.0430	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314184	3SHACKLE	115.0	345	354	0.8217	1.0015	0.9300	1.0700	0.9514	1.0516	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.7139	0.9866	0.9300	1.0700	0.9372	1.0359	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.8655	1.0006	0.9300	1.0700	0.9505	1.0506	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.0339	0.9939	0.9300	1.0700	0.9442	1.0435	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.5485	0.9999	0.9300	1.0700	0.9499	1.0499	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 1	115.0	345	354	0.7362	1.0042	0.9300	1.0700	0.9540	1.0544	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7360	1.0040	0.9300	1.0700	0.9538	1.0542	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.4555	1.0015	0.9300	1.0700	0.9514	1.0516	LD	4151	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
313810	6DAHILGREN	230.0	345	354	0.8975	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314131	6ARNOLDS	230.0	345	354	0.8966	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314139	6OAKGROV	230.0	345	354	0.9061	0.9939	0.9300	1.0700	0.9442	1.0436	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314175	6COMORN	230.0	345	354	0.8966	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314182	6NORNECK	230.0	345	354	0.9173	0.9935	0.9300	1.0700	0.9438	1.0431	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314183	6SANDERS	230.0	345	354	0.9446	0.9933	0.9300	1.0700	0.9437	1.0430	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
314190	6WESTMOR	230.0	345	354	0.9414	0.9939	0.9300	1.0700	0.9442	1.0435	LD	4156	D:6BIRCHWD-6COMORN 1 +3HARMONY-3WHITE S1
313810	6DAHILGREN	230.0	345	354	0.9474	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4160	D:6BIRCHWD-6COMORN 1 +6HARMONY-6PAPERMI1
314131	6ARNOLDS	230.0	345	354	0.9465	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4160	D:6BIRCHWD-6COMORN 1 +6HARMONY-6PAPERMI1
314175	6COMORN	230.0	345	354	0.9464	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4160	D:6BIRCHWD-6COMORN 1 +6HARMONY-6PAPERMI1
313810	6DAHILGREN	230.0	345	354	0.9482	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4162	D:6BIRCHWD-6COMORN 1 +3LANCAST-3LANCA 11
314131	6ARNOLDS	230.0	345	354	0.9474	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4162	D:6BIRCHWD-6COMORN 1 +3LANCAST-3LANCA 11
314175	6COMORN	230.0	345	354	0.9473	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4162	D:6BIRCHWD-6COMORN 1 +3LANCAST-3LANCA 11
313810	6DAHILGREN	230.0	345	354	0.9481	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4163	D:6BIRCHWD-6COMORN 1 +6HAYES -6YORKTWN1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314131	GARNOLDS	230.0	345	354	0.9472	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4163	D:6BIRCHWD-6COMORN 1 +6HAYES -6YORKTWN1
314175	6COMORN	230.0	345	354	0.9472	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4163	D:6BIRCHWD-6COMORN 1 +6HAYES -6YORKTWN1
314180	HAYES	230.0	345	354	0.9485	1.0273	0.9300	1.0700	0.9759	1.0786	LD	4163	D:6BIRCHWD-6COMORN 1 +6HAYES -6YORKTWN1
313810	6DAHLGREN	230.0	345	354	0.9447	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4170	D:6BIRCHWD-6COMORN 1 +6PAPERMI-6CORRECTWN1
314131	GARNOLDS	230.0	345	354	0.9439	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4170	D:6BIRCHWD-6COMORN 1 +6PAPERMI-6CORRECTWN1
314175	6COMORN	230.0	345	354	0.9438	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4170	D:6BIRCHWD-6COMORN 1 +6PAPERMI-6CORRECTWN1
314131	GARNOLDS	230.0	345	354	0.9200	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4181	D:6BIRCHWD-6COMORN 1 +6PENNTIMA-6WALR2091
314175	6COMORN	230.0	345	354	0.9200	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4181	D:6BIRCHWD-6COMORN 1 +6PENNTIMA-6WALR2091
313810	6DAHLGREN	230.0	345	354	0.9092	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314131	GARNOLDS	230.0	345	354	0.9084	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314139	6OAKGROV	230.0	345	354	0.9177	0.9939	0.9300	1.0700	0.9442	1.0436	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314175	6COMORN	230.0	345	354	0.9083	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9137	1.0147	0.9300	1.0700	0.9640	1.0655	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.9076	1.0116	0.9300	1.0700	0.9610	1.0621	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.9072	1.0120	0.9300	1.0700	0.9614	1.0626	LD	4192	D:6BIRCHWD-6COMORN 1 +6CORRECTN-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9493	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4204	D:6BIRCHWD-6COMORN 1 +6KINGS M-6YORKTWN1
314131	GARNOLDS	230.0	345	354	0.9485	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4204	D:6BIRCHWD-6COMORN 1 +6KINGS M-6YORKTWN1
314175	6COMORN	230.0	345	354	0.9484	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4204	D:6BIRCHWD-6COMORN 1 +6KINGS M-6YORKTWN1
313810	6DAHLGREN	230.0	345	354	0.9442	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4209	D:6BIRCHWD-6COMORN 1 +6LANEXA -6LANEX 11
314131	GARNOLDS	230.0	345	354	0.9454	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4209	D:6BIRCHWD-6COMORN 1 +6LANEXA -6LANEX 11
314175	6COMORN	230.0	345	354	0.9433	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4209	D:6BIRCHWD-6COMORN 1 +6LANEXA -6LANEX 11
313810	6DAHLGREN	230.0	345	354	0.9274	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4219	D:6BIRCHWD-6COMORN 1 +6NP NEWS-6PEMBROK1
314131	GARNOLDS	230.0	345	354	0.9165	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4219	D:6BIRCHWD-6COMORN 1 +6NP NEWS-6PEMBROK1
314175	6COMORN	230.0	345	354	0.9165	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4219	D:6BIRCHWD-6COMORN 1 +6NP NEWS-6PEMBROK1
313810	6DAHLGREN	230.0	345	354	0.9173	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4221	D:6BIRCHWD-6COMORN 1 +6PEMBROK-6SHELBNK1
314131	GARNOLDS	230.0	345	354	0.9465	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4221	D:6BIRCHWD-6COMORN 1 +6PEMBROK-6SHELBNK1
314175	6COMORN	230.0	345	354	0.9154	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4221	D:6BIRCHWD-6COMORN 1 +6PEMBROK-6SHELBNK1
313810	6DAHLGREN	230.0	345	354	0.9184	0.9930	0.9300	1.0700	0.9434	1.0427	LD	4244	D:6BIRCHWD-6COMORN 1 +6YORKTWN-6YORKT 11
314131	GARNOLDS	230.0	345	354	0.9175	0.9969	0.9300	1.0700	0.9471	1.0468	LD	4244	D:6BIRCHWD-6COMORN 1 +6YORKTWN-6YORKT 11
314175	6COMORN	230.0	345	354	0.9175	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4244	D:6BIRCHWD-6COMORN 1 +6YORKTWN-6YORKT 11
314173	6GARNER	115.0	345	354	0.8886	0.9990	0.9300	1.0700	0.9491	1.0490	LD	4771	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6NORNECK1
314181	6NORNECK	115.0	345	354	0.8554	1.0073	0.9300	1.0700	0.9569	1.0576	LD	4771	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6NORNECK1
314182	6NORNECK	230.0	345	354	0.7731	0.9935	0.9300	1.0700	0.9438	1.0431	LD	4771	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.7727	0.9933	0.9300	1.0700	0.9437	1.0430	LD	4771	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6NORNECK1
314190	6WESTWOR	230.0	345	354	0.7730	0.9939	0.9300	1.0700	0.9442	1.0435	LD	4771	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6NORNECK1
313813	6OCRAH	115.0	345	354	0.8412	1.0001	0.9300	1.0700	0.9501	1.0501	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.5999	0.9974	0.9300	1.0700	0.9475	1.0472	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314173	6GARNER	115.0	345	354	0.7244	0.9990	0.9300	1.0700	0.9491	1.0490	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314178	6LANCAST	115.0	345	354	0.8556	1.0073	0.9300	1.0700	0.9510	1.0511	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314181	6NORNECK	115.0	345	354	0.5921	0.9935	0.9300	1.0700	0.9438	1.0431	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.5921	0.9935	0.9300	1.0700	0.9437	1.0430	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.5944	0.9933	0.9300	1.0700	0.9437	1.0430	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1
314187	6SWAN 176	115.0	345	354	0.9169	0.9866	0.9300	1.0700	0.9372	1.0359	LD	4772	D:6OAKGROV-6WESTWOR1 +6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	Voltrisa e	Viol	Ncon	Contingency Description
314190	6WESTMOR	230.0	345	354	0.5918	0.9939	0.9300	1.0700	0.9442	1.0435	LD	4772	D:60AKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.8288	0.9999	0.9300	1.0700	0.9499	1.0499	LD	4772	D:60AKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.8250	1.0015	0.9300	1.0700	0.9514	1.0516	LD	4772	D:60AKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.9087	1.0073	0.9300	1.0700	0.9569	1.0576	LD	5096	D:6DUNNSVL-6NORNECK1 +6NORNECK-6SANDERS1
314182	3NORNECK	230.0	345	354	0.8219	0.9935	0.9300	1.0700	0.9438	1.0431	LD	5096	D:6DUNNSVL-6NORNECK1 +6NORNECK-6SANDERS1
314173	3GARNER	115.0	345	354	0.8928	0.9990	0.9300	1.0700	0.9491	1.0490	LD	5097	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314181	3NORNECK	115.0	345	354	0.8592	1.0073	0.9300	1.0700	0.9569	1.0576	LD	5097	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314182	3NORNECK	230.0	345	354	0.7742	0.9935	0.9300	1.0700	0.9438	1.0431	LD	5097	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314183	6SANDERS	230.0	345	354	0.7734	0.9933	0.9300	1.0700	0.9437	1.0430	LD	5097	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314172	6DUNNSVL	230.0	345	354	0.7629	0.9974	0.9300	1.0700	0.9475	1.0472	LD	5404	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
314173	3GARNER	115.0	345	354	0.8831	0.9990	0.9300	1.0700	0.9491	1.0490	LD	5404	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
314181	3NORNECK	115.0	345	354	0.8474	1.0073	0.9300	1.0700	0.9569	1.0576	LD	5404	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
314182	3NORNECK	230.0	345	354	0.7646	0.9935	0.9300	1.0700	0.9438	1.0431	LD	5404	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
313813	3OCAN	115.0	345	354	0.8796	1.0001	0.9300	1.0700	0.9501	1.0501	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314172	6DUNNSVL	230.0	345	354	0.8489	0.9974	0.9300	1.0700	0.9475	1.0472	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314173	3GARNER	115.0	345	354	0.7825	0.9990	0.9300	1.0700	0.9491	1.0490	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314178	3LANCAST	115.0	345	354	0.8671	1.0010	0.9300	1.0700	0.9510	1.0511	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314181	3NORNECK	115.0	345	354	0.7221	1.0073	0.9300	1.0700	0.9569	1.0576	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314182	3NORNECK	230.0	345	354	0.6509	0.9935	0.9300	1.0700	0.9438	1.0431	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314183	6SANDERS	230.0	345	354	0.6500	0.9933	0.9300	1.0700	0.9437	1.0430	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314191	3WHITE S	115.0	345	354	0.8937	0.9999	0.9300	1.0700	0.9499	1.0499	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314400	3LANCA 1	115.0	345	354	0.8675	1.0015	0.9300	1.0700	0.9514	1.0516	LD	5405	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314176	6HARMONY	230.0	345	354	0.8902	1.0147	0.9300	1.0700	0.9640	1.0655	LD	5737	D:3GARNER -3LANCAST1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8839	1.0116	0.9300	1.0700	0.9610	1.0621	LD	5737	D:3GARNER -3LANCAST1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8835	1.0120	0.9300	1.0700	0.9614	1.0626	LD	5737	D:3GARNER -3LANCAST1 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9197	1.0273	0.9300	1.0700	0.9759	1.0786	LD	6014	D:3GARNER -3NORNECK1 +6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8643	1.0147	0.9300	1.0700	0.9640	1.0655	LD	6021	D:3GARNER -3NORNECK1 +6PAPERMI -6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8590	1.0116	0.9300	1.0700	0.9610	1.0621	LD	6021	D:3GARNER -3NORNECK1 +6PAPERMI -6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8523	1.0147	0.9300	1.0700	0.9640	1.0655	LD	6043	D:3GARNER -3NORNECK1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8455	1.0116	0.9300	1.0700	0.9610	1.0621	LD	6043	D:3GARNER -3NORNECK1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8451	1.0120	0.9300	1.0700	0.9614	1.0626	LD	6043	D:3GARNER -3NORNECK1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9096	1.0147	0.9300	1.0700	0.9640	1.0655	LD	6326	D:3HARMONY-3SHACKLE1 +6PAPERMI -6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.9047	1.0116	0.9300	1.0700	0.9610	1.0621	LD	6326	D:3HARMONY-3SHACKLE1 +6PAPERMI -6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8650	1.0147	0.9300	1.0700	0.9640	1.0655	LD	6348	D:3HARMONY-3SHACKLE1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8584	1.0116	0.9300	1.0700	0.9610	1.0621	LD	6348	D:3HARMONY-3SHACKLE1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8580	1.0120	0.9300	1.0700	0.9614	1.0626	LD	6348	D:3HARMONY-3SHACKLE1 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.8908	1.0273	0.9300	1.0700	0.9759	1.0786	LD	7228	D:3HARMONY-3HARMO 11 +6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8919	1.0147	0.9300	1.0700	0.9640	1.0655	LD	7235	D:3HARMONY-3HARMO 11 +6PAPERMI -6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8859	1.0116	0.9300	1.0700	0.9610	1.0621	LD	7235	D:3HARMONY-3HARMO 11 +6PAPERMI -6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8642	1.0147	0.9300	1.0700	0.9640	1.0655	LD	7257	D:3HARMONY-3HARMO 11 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8576	1.0116	0.9300	1.0700	0.9610	1.0621	LD	7257	D:3HARMONY-3HARMO 11 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8572	1.0120	0.9300	1.0700	0.9614	1.0626	LD	7257	D:3HARMONY-3HARMO 11 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9042	1.0273	0.9300	1.0700	0.9759	1.0786	LD	7529	D:3HARMONY-3HARMO 21 +6HAYES -6YORKTWN1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314176	6HARMONY	230.0	345	354	0.9148	1.0147	0.9300	1.0700	0.9640	1.0655	LD	7536	D: 3HARMONY-3HARMO 21 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.9099	1.0116	0.9300	1.0700	0.9610	1.0621	LD	7536	D: 3HARMONY-3HARMO 21 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8837	1.0147	0.9300	1.0700	0.9640	1.0655	LD	7558	D: 3HARMONY-3HARMO 21 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8773	1.0116	0.9300	1.0700	0.9610	1.0621	LD	7558	D: 3HARMONY-3HARMO 21 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8769	1.0220	0.9300	1.0700	0.9614	1.0626	LD	7558	D: 3HARMONY-3HARMO 21 +6CORRCTN-6LANEXA 1
314176	6HAYES	230.0	345	354	0.9186	1.0273	0.9300	1.0700	0.9759	1.0786	LD	7829	D: 3HARMONY-6PAPERMI1 +6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8735	1.0147	0.9300	1.0700	0.9640	1.0655	LD	8126	D: 6HARMONY-6PAPERMI1 +6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8753	1.0147	0.9300	1.0700	0.9640	1.0655	LD	8128	D: 6HARMONY-6PAPERMI1 +6HAYES -6YORKTWN1
314176	6HAYES	230.0	345	354	0.8520	1.0273	0.9300	1.0700	0.9759	1.0786	LD	8128	D: 6HARMONY-6PAPERMI1 +6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.9143	1.0147	0.9300	1.0700	0.9640	1.0655	LD	8134	D: 6HARMONY-6PAPERMI1 +6HAYES -6YORKTWN1
313828	3WHITEMAR	115.0	345	354	0.9117	1.0052	0.9300	1.0700	0.9549	1.0554	LD	8433	D: 3HAYES89-6HAYES 1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8415	1.0147	0.9300	1.0700	0.9640	1.0655	LD	8433	D: 3HAYES89-6HAYES 1 +6PAPERMI-6CORRCTN1
314177	3HAYES89	115.0	345	354	0.9061	1.0054	0.9300	1.0700	0.9551	1.0557	LD	8433	D: 3HAYES89-6HAYES 1 +6PAPERMI-6CORRCTN1
314187	3WAN 176	115.0	345	354	0.9106	1.0066	0.9300	1.0700	0.9372	1.0359	LD	8433	D: 3HAYES89-6HAYES 1 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8361	1.0116	0.9300	1.0700	0.9610	1.0621	LD	8433	D: 3HAYES89-6HAYES 1 +6PAPERMI-6CORRCTN1
313828	3WHITEMAR	115.0	345	354	0.8924	1.0052	0.9300	1.0700	0.9549	1.0554	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.9105	1.0035	0.9300	1.0700	0.9533	1.0537	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8207	1.0147	0.9300	1.0700	0.9640	1.0655	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.8867	1.0054	0.9300	1.0700	0.9551	1.0557	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8914	0.9866	0.9300	1.0700	0.9372	1.0359	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8136	1.0116	0.9300	1.0700	0.9610	1.0621	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314191	3WHITES	115.0	345	354	0.9176	0.9999	0.9300	1.0700	0.9499	1.0499	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9132	1.0120	0.9300	1.0700	0.9614	1.0626	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.9111	1.0042	0.9300	1.0700	0.9540	1.0544	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.9110	1.0040	0.9300	1.0700	0.9538	1.0542	LD	8455	D: 3HAYES89-6HAYES 1 +6CORRCTN-6LANEXA 1
314176	6HAYES	230.0	345	354	0.9041	1.0273	0.9300	1.0700	0.9759	1.0786	LD	8723	D: 3LANCAST-3LANCA 11 +6HAYES -6YORKTWN1
314189	6PAPERMI	230.0	345	354	0.8995	1.0116	0.9300	1.0700	0.9610	1.0621	LD	8752	D: 3LANCAST-3LANCA 11 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9185	1.0273	0.9300	1.0700	0.9614	1.0626	LD	8752	D: 3LANCAST-3LANCA 11 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9092	1.0052	0.9300	1.0700	0.9759	1.0786	LD	9025	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
313828	3WHITEMAR	115.0	345	354	0.8593	1.0147	0.9300	1.0700	0.9640	1.0655	LD	9026	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.9036	1.0054	0.9300	1.0700	0.9551	1.0557	LD	9026	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
314177	3HAYES89	115.0	345	354	0.8262	1.0273	0.9300	1.0700	0.9759	1.0786	LD	9026	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
314187	3WAN 176	115.0	345	354	0.9082	0.9866	0.9300	1.0700	0.9372	1.0359	LD	9026	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8338	1.0116	0.9300	1.0700	0.9610	1.0621	LD	9026	D: 6HAYES -6YORKTWN1 +6PAPERMI-6CORRCTN1
313828	3WHITEMAR	115.0	345	354	0.8471	1.0052	0.9300	1.0700	0.9549	1.0554	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.9127	1.0035	0.9300	1.0700	0.9533	1.0537	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8229	1.0147	0.9300	1.0700	0.9640	1.0655	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.8590	1.0054	0.9300	1.0700	0.9551	1.0557	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.8128	1.0273	0.9300	1.0700	0.9759	1.0786	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8937	0.9866	0.9300	1.0700	0.9372	1.0359	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8158	1.0116	0.9300	1.0700	0.9610	1.0621	LD	9048	D: 6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	Voltdro p	Voltrise e	Viol	Ncon	Contingency Description
314375	6CORRCTN	230.0	345	354	0.8154	1.0120	0.9300	1.0700	0.9614	1.0626	LD	9048	D:6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.9134	1.0042	0.9300	1.0700	0.9540	1.0544	LD	9048	D:6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.9132	1.0040	0.9300	1.0700	0.9538	1.0542	LD	9048	D:6HAYES -6YORKTWN1 +6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9109	1.0273	0.9300	1.0700	0.9759	1.0786	LD	9065	D:6HAYES -6YORKTWN1 +6LANEXA -6LANEX 11
314180	6HAYES	230.0	345	354	0.9177	1.0273	0.9300	1.0700	0.9759	1.0786	LD	9066	D:6HAYES -6YORKTWN1 +3LEBAN58-3YNWS 581
314180	6HAYES	230.0	345	354	0.9179	1.0273	0.9300	1.0700	0.9759	1.0786	LD	9311	D:6HAYES -6YORKTWN1 +3YORKTWN-1YORKTWN1
314181	3NORNECK	115.0	345	354	0.9078	1.0073	0.9300	1.0700	0.9569	1.0576	LD	9316	D:3NORNECK-6NORNECK1 +3NORNECK-6NORNECK2
314176	6HARMONY	230.0	345	354	0.9092	1.0147	0.9300	1.0700	0.9640	1.0655	LD	10491	D:3SHACKLE-3WEST PT1 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.9043	1.0116	0.9300	1.0700	0.9610	1.0621	LD	10491	D:3SHACKLE-3WEST PT1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8644	1.0147	0.9300	1.0700	0.9610	1.0655	LD	10513	D:3SHACKLE-3WEST PT1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8578	1.0116	0.9300	1.0700	0.9610	1.0621	LD	10513	D:3SHACKLE-3WEST PT1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8574	1.0120	0.9300	1.0700	0.9614	1.0626	LD	10513	D:3SHACKLE-3WEST PT1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8631	1.0147	0.9300	1.0700	0.9610	1.0655	LD	10781	D:3WEST PT-3LANEXA 1 +6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8579	1.0116	0.9300	1.0700	0.9610	1.0621	LD	10781	D:3WEST PT-3LANEXA 1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8458	1.0147	0.9300	1.0700	0.9610	1.0655	LD	10803	D:3WEST PT-3LANEXA 1 +6CORRCTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.9181	0.9866	0.9300	1.0700	0.9372	1.0359	LD	10803	D:3WEST PT-3LANEXA 1 +6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8590	1.0116	0.9300	1.0700	0.9610	1.0621	LD	10803	D:3WEST PT-3LANEXA 1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8386	1.0120	0.9300	1.0700	0.9614	1.0626	LD	10803	D:3WEST PT-3LANEXA 1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9199	1.0120	0.9300	1.0700	0.9614	1.0626	LD	17224	D:6CORRCTN-6LANEXA 1 +6NP NEWS-6PEMBROK1
314375	6CORRCTN	230.0	345	354	0.9198	1.0120	0.9300	1.0700	0.9614	1.0626	LD	17226	D:6CORRCTN-6LANEXA 1 +6PEMBROK-6SHELBNK1
314399	6PEMBROK	230.0	345	356	0.9041	1.0207	0.9300	1.0700	0.9697	1.0717	LD	24063	D:6NP NEWS-6PEMBROK1 +6PENINSI-6SHELBNK1
314407	6SHELBNK	230.0	345	356	0.8778	1.0178	0.9300	1.0700	0.9697	1.0716	LD	24069	D:6NP NEWS-6PEMBROK1 +6TABB -6YORKTWN1
314402	6PENINSI	230.0	345	356	0.8804	1.0205	0.9300	1.0700	0.9695	1.0716	LD	24069	D:6NP NEWS-6PEMBROK1 +6TABB -6YORKTWN1
314407	6SHELBNK	230.0	345	356	0.8778	1.0178	0.9300	1.0700	0.9695	1.0716	LD	24069	D:6NP NEWS-6PEMBROK1 +6TABB -6YORKTWN1
314409	6TABB	230.0	345	356	0.8787	1.0216	0.9300	1.0700	0.9705	1.0727	LD	24069	D:6NP NEWS-6PEMBROK1 +6TABB -6YORKTWN1
314407	6SHELBNK	230.0	345	356	0.9035	1.0178	0.9300	1.0700	0.9695	1.0716	LD	24540	D:6PEMBROK-6SHELBNK1 +6PENINSI-6SHELBNK1
314402	6PENINSI	230.0	345	356	0.8800	1.0205	0.9300	1.0700	0.9695	1.0716	LD	24546	D:6PEMBROK-6SHELBNK1 +6TABB -6YORKTWN1
314407	6SHELBNK	230.0	345	356	0.8774	1.0178	0.9300	1.0700	0.9695	1.0716	LD	24546	D:6PEMBROK-6SHELBNK1 +6TABB -6YORKTWN1
314409	6TABB	230.0	345	356	0.8784	1.0216	0.9300	1.0700	0.9705	1.0727	LD	24546	D:6PEMBROK-6SHELBNK1 +6TABB -6YORKTWN1
314497	6SEWISPT	230.0	345	359	0.8676	1.0081	0.9300	1.0700	0.9576	1.0585	LD	36140	D:6CHRLIND-6SEWISPT1 +6CHRLIND-6SEWISPT2
314500	6NAVYS	230.0	345	359	0.8675	1.0080	0.9300	1.0700	0.9576	1.0584	LD	36140	D:6CHRLIND-6SEWISPT1 +6CHRLIND-6SEWISPT2
314501	6NAVYS1	230.0	345	359	0.8675	1.0080	0.9300	1.0700	0.9576	1.0584	LD	36140	D:6CHRLIND-6SEWISPT1 +6CHRLIND-6SEWISPT2
314505	6NAVYN	230.0	345	359	0.8674	1.0079	0.9300	1.0700	0.9575	1.0583	LD	36140	D:6CHRLIND-6SEWISPT1 +6CHRLIND-6SEWISPT2
314510	6NAVYN1	230.0	345	359	0.8674	1.0079	0.9300	1.0700	0.9575	1.0583	LD	36140	D:6CHRLIND-6SEWISPT1 +6CHRLIND-6SEWISPT2
314135	3CHANCE	115.0	345	363	0.9111	1.0059	0.9300	1.0700	0.9556	1.0562	LD	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314367	3CHANC 1	115.0	345	363	0.9117	1.0066	0.9300	1.0700	0.9562	1.0569	LD	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314775	3NI RVER	115.0	345	363	0.9114	1.0027	0.9300	1.0700	0.9526	1.0529	LD	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314779	3JTDVARN	115.0	345	363	0.9161	0.9943	0.9300	1.0700	0.9446	1.0441	LD	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314780	3WILDRNS	115.0	345	363	0.9180	0.9779	0.9300	1.0700	0.9290	1.0268	LD	51280	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314348	2GRNTN 1	69.0	345	358	0.7899	1.0092	0.9300	1.0700	0.9578	1.0586	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314354	2ALTVS 1	69.0	345	358	0.8212	1.0273	0.9300	1.0700	0.9759	1.0787	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314515	3ALTVS 1	115.0	345	358	0.8493	0.9992	0.9300	1.0700	0.9492	1.0491	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	Voltris e	Viol	Ncon	Contingency Description
314666	3ALTUVSTA	115.0	345	358	0.8289	0.9987	0.9300	1.0700	0.9487	1.0486 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314667	4ALTUVSTA	138.0	345	358	0.8070	0.9957	0.9300	1.0700	0.9459	1.0455 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314668	4BANISTR	138.0	345	358	0.8697	0.9909	0.9300	1.0700	0.9413	1.0404 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314670	2ALTUVSTA	69.0	345	358	0.8210	1.0270	0.9300	1.0700	0.9757	1.0784 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314671	4BEARSKN	138.0	345	358	0.8543	0.9932	0.9300	1.0700	0.9436	1.0429 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314680	2CHATHAM	69.0	345	358	0.7754	0.9952	0.9300	1.0700	0.9454	1.0456 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314685	2CHATH TP	69.0	345	358	0.7761	0.9958	0.9300	1.0700	0.9460	1.0456 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314689	3DOMINIO	115.0	345	358	0.7999	0.9910	0.9300	1.0700	0.9415	1.0406 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314694	3GRIT	115.0	345	358	0.8343	0.9999	0.9300	1.0700	0.9499	1.0498 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314700	3HALL BR	115.0	345	358	0.8210	0.9992	0.9300	1.0700	0.9492	1.0491 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314705	3HURT	115.0	345	358	0.8245	1.0000	0.9300	1.0700	0.9500	1.0500 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314712	3OTTER R	115.0	345	358	0.8210	0.9984	0.9300	1.0700	0.9485	1.0463 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314714	3PERTH	115.0	345	358	0.8905	1.0066	0.9300	1.0700	0.9563	1.0570 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314727	2CLMX DP	69.0	345	358	0.7724	0.9925	0.9300	1.0700	0.9428	1.0421 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314728	2CLMX TP	69.0	345	358	0.7732	0.9932	0.9300	1.0700	0.9436	1.0429 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314729	2GLADYS	69.0	345	358	0.7944	1.0043	0.9300	1.0700	0.9541	1.0545 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314730	2GLDY TP	69.0	345	358	0.8163	1.0239	0.9300	1.0700	0.9727	1.0751 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314731	2GREINA	69.0	345	358	0.7897	1.0079	0.9300	1.0700	0.9576	1.0583 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314732	2GRNA FB	69.0	345	358	0.7897	1.0079	0.9300	1.0700	0.9576	1.0583 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314733	2GRNA DP	69.0	345	358	0.7876	1.0060	0.9300	1.0700	0.9557	1.0564 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314734	2KLOP DP	69.0	345	358	0.8099	1.0197	0.9300	1.0700	0.9687	1.0706 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314735	2KLOP TP	69.0	345	358	0.8099	1.0197	0.9300	1.0700	0.9687	1.0706 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314736	2SHKO DP	69.0	345	358	0.7759	0.9956	0.9300	1.0700	0.9459	1.0454 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314737	2SW35T57	69.0	345	358	0.7982	1.0126	0.9300	1.0700	0.9620	1.0633 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314738	2MT AIRY	69.0	345	358	0.7927	1.0068	0.9300	1.0700	0.9565	1.0572 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314739	2MT A TP	69.0	345	358	0.7982	1.0126	0.9300	1.0700	0.9620	1.0633 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314740	2ALTUVS75	69.0	345	358	0.8210	1.0270	0.9300	1.0700	0.9757	1.0784 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314789	2BEARSKN	69.0	345	358	0.8543	0.9932	0.9300	1.0700	0.9436	1.0429 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314836	3BALCFILS	115.0	345	365	0.3172	0.9990	0.9300	1.0700	0.9490	1.0489 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314837	3BUENA V	115.0	345	365	0.3162	0.9982	0.9300	1.0700	0.9483	1.0481 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314838	3BUSTLEB	115.0	345	365	0.3233	1.0024	0.9300	1.0700	0.9523	1.0525 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314839	3BUSTL T	115.0	345	365	0.3236	1.0026	0.9300	1.0700	0.9525	1.0527 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314840	3CLFTN F	230.0	345	365	0.3012	0.9793	0.9300	1.0700	0.9303	1.0283 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314841	4CLFTN F	138.0	345	365	0.3023	1.0349	0.9300	1.0700	0.9831	1.0866 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314842	4CONWGT2	138.0	345	365	0.2823	1.0246	0.9300	1.0700	0.9734	1.0759 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314843	4CONWGT1	138.0	345	365	0.2796	1.0228	0.9300	1.0700	0.9717	1.0739 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314844	3CRAIGSV	115.0	345	365	0.3270	0.9987	0.9300	1.0700	0.9488	1.0487 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314845	3EFFINGR	115.0	345	365	0.3217	1.0020	0.9300	1.0700	0.9519	1.0511 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314846	3FAIRFLD	115.0	345	365	0.3220	1.0016	0.9300	1.0700	0.9515	1.0517 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314847	4FUDGE H	138.0	345	365	0.2765	1.0208	0.9300	1.0700	0.9697	1.0718 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314848	3GLASGOW	115.0	345	365	0.3348	1.0000	0.9300	1.0700	0.9500	1.0500 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314849	3GOSHEN	115.0	345	365	0.3489	1.0000	0.9300	1.0700	0.9500	1.0500 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314851	3JAMES L	115.0	345	365	0.3458	0.9980	0.9300	1.0700	0.9481	1.0480 LD		51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLimi t	UplLimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314852	3JMS L T	115.0	345	365	0.3264	0.9985	0.9300	1.0700	0.9485	1.0484	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314853	3LEXNGTN	115.0	345	365	0.3249	1.0034	0.9300	1.0700	0.9533	1.0536	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314854	6LEXNGT1	230.0	345	365	0.3307	0.9915	0.9300	1.0700	0.9419	1.0411	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314855	6LOWMOOR	230.0	345	365	0.2997	0.9789	0.9300	1.0700	0.9300	1.0278	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314856	6LEXNGT2	230.0	345	365	0.3306	0.9915	0.9300	1.0700	0.9420	1.0411	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314857	4LOWMOOR	138.0	345	365	0.2944	1.0325	0.9300	1.0700	0.9809	1.0841	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314858	3ROCKB T	115.0	345	365	0.3182	0.9992	0.9300	1.0700	0.9492	1.0492	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314859	4WSTVACO	138.0	345	365	0.2730	1.0184	0.9300	1.0700	0.9674	1.0693	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314860	4E MILL	138.0	345	365	0.2738	1.0189	0.9300	1.0700	0.9680	1.0699	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314861	3SKIMMER	115.0	345	365	0.7444	0.9728	0.9300	1.0700	0.9241	1.0214	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314894	4LOWMO 1	138.0	345	365	0.2942	1.0330	0.9300	1.0700	0.9814	1.0847	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314901	8BATH CO	500.0	345	366	0.3523	1.0500	0.9300	1.0700	0.9975	1.1025	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314912	8LEXNGTN	500.0	345	366	0.3656	1.0468	0.9300	1.0700	0.9945	1.0992	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315165	1HURT 1	13.8	345	358	0.8577	1.0030	0.9300	1.0700	0.9528	1.0531	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315166	1HURT 2	13.8	345	358	0.8577	1.0030	0.9300	1.0700	0.9528	1.0531	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315201	1BATH 1A	20.5	345	366	0.3603	1.0326	0.9300	1.0700	0.9810	1.0842	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315202	1BATH 2B	20.5	345	366	0.3683	1.0326	0.9300	1.0700	0.9810	1.0842	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315203	1BATH 3C	20.5	345	366	0.3684	1.0322	0.9300	1.0700	0.9806	1.0838	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315204	1BATH 4D	20.5	345	366	0.3602	1.0323	0.9300	1.0700	0.9807	1.0839	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315205	1BATH 5E	20.5	345	366	0.3604	1.0326	0.9300	1.0700	0.9810	1.0843	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
315206	1BATH 6F	20.5	345	366	0.3594	1.0327	0.9300	1.0700	0.9810	1.0843	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
8S0510	BATH 3W1	1.0	345	366	0.3450	1.0245	0.9300	1.0700	0.9732	1.0757	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
8S0511	BATH 3W3	1.0	345	366	0.3406	1.0228	0.9300	1.0700	0.9716	1.0739	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
8S0512	BATH 3W5	1.0	345	366	0.3405	1.0233	0.9300	1.0700	0.9721	1.0744	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
8S1090	HURT 3WD	1.0	345	358	0.8259	1.0000	0.9300	1.0700	0.9500	1.0500	LD	51504	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTN1
314135	3CHANCE	115.0	345	363	0.9117	1.0059	0.9300	1.0700	0.9556	1.0562	LD	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314367	3CHANC 1	115.0	345	363	0.9123	1.0066	0.9300	1.0700	0.9562	1.0569	LD	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314775	3NI RVER	115.0	345	363	0.9120	1.0027	0.9300	1.0700	0.9526	1.0529	LD	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314779	3TUTAVRN	115.0	345	363	0.9167	0.9943	0.9300	1.0700	0.9446	1.0441	LD	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314780	3WILDORNS	115.0	345	363	0.9185	0.9779	0.9300	1.0700	0.9290	1.0268	LD	54156	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2

CATEGORY D

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- MON, MAR 04 2013 17:36 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\2015 Category D.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 99.0 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314682	3BUGGS I	115	315151 1BUGGS 2	13.8	TR	69.9	69.9	70.0	99.8	**	Base Case **
313818	6BENCHRCH	230	314398 6NP NEWS	230	LN	722.4	305.7	672.0	107.5	1	ROW 436
313818	6BENCHRCH	230	314522 6CHCKTUK	230	LN	749.6	332.1	672.0	111.5	1	ROW 436
314398	6NP NEWS	230	314399 6PEMBROK	230	LN	591.9	188.7	549.0	107.8	1	ROW 436
314399	6PEMBROK	230	314407 6SHELBNK	230	LN	591.9	188.9	549.0	107.8	1	ROW 436
314421	6WINCHST	230	314540 6POOLSVL	230	LN	695.0	360.5	650.0	106.9	1	ROW 436
314278	6BERMUDA	230	314286 6CHSTF A	230	LN	750.6	112.6	541.0	138.7	4	ROW 567
314278	6BERMUDA	230	314303 6HOPEWLL	230	LN	750.8	112.8	549.0	136.8	4	ROW 567
314287	6CHSTF B	230	314303 6HOPEWLL	230	LN	612.0	22.4	549.0	111.5	4	ROW 567
313818	6BENCHRCH	230	314398 6NP NEWS	230	LN	686.0	305.7	672.0	102.1	6	Chickahominy
313818	6BENCHRCH	230	314522 6CHCKTUK	230	LN	713.2	332.1	672.0	106.1	6	Chickahominy
314252	3TURNR92	115	314284 3CHSTFLD	115	LN	259.2	90.8	249.0	104.1	6	Chickahominy
314398	6NP NEWS	230	314399 6PEMBROK	230	LN	557.8	188.7	549.0	101.6	6	Chickahominy
314399	6PEMBROK	230	314407 6SHELBNK	230	LN	557.9	188.9	549.0	101.6	6	Chickahominy
314421	6WINCHST	230	314540 6POOLSVL	230	LN	662.5	360.5	650.0	101.9	6	Chickahominy

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- MON, MAR 04 2013 17:36 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013Lf)_wpre No Gen Ret.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vspsys.mon
Contin.File X:\S2021\2015 Category D.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314176	GHARMONY	230.0	345	354	0.8689	1.0147	0.9300	1.0700	0.9640	1.0655	LD	7	Lanexa
314189	GPAPERMIT	230.0	345	354	0.8623	1.0116	0.9300	1.0700	0.9610	1.0621	LD	7	Lanexa
314375	ECORRECTN	230.0	345	354	0.8619	1.0120	0.9300	1.0700	0.9614	1.0626	LD	7	Lanexa

CATEGORY B

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AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 11:31 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET CSC NO SURRY 500 KV
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSC No Surry500kv.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contn.File X:\S2021\vapsys.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314123	3WELGTH	115	314141	3LIBERTY	115	1	LN	171.3	180.0	95.2	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314029	6DUMFRES	230	314074	6POSSUM	230	1	LN	672.2	705.0	95.3	160	314057 6LAKERD 230 314074 6POSSUM 230 1
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	LN	246.4	262.0	94.0	406	314232 6NO ANNA 230 314766 6LOUISA 230 1
314756	3DOUBLDY	115	314769	3ORANGE	115	1	LN	249.0	262.0	95.0	1102	314766 6LOUISA 230 314777 6S ANNA 230 1
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	LN	252.1	262.0	96.2	1102	314766 6LOUISA 230 314777 6S ANNA 230 1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 11:32 <VOW003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET CSC NO SURRY 500 KV

Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSC No Surry500KV.sav

Subsys.File X:\S2021\sub

MonIt.File X:\S2021\wpsys.mon

ContIn.File X:\S2021\Vapsys.con

Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.9407	0.9927	0.9300	1.0700	0.9430	1.0423 D		16	313810 6DAHLGREN 230 314131 6ARNOLDS 230 1
314014	3CANNONB	115.0	345	353	0.8435	0.9976	0.9300	1.0700	0.9477	1.0475 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9058	0.9977	0.9300	1.0700	0.9479	1.0476 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOMA172	115.0	345	353	0.9160	0.9656	0.9300	1.0700	0.9173	1.0138 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.9356	1.0033	0.9300	1.0700	0.9532	1.0335 D		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8438	0.9967	0.9300	1.0700	0.9469	1.0465 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.9254	0.9972	0.9300	1.0700	0.9473	1.0470 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLSN	115.0	345	353	0.9284	0.9680	0.9300	1.0700	0.9196	1.0164 L		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.9306	0.9996	0.9300	1.0700	0.9479	1.0476 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MCR172	115.0	345	353	0.9166	0.9656	0.9300	1.0700	0.9173	1.0139 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MCR197	115.0	345	353	0.8438	0.9962	0.9300	1.0700	0.9464	1.0460 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANBR T	115.0	345	353	0.8437	0.9969	0.9300	1.0700	0.9470	1.0467 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GOW172	115.0	345	353	0.9211	0.9666	0.9300	1.0700	0.9183	1.0149 L		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GOW197	115.0	345	353	0.8441	0.9960	0.9300	1.0700	0.9462	1.0458 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.9254	0.9972	0.9300	1.0700	0.9473	1.0470 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9059	0.9978	0.9300	1.0700	0.9479	1.0476 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.9306	0.9996	0.9300	1.0700	0.9479	1.0476 LD		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.9356	1.0033	0.9300	1.0700	0.9532	1.0335 D		75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9352	0.9977	0.9300	1.0700	0.9479	1.0476 D		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314049	3LOMA172	115.0	345	353	0.9290	0.9656	0.9300	1.0700	0.9173	1.0138 L		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314051	3LOMA197	115.0	345	353	0.8769	0.9967	0.9300	1.0700	0.9469	1.0465 LD		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314147	3MCR172	115.0	345	353	0.9295	0.9656	0.9300	1.0700	0.9173	1.0139 L		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314148	3MCR197	115.0	345	353	0.8768	0.9962	0.9300	1.0700	0.9464	1.0460 LD		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314155	3CANBR T	115.0	345	353	0.8769	0.9969	0.9300	1.0700	0.9470	1.0467 LD		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9352	0.9978	0.9300	1.0700	0.9462	1.0458 LD		76	314014 3CANNONB 115 314155 3CANBR T 115 1
314025	1 TX500	13.2	345	353	0.8769	0.9977	0.9300	1.0700	0.9479	1.0476 D		102	314025 1 TX500 13.2 314148 3MCR197 115 1
314160	1 TX503	13.2	345	353	0.8969	0.9978	0.9300	1.0700	0.9479	1.0476 LD		102	314025 1 TX500 13.2 314148 3MCR197 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowVlimi t	UpplVlimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314160	1 TX503	13.2	345	353	1.0809	0.9978	0.9300	1.0700	0.9479	1.0476	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314051	3LOMA197	115.0	345	353	0.9347	0.9967	0.9300	1.0700	0.9469	1.0465	D	152	314051 3LOMA197 115 314155 3CANBR T 115 1
314114	31MINNDL	115.0	345	353	0.9272	0.9900	0.9300	1.0700	0.9405	1.0395	LD	186	314068 60X 230 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9256	0.9925	0.9300	1.0700	0.9429	1.0422	LD	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9257	1.0020	0.9300	1.0700	0.9519	1.0521	LD	186	314068 60X 230 314167 30X 115 1
314114	31MINNDL	115.0	345	353	0.9323	0.9900	0.9300	1.0700	0.9405	1.0395	D	261	314118 3MINNIEV 115 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9306	0.9925	0.9300	1.0700	0.9429	1.0422	D	261	314118 3MINNIEV 115 314167 30X 115 1
314122	3SOMEGO	115.0	345	353	0.9316	1.0003	0.9300	1.0700	0.9503	1.0504	D	265	314122 3SOMEGO 115 314156 3BRISTER 115 1
314049	3LOMA172	115.0	345	353	0.8942	0.9656	0.9300	1.0700	0.9173	1.0138	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8949	0.9680	0.9300	1.0700	0.9196	1.0164	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3MICR172	115.0	345	353	0.8940	0.9656	0.9300	1.0700	0.9173	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3COMW172	115.0	345	353	0.8935	0.9666	0.9300	1.0700	0.9183	1.0149	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3SOMEGO	115.0	345	353	0.9322	1.0003	0.9300	1.0700	0.9503	1.0504	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314156	3BRISTER	115.0	345	353	0.9322	1.0042	0.9300	1.0700	0.9540	1.0544	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
313810	6DAHLGREN	230.0	345	354	0.9344	0.9927	0.9300	1.0700	0.9430	1.0423	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9339	0.9968	0.9300	1.0700	0.9469	1.0466	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314139	6OAKGROV	230.0	345	354	0.9419	0.9935	0.9300	1.0700	0.9438	1.0432	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
313810	6DAHLGREN	230.0	345	354	0.9298	0.9927	0.9300	1.0700	0.9430	1.0423	LD	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9290	0.9968	0.9300	1.0700	0.9469	1.0466	LD	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314139	6OAKGROV	230.0	345	354	0.9379	0.9935	0.9300	1.0700	0.9438	1.0432	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9289	0.9974	0.9300	1.0700	0.9475	1.0473	LD	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314190	6WESTHOR	230.0	345	354	0.9429	0.9934	0.9300	1.0700	0.9437	1.0430	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314049	3LOMA172	115.0	345	353	0.8944	0.9656	0.9300	1.0700	0.9173	1.0138	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8921	0.9680	0.9300	1.0700	0.9196	1.0164	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	353	0.8921	0.9692	0.9300	1.0700	0.9207	1.0176	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MICR172	115.0	345	353	0.8941	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3COMW172	115.0	345	353	0.8934	0.9666	0.9300	1.0700	0.9183	1.0149	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314775	3NI RVER	115.0	345	363	0.9353	1.0028	0.9300	1.0700	0.9526	1.0529	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314779	3TDATVRN	115.0	345	363	0.9379	0.9943	0.9300	1.0700	0.9446	1.0440	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3SLABTWN	115.0	345	355	0.9466	1.0029	0.9300	1.0700	0.9528	1.0531	D	286	314136 3FREDRGR 115 314151 3SLABTWN 115 1
314025	1 TX500	13.2	345	353	0.9441	0.9977	0.9300	1.0700	0.9479	1.0476	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314148	3MICR197	115.0	345	353	0.8912	0.9962	0.9300	1.0700	0.9464	1.0460	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314158	3COMW197	115.0	345	353	0.8814	0.9960	0.9300	1.0700	0.9462	1.0458	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9441	0.9978	0.9300	1.0700	0.9479	1.0476	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314180	3GRAYES	230.0	345	354	0.9642	1.0271	0.9300	1.0700	0.9757	1.0754	D	328	314180 3GRAYES 230 314423 6YORKTWN 230 1
314207	6OAK GRE	230.0	345	363	0.9393	0.9981	0.9300	1.0700	0.9482	1.0480	D	352	314207 6OAK GRE 230 314232 6NO ANNA 230 1
314259	3CAR56 1	115.0	345	362	1.1473	1.0218	0.9300	1.0700	0.9707	1.0728	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314266	3HANSOSM	115.0	345	360	1.0759	1.0244	0.9300	1.0700	0.9732	1.0757	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314534	3S HAMPT	115.0	345	360	1.0738	1.0264	0.9300	1.0700	0.9750	1.0777	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314541	3WATKINS	115.0	345	360	1.0737	1.0274	0.9300	1.0700	0.9760	1.0788	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314558	3BOYKINS	115.0	345	362	1.0810	1.0201	0.9300	1.0700	0.9691	1.0711	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314587	3MARTSV	115.0	345	362	1.1043	1.0192	0.9300	1.0700	0.9683	1.0702	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314604	3SEABORD	115.0	345	362	1.1158	1.0190	0.9300	1.0700	0.9680	1.0699	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314826	3WATKI 1	115.0	345	360	1.0743	1.0279	0.9300	1.0700	0.9765	1.0793	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314827	3WATKI 2	115.0	345	360	1.0743	1.0279	0.9300	1.0700	0.9765	1.0793	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314835	3CAROL 1	115.0	345	362	1.1485	1.0228	0.9300	1.0700	0.9717	1.0739	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1

Bus #	Bus Name	KV	A-area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315083	ISPRUNCA	13.8	345	357	1.0438	0.9882	0.9300	1.0700	0.9388	1.0376	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
315085	ISPRUNCC	13.8	345	357	1.0209	0.9898	0.9300	1.0700	0.9403	1.0393	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
314680	2CHATHAM	69.0	345	358	0.9438	0.9939	0.9300	1.0700	0.9442	1.0436	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314685	2CWM TP	69.0	345	358	0.9444	0.9945	0.9300	1.0700	0.9448	1.0442	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLMCK DP	69.0	345	358	0.9409	0.9912	0.9300	1.0700	0.9415	1.0407	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMCK TP	69.0	345	358	0.9417	0.9919	0.9300	1.0700	0.9423	1.0415	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9443	0.9943	0.9300	1.0700	0.9446	1.0441	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314379	3FEU558	115.0	345	356	0.9325	0.9918	0.9300	1.0700	0.9422	1.0413	D	604	314379 3FEU558 115 314382 3GRAFT58 115 1
314384	3KINGS M	115.0	345	356	0.9368	0.9863	0.9300	1.0700	0.9370	1.0357	D	604	314379 3FEU558 115 314382 3GRAFT58 115 1
314389	3LEBAN58	115.0	345	356	0.9325	0.9890	0.9300	1.0700	0.9396	1.0385	D	604	314379 3FEU558 115 314382 3GRAFT58 115 1
314424	3YNMS 58	115.0	345	356	0.9332	0.9882	0.9300	1.0700	0.9388	1.0376	D	604	314379 3FEU558 115 314382 3GRAFT58 115 1
314384	3KINGS M	115.0	345	356	0.9366	0.9863	0.9300	1.0700	0.9370	1.0357	D	605	314379 3FEU558 115 314389 3LEBAN58 115 1
314389	3LEBAN58	115.0	345	356	0.9323	0.9890	0.9300	1.0700	0.9396	1.0385	D	605	314379 3FEU558 115 314389 3LEBAN58 115 1
314424	3YNMS 58	115.0	345	356	0.9330	0.9882	0.9300	1.0700	0.9388	1.0376	D	605	314379 3FEU558 115 314389 3LEBAN58 115 1
314379	3FEU558	115.0	345	356	0.9331	0.9918	0.9300	1.0700	0.9422	1.0413	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314382	3GRAFT58	115.0	345	356	0.9331	0.9918	0.9300	1.0700	0.9491	1.0490	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314389	3LEBAN58	115.0	345	356	0.9330	0.9890	0.9300	1.0700	0.9396	1.0385	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314424	3YNMS 58	115.0	345	356	0.9332	0.9882	0.9300	1.0700	0.9388	1.0376	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
315111	11KKNKA	13.8	345	359	0.9932	0.9437	0.9300	1.0700	0.8965	0.9909	R	674	314444 6BOWERS 230 314453 6CHRHLD 230 1
315112	11KKNGB	13.8	345	359	0.9932	0.9437	0.9300	1.0700	0.8965	0.9909	R	674	314444 6BOWERS 230 314453 6CHRHLD 230 1
315111	11KKNKA	13.8	345	359	0.9930	0.9437	0.9300	1.0700	0.8965	0.9909	R	701	314453 6CHRHLD 230 314653 6CHRH 1 230 1
315112	11KKNGB	13.8	345	359	0.9930	0.9437	0.9300	1.0700	0.8965	0.9909	R	701	314453 6CHRHLD 230 314653 6CHRH 1 230 1
314527	3HOLLAND	115.0	345	360	1.0651	1.0140	0.9300	1.0700	0.9633	1.0647	R	802	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314524	3FRANKIN	115.0	345	360	1.0781	1.0260	0.9300	1.0700	0.9747	1.0773	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3UNCAMP	115.0	345	360	1.0741	1.0264	0.9300	1.0700	0.9750	1.0777	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0828	1.0254	0.9300	1.0700	0.9742	1.0767	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0764	1.0274	0.9300	1.0700	0.9760	1.0788	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP 1	115.0	345	360	1.0825	1.0261	0.9300	1.0700	0.9748	1.0774	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0769	1.0279	0.9300	1.0700	0.9765	1.0793	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0769	1.0279	0.9300	1.0700	0.9765	1.0793	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314578	3HORNKTN	115.0	345	362	0.9649	1.0165	0.9300	1.0700	0.9656	1.0673	D	852	314539 3CAROLNA 115 314578 3HORNKTN 115 1
314516	3BRUNS 1	115.0	345	358	1.0716	1.0080	0.9300	1.0700	0.9576	1.0584	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314565	3CLBHS71	115.0	345	362	1.0946	1.0034	0.9300	1.0700	0.9532	1.0535	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314675	3BRODNAX	115.0	345	358	1.0614	1.0055	0.9300	1.0700	0.9553	1.0558	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314676	3BRUNS#K	115.0	345	358	1.0722	1.0075	0.9300	1.0700	0.9572	1.0579	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314693	3FRMAN D	115.0	345	358	1.0858	1.0049	0.9300	1.0700	0.9546	1.0551	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314704	3LAWRENC	115.0	345	358	1.0764	1.0066	0.9300	1.0700	0.9563	1.0563	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314782	2BRUNSWC	69.0	345	358	1.0930	1.0274	0.9300	1.0700	0.9760	1.0788	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314785	2DANITWN	69.0	345	358	1.0394	0.9735	0.9300	1.0700	0.9248	1.0222	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314786	2GASBUSH	69.0	345	358	1.0773	1.0106	0.9300	1.0700	0.9601	1.0612	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314787	2BRUNS#2	69.0	345	358	1.0640	0.9999	0.9300	1.0700	0.9499	1.0499	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314872	3CLBUS 1	115.0	345	362	1.0951	1.0039	0.9300	1.0700	0.9537	1.0541	HR	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314872	3BRUNSWC	69.0	345	358	1.0541	0.9861	0.9300	1.0700	0.9368	1.0354	R	861	314562 3CLUBHSE 115 314565 3CLHSH71 115 21
314576	3FIVE PT	115.0	345	362	1.0316	0.9816	0.9300	1.0700	0.9326	1.0307	R	891	314576 3FIVE PT 115 314592 3PANTEGO 115 1
313830	3CHRWAK 1	115.0	345	361	1.0858	1.0420	0.9300	1.0700	0.9899	1.0941	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314634	3COLNGWN	115.0	345	361	1.0316	0.9300	1.0700	1.0700	0.9800	1.0832	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	Voltdro P	Voltrise	Viol	Ncon	Contingency Description
314635	3COLNGTP	115.0	345	361	1.0960	1.0318	0.9300	1.0700	0.9802	1.0834	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314636	3COLNG2	115.0	345	361	1.1013	1.0368	0.9300	1.0700	0.9849	1.0886	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0853	1.0415	0.9300	1.0700	0.9894	1.0936	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0853	1.0415	0.9300	1.0700	0.9894	1.0936	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0862	1.0425	0.9300	1.0700	0.9903	1.0946	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314829	3COLIN 1	115.0	345	361	1.1018	1.0373	0.9300	1.0700	0.9854	1.0892	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314830	3COLING 1	115.0	345	361	1.0769	1.0321	0.9300	1.0700	0.9805	1.0837	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315146	1KITTYHKA	13.8	345	361	1.0853	1.0415	0.9300	1.0700	0.9894	1.0936	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315147	1KITTYHKB	13.8	345	361	1.0863	1.0426	0.9300	1.0700	0.9904	1.0947	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1162	KITT 3M4	1.0	345	361	1.0853	1.0415	0.9300	1.0700	0.9894	1.0936	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1163	KITT 3M5	1.0	345	361	1.0863	1.0426	0.9300	1.0700	0.9904	1.0947	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0765	1.0069	0.9300	1.0700	0.9566	1.0573	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0763	1.0067	0.9300	1.0700	0.9563	1.0570	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW35T57	69.0	345	358	1.0664	1.0114	0.9300	1.0700	0.9608	1.0619	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0620	1.0056	0.9300	1.0700	0.9553	1.0558	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0664	1.0114	0.9300	1.0700	0.9608	1.0619	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0697	1.0069	0.9300	1.0700	0.9566	1.0573	R	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0694	1.0067	0.9300	1.0700	0.9563	1.0570	R	1053	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9396	0.9977	0.9300	1.0700	0.9478	1.0476	D	1062	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9422	1.0033	0.9300	1.0700	0.9531	1.0534	D	1105	314768 3MITCHEL 115 314815 30AK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9432	0.9979	0.9300	1.0700	0.9480	1.0478	D	1197	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9268	0.9776	0.9300	1.0700	0.9287	1.0265	LD	1200	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	IN ANNA2	22.0	345	366	1.0720	1.0608	0.9300	1.0700	1.0078	1.1138	H	1212	314897 8MORAS 1 500 314916 8MORASVL 500 1
315218	1CUNINGC	18.0	345	366	1.0715	1.0663	0.9300	1.0700	1.0130	1.1197	H	1221	3Wnd: OPEN B50511 BATH 3W3 1
315218	1CUNINGC	18.0	345	366	1.0715	1.0663	0.9300	1.0700	1.0130	1.1197	H	1222	3Wnd: OPEN B50512 BATH 3W5 1
315226	IN ANNA2	22.0	345	366	1.0703	1.0608	0.9300	1.0700	1.0078	1.1138	H	1272	235105 01DOUBS 500 314917 8MT STM 500 1
315226	IN ANNA2	22.0	345	366	1.0722	1.0608	0.9300	1.0700	1.0078	1.1138	H	1274	235110 01MDWBK 500 314913 8LOUCOON 500 1

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 10:20 < UDF000.0 >
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET CSC NO SURRY 500 KV

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 10:18 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET CSC NO SURRY 500 KV
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSC No Surry500kv.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314756	3DOUBLDY	115	314769 3ORANGE	115	1	LN	248.0	138.1	262.0	94.7	224 LN 255	
314756	3DOUBLDY	115	314776 3SOMRSET	115	1	LN	251.2	141.3	262.0	95.9	224 LN 255	
314123	3WELLGTN	115	314141 3LIBERTY	115	1	LN	172.1	84.2	180.0	95.6	322 LN 2011	

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 10:19 <VOW003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET CSC NO SURRY 500 KV
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSC No Surry500kv.sav
Subsys.File X:\S2021\wvp.sub
Monit.File X:\S2021\wapsys.mon
Contn.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	OppLim t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314524	3FRNKLN	115.0	345	360	1.0783	1.0260	0.9300	1.0700	0.9747	1.0773	HR	60	LN 68
314534	3S HAMPT	115.0	345	360	1.0744	1.0264	0.9300	1.0700	0.9750	1.0777	H	60	LN 68
314539	3UNCAMP	115.0	345	360	1.0820	1.0254	0.9300	1.0700	0.9742	1.0767	HR	60	LN 68
314541	3WATKINS	115.0	345	360	1.0766	1.0274	0.9300	1.0700	0.9760	1.0788	H	60	LN 68
314824	3UNCAM 1	115.0	345	360	1.0827	1.0261	0.9300	1.0700	0.9748	1.0774	HR	60	LN 68
314826	3WATK1 1	115.0	345	360	1.0771	1.0279	0.9300	1.0700	0.9765	1.0793	H	60	LN 68
314827	3WATK1 2	115.0	345	360	1.0771	1.0279	0.9300	1.0700	0.9765	1.0793	H	60	LN 68
315115	1SHAMPT1	13.8	345	360	1.0458	0.9959	0.9300	1.0700	0.9461	1.0457	R	60	LN 68
314147	3MICR172	115.0	345	353	0.9283	0.9656	0.9300	1.0700	0.9173	1.0139	L	150	LN 172
314348	2GRETN 1	69.0	345	358	1.0697	1.0069	0.9300	1.0700	0.9566	1.0573	R	151	LN 173
314731	2GRETN 1	69.0	345	358	1.0694	1.0067	0.9300	1.0700	0.9563	1.0570	R	151	LN 173
314732	2GRNA FB	69.0	345	358	1.0694	1.0067	0.9300	1.0700	0.9563	1.0570	R	151	LN 173
314874	2LN 174	69.0	345	351	1.0571	1.0018	0.9300	1.0700	0.9517	1.0519	R	152	LN 174
314878	2LN 178	69.0	345	351	1.0570	1.0018	0.9300	1.0700	0.9517	1.0519	R	154	LN 178
314879	2LN 179	69.0	345	351	1.0571	1.0018	0.9300	1.0700	0.9517	1.0519	R	155	LN 179
314880	2LN 180	69.0	345	351	1.0573	1.0018	0.9300	1.0700	0.9517	1.0519	R	156	LN 180
314122	3SOWEGO	115.0	345	353	0.9316	1.0003	0.9300	1.0700	0.9503	1.0504	D	157	LN 181
314025	1 TX500	13.2	345	353	0.9256	0.9977	0.9300	1.0700	0.9479	1.0476	LD	170	LN 197
314049	3LOWAL172	115.0	345	353	0.9284	0.9656	0.9300	1.0700	0.9173	1.0138	L	170	LN 197
314051	3LOWAL197	115.0	345	353	0.8993	0.9667	0.9300	1.0700	0.9469	1.0465	LD	170	LN 197
314147	3MICR172	115.0	345	353	0.9287	0.9656	0.9300	1.0700	0.9173	1.0139	L	170	LN 197
314148	3MICR197	115.0	345	353	0.8626	0.9962	0.9300	1.0700	0.9464	1.0460	LD	170	LN 197
314158	3GOW197	115.0	345	353	0.9150	0.9960	0.9300	1.0700	0.9462	1.0458	LD	170	LN 197
314160	1 TX503	13.2	345	353	0.9257	0.9978	0.9300	1.0700	0.9479	1.0476	LD	170	LN 197
315111	1LKKNKA	13.8	345	359	0.9937	0.9437	0.9300	1.0700	0.8965	0.9909	R	237	LN 267
315112	1LKKNGB	13.8	345	359	0.9937	0.9437	0.9300	1.0700	0.8965	0.9909	R	237	LN 267

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315226	IN ANNA2	22.0	345	366	1.0722	1.0608	0.9300	1.0700	1.0078	1.1138	H	273	LN 535
315226	IN ANNA2	22.0	345	366	1.0703	1.0608	0.9300	1.0700	1.0078	1.1138	H	284	LN 551
315083	ISPRUNCA	13.8	345	357	1.0381	0.9882	0.9300	1.0700	0.9388	1.0376	R	308	LN 576
315085	ISPRUNCC	13.8	345	357	1.0394	0.9898	0.9300	1.0700	0.9403	1.0393	R	308	LN 576
314014	3CANNONB	115.0	345	353	0.8412	0.9976	0.9300	1.0700	0.9477	1.0475	LD	322	LN 2011
314025	1 TX500	13.2	345	353	0.9210	0.9977	0.9300	1.0700	0.9479	1.0476	LD	322	LN 2011
314049	3L0MA172	115.0	345	353	0.9100	0.9656	0.9300	1.0700	0.9173	1.0138	LD	322	LN 2011
314051	3L0MA197	115.0	345	353	0.8415	0.9967	0.9300	1.0700	0.9469	1.0465	LD	322	LN 2011
314123	3WELLGTH	115.0	345	353	0.9225	0.9680	0.9300	1.0700	0.9196	1.0164	L	322	LN 2011
314141	3LIBERTY	115.0	345	353	0.9261	0.9692	0.9300	1.0700	0.9207	1.0176	L	322	LN 2011
314147	3MICR172	115.0	345	353	0.9106	0.9656	0.9300	1.0700	0.9173	1.0139	LD	322	LN 2011
314148	3MICR197	115.0	345	353	0.8415	0.9962	0.9300	1.0700	0.9464	1.0460	LD	322	LN 2011
314155	3CANBR T	115.0	345	353	0.8414	0.9969	0.9300	1.0700	0.9470	1.0467	LD	322	LN 2011
314157	3GODW172	115.0	345	353	0.9152	0.9666	0.9300	1.0700	0.9183	1.0149	LD	322	LN 2011
314158	3GODW197	115.0	345	353	0.8418	0.9960	0.9300	1.0700	0.9462	1.0458	LD	322	LN 2011
314160	1 TX503	13.2	345	353	0.9210	0.9978	0.9300	1.0700	0.9479	1.0476	LD	322	LN 2011
315083	ISPRUNCA	13.8	345	357	1.0438	0.9882	0.9300	1.0700	0.9388	1.0376	R	363	LN 2055
315085	ISPRUNCC	13.8	345	357	1.0509	0.9898	0.9300	1.0700	0.9403	1.0393	R	363	LN 2055
314180	6HAYES	230.0	345	354	0.9273	1.0271	0.9300	1.0700	0.9757	1.0784	LD	419	LN 2122
314207	6OAK GRE	230.0	345	363	0.9067	0.9981	0.9300	1.0700	0.9482	1.0480	LD	427	LN 2133
314025	1 TX500	13.2	345	353	0.8969	0.9977	0.9300	1.0700	0.9479	1.0476	LD	456	TX-1 3MICR19
314160	1 TX503	13.2	345	353	0.9270	0.9978	0.9300	1.0700	0.9479	1.0476	LD	456	TX-1 3MICR19
314114	3LINNDL	115.0	345	353	0.9339	0.9900	0.9300	1.0700	0.9405	1.0395	D	473	TX-1 60X
314118	3MINNIEV	115.0	345	353	0.9223	0.9925	0.9300	1.0700	0.9429	1.0422	D	473	TX-1 60X
314167	3OX	115.0	345	352	0.9222	1.0020	0.9300	1.0700	0.9519	1.0521	D	473	TX-1 60X
314122	3SOWEGO	115.0	345	353	0.9222	1.0003	0.9300	1.0700	0.9503	1.0504	D	495	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9222	1.0042	0.9300	1.0700	0.9540	1.0544	D	495	TX-1 6BRISTE
314049	3L0MA172	115.0	345	353	0.8962	0.9656	0.9300	1.0700	0.9173	1.0138	LD	498	TX-1 6LIBERT
314123	3WELLGTH	115.0	345	353	0.8940	0.9680	0.9300	1.0700	0.9196	1.0164	LD	498	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8940	0.9692	0.9300	1.0700	0.9207	1.0176	LD	498	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8960	0.9656	0.9300	1.0700	0.9173	1.0139	LD	498	TX-1 6LIBERT
314157	3GODW172	115.0	345	353	0.8953	0.9666	0.9300	1.0700	0.9183	1.0149	LD	498	TX-1 6LIBERT

CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 8:48 <BRV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case File X:\S2021\sum 2021(2013LF)_wpre No Gen Ret CSCyork2.sav
Subsys File X:\S2021\dvp.sub
Monit File X:\S2021\vapsys.mon
Contn File X:\S2021\vapsys.con
Exclud File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314421	6WINCHST	230	314540 6POOLSVL	230	1	LN	529.0	394.9	559.0	94.6	29	313818 6BENCHRCH 230 314398 6NP NEWS 230 1
314421	6WINCHST	230	314540 6POOLSVL	230	1	LN	540.1	394.9	559.0	96.6	30	313818 6BENCHRCH 230 314522 6CHCKTUK 230 1
314123	3WELLGTN	115	314141 3LIBERTY	115	1	LN	170.7	84.2	180.0	94.8	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	1	LN	663.6	547.7	705.0	94.1	158	314054 6KEENE M 230 314057 6LAKERD 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	1	LN	680.2	547.7	705.0	96.5	160	314057 6LAKERD 230 314074 6POSSUM 230 1
313818	6BENCHRCH	230	314522 6CHCKTUK	230	1	LN	548.6	374.0	584.0	93.9	820	314538 6SURREY 230 314540 6POOLSVL 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	1	LN	246.8	139.9	262.0	94.2	1102	314766 6LOUISA 230 314777 6S ANNA 230 1
314913	8LOUDOUN	500	314933 8BRAMBLETON	500	1	LN	2204.9	1465.2	2323.0	94.9	1272	235105 01DOUBS 500 314917 8MT STM 500 1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 8:50 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSCYork2.sav
Subsys File X:\S2021\wpsub
Monit File X:\S2021\wapsys.mon
Contn File X:\S2021\wapsys.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltRaise	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.9329	0.9923	0.9300	1.0700	0.9427	1.0419	D	16	313810 6DAHLGREN 230 314131 EARNOLDS 230 1
314139	6DAHLGREN	230.0	345	354	0.9402	0.9927	0.9300	1.0700	0.9431	1.0423	D	16	313810 6DAHLGREN 230 314131 EARNOLDS 230 1
313818	6BENCHRCH	230.0	345	360	0.9726	1.0258	0.9300	1.0700	0.9745	1.0771	D	30	313818 6BENCHRCH 230 314522 6CHCTUK 230 1
314014	3CANNONB	115.0	345	353	0.8486	0.9976	0.9300	1.0700	0.9477	1.0475	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9096	0.9977	0.9300	1.0700	0.9476	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOMA172	115.0	345	353	0.9166	0.9655	0.9300	1.0700	0.9173	1.0138	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8489	0.9680	0.9300	1.0700	0.9196	1.0164	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLGTN	115.0	345	353	0.9289	0.9680	0.9300	1.0700	0.9196	1.0164	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR197	115.0	345	353	0.9172	0.9656	0.9300	1.0700	0.9173	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.8488	0.9659	0.9300	1.0700	0.9470	1.0467	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GOIM172	115.0	345	353	0.9217	0.9666	0.9300	1.0700	0.9182	1.0149	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GOIM197	115.0	345	353	0.8492	0.9660	0.9300	1.0700	0.9462	1.0458	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX500	13.2	345	353	0.9096	0.9977	0.9300	1.0700	0.9479	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9373	0.9977	0.9300	1.0700	0.9478	1.0476	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314049	3LOMA172	115.0	345	353	0.9292	0.9655	0.9300	1.0700	0.9173	1.0138	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	3LOMA197	115.0	345	353	0.8799	0.9667	0.9300	1.0700	0.9478	1.0476	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MICR197	115.0	345	353	0.9297	0.9656	0.9300	1.0700	0.9173	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8799	0.9667	0.9300	1.0700	0.9479	1.0476	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GOIM197	115.0	345	353	0.8800	0.9660	0.9300	1.0700	0.9462	1.0458	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314160	1 TX500	13.2	345	353	0.9373	0.9977	0.9300	1.0700	0.9479	1.0476	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314025	1 TX500	13.2	345	353	0.8969	0.9977	0.9300	1.0700	0.9478	1.0476	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314049	3LOMA172	115.0	345	353	0.9317	0.9667	0.9300	1.0700	0.9479	1.0476	LD	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314051	3LOMA197	115.0	345	353	0.9117	0.9667	0.9300	1.0700	0.9478	1.0465	D	152	314051 3LOMA197 115 314155 3CANNB T 115 1
314114	3LINDNOL	115.0	345	353	0.9338	0.9699	0.9300	1.0700	0.9404	1.0394	D	186	314068 60X 230 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9321	0.9924	0.9300	1.0700	0.9428	1.0421	D	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9322	1.0019	0.9300	1.0700	0.9518	1.0320	D	186	314068 60X 230 314167 30X 115 1
314114	3LINDNOL	115.0	345	353	0.9321	0.9699	0.9300	1.0700	0.9404	1.0394	D	261	314118 3MINNIEV 115 314167 30X 115 1

Bus #	Bus Name	KV	Area	Zone	ContVlt	BaseVlt	LowLimit	UpplLimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314118	MINNIEV	115.0	345	353	0.9305	0.9924	0.9300	1.0700	0.9428	1.0421	D	261	314118 3MINNIEV 115 314167 30X 115 1
314122	3SOWEGO	115.0	345	353	0.9316	1.0002	0.9300	1.0700	0.9502	1.0503	D	265	314122 3SOWEGO 115 314156 3BRISTER 115 1
314049	3LOMA172	115.0	345	353	0.8961	0.9655	0.9300	1.0700	0.9173	1.0138	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8939	0.9680	0.9300	1.0700	0.9196	1.0164	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3MCR197	115.0	345	353	0.8959	0.9656	0.9300	1.0700	0.9173	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8942	0.9666	0.9300	1.0700	0.9182	1.0149	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3SOWEGO	115.0	345	353	0.9322	1.0041	0.9300	1.0700	0.9539	1.0543	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
313810	6DHLGREN	230.0	345	354	0.9257	0.9923	0.9300	1.0700	0.9427	1.0419	LD	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9252	0.9967	0.9300	1.0700	0.9468	1.0465	LD	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314139	6OARGROV	230.0	345	354	0.9333	0.9927	0.9300	1.0700	0.9431	1.0423	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314183	6SANDERS	230.0	345	354	0.9407	0.9916	0.9300	1.0700	0.9420	1.0412	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314190	6WESTMOR	230.0	345	354	0.9379	0.9923	0.9300	1.0700	0.9427	1.0419	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
313810	6DHLGREN	230.0	345	354	0.9225	0.9923	0.9300	1.0700	0.9427	1.0419	LD	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9207	0.9967	0.9300	1.0700	0.9468	1.0465	LD	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314139	6OARGROV	230.0	345	354	0.9298	0.9927	0.9300	1.0700	0.9431	1.0423	LD	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9207	0.9973	0.9300	1.0700	0.9475	1.0472	LD	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314192	6NORNECK	230.0	345	354	0.9404	0.9916	0.9300	1.0700	0.9420	1.0412	D	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314193	6SANDERS	230.0	345	354	0.9379	0.9916	0.9300	1.0700	0.9420	1.0412	D	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314190	6WESTMOR	230.0	345	354	0.9348	0.9923	0.9300	1.0700	0.9420	1.0412	D	273	314132 6BRICHRWD 230 314175 6COMORN 230 1
314049	3LOMA172	115.0	345	353	0.8962	0.9655	0.9300	1.0700	0.9173	1.0138	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8940	0.9680	0.9300	1.0700	0.9196	1.0164	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	353	0.8940	0.9681	0.9300	1.0700	0.9207	1.0164	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MCR197	115.0	345	353	0.8960	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8953	0.9666	0.9300	1.0700	0.9182	1.0149	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314175	3NI RVER	115.0	345	363	0.9423	1.0027	0.9300	1.0700	0.9525	1.0528	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3SLABTWN	115.0	345	355	0.9466	1.0025	0.9300	1.0700	0.9524	1.0527	D	286	314136 3FREIDRGR 115 314151 3SLABTWN 115 1
314025	1 TX500	13.2	345	353	0.9452	0.9977	0.9300	1.0700	0.9478	1.0476	D	301	314148 3MCR197 115 314155 3CANBR T 115 1
314148	3MCR197	115.0	345	353	0.8892	0.9962	0.9300	1.0700	0.9464	1.0460	LD	301	314148 3MCR197 115 314155 3CANBR T 115 1
314158	3GOWM197	115.0	345	353	0.8854	0.9960	0.9300	1.0700	0.9462	1.0458	LD	301	314148 3MCR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9452	0.9977	0.9300	1.0700	0.9479	1.0476	D	301	314148 3MCR197 115 314155 3CANBR T 115 1
314180	6HAYES	230.0	345	354	0.9223	1.0224	0.9300	1.0700	0.9712	1.0735	LD	328	314180 6HAYES 230 314423 6YORKTWN 230 1
314207	6OAK GRE	230.0	345	363	0.9067	0.9983	0.9300	1.0700	0.9484	1.0482	LD	332	314207 6OAK GRE 230 314232 6NO ANNA 230 1
314259	3CAR56 1	115.0	345	362	1.1464	1.0230	0.9300	1.0700	0.9719	1.0742	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314526	3HANDSOM	115.0	345	360	1.0748	1.0251	0.9300	1.0700	0.9738	1.0763	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314534	3S HAMPT	115.0	345	360	1.0727	1.0269	0.9300	1.0700	0.9756	1.0782	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314541	3WATKINS	115.0	345	360	1.0725	1.0279	0.9300	1.0700	0.9765	1.0793	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314558	3BOYKINS	115.0	345	362	1.0801	1.0210	0.9300	1.0700	0.9659	1.0720	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314587	3MARGT5V	115.0	345	362	1.1034	1.0204	0.9300	1.0700	0.9694	1.0714	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314604	3SABORD	115.0	345	362	1.1148	1.0202	0.9300	1.0700	0.9692	1.0713	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314827	3WATKI 1	115.0	345	360	1.0731	1.0284	0.9300	1.0700	0.9770	1.0798	H	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
314835	3CAROL 1	115.0	345	362	1.1475	1.0241	0.9300	1.0700	0.9729	1.0753	HR	436	314259 3CAR56 1 115 314559 3CAROLNA 115 1
315085	3SPRUNCK	13.8	345	357	1.0514	0.9847	0.9300	1.0700	0.9354	1.0339	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
315083	3SPRUNCK	13.8	345	357	1.0342	0.9847	0.9300	1.0700	0.9354	1.0339	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
314328	6PLAZA	230.0	345	357	0.9431	0.9998	0.9300	1.0700	0.9498	1.0498	D	570	314328 6DUTHAN 230 314914 6DUTHAN 500 1
314680	2CHATHAM	69.0	345	358	0.9450	0.9952	0.9300	1.0700	0.9454	1.0449	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1

Bus #	Bus Name	KV	Area	Zone	ContVlt	BaseVlt	LowVlt	UplVlt	VoltDrop	VoltRise	Viol	Noon	Contingency Description
314605	2CHTM TP	69.0	345	358	0.9457	0.9958	0.9300	1.0700	0.9460	1.0456	D	589	314348 2CRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLMX DP	69.0	345	358	0.9421	0.9925	0.9300	1.0700	0.9428	1.0421	D	589	314348 2CRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMX TP	69.0	345	358	0.9429	0.9932	0.9300	1.0700	0.9435	1.0429	D	589	314348 2CRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9455	0.9956	0.9300	1.0700	0.9459	1.0454	D	589	314348 2CRETN 1 69.0 314732 2GRNA FB 69.0 1
314176	6HARMY	230.0	345	354	0.9983	1.0114	0.9300	1.0700	0.9609	1.0620	D	598	314375 6CORACTN 230 314388 6LANEXA 230 1
314189	6PAPERMTL	230.0	345	354	0.9924	1.0095	0.9300	1.0700	0.9581	1.0590	D	598	314375 6CORACTN 230 314388 6LANEXA 230 1
314375	6CORACTN	230.0	345	354	0.9921	1.0091	0.9300	1.0700	0.9586	1.0585	D	598	314375 6CORACTN 230 314388 6LANEXA 230 1
314379	3FTEUS58	115.0	345	356	0.9913	0.9864	0.9300	1.0700	0.9371	1.0358	D	604	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314389	3LEBAN58	115.0	345	356	0.9913	0.9838	0.9300	1.0700	0.9346	1.0330	D	604	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314424	3YHNS 58	115.0	345	356	0.9920	0.9830	0.9300	1.0700	0.9339	1.0322	D	604	314379 3FTEUS58 115 314382 3GRAFT58 115 1
314389	3LEBAN58	115.0	345	356	0.9918	0.9830	0.9300	1.0700	0.9339	1.0322	D	605	314379 3FTEUS58 115 314389 3LEBAN58 115 1
314379	3FTEUS58	115.0	345	356	0.9918	0.9864	0.9300	1.0700	0.9371	1.0358	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314382	3GRAFT58	115.0	345	356	0.9917	0.9838	0.9300	1.0700	0.9346	1.0330	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314389	3LEBAN58	115.0	345	356	0.9917	0.9838	0.9300	1.0700	0.9346	1.0330	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
314424	3YHNS 58	115.0	345	356	0.9924	0.9830	0.9300	1.0700	0.9339	1.0322	D	607	314382 3GRAFT58 115 314422 3YORKTWN 115 1
315111	1LAKINGA	13.8	345	359	0.9934	0.9430	0.9300	1.0700	0.8959	0.9902	R	674	314444 6BOWERS 230 314453 6CHRLND 230 1
315112	1LAKINGA	13.8	345	359	0.9925	0.9430	0.9300	1.0700	0.8959	0.9902	R	701	314453 6CHRLND 230 314653 6CHRLND 1 230 1
314527	3HOLLAND	115.0	345	360	1.0791	1.0264	0.9300	1.0700	0.9751	1.0777	HR	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HANPT	115.0	345	360	1.0751	1.0269	0.9300	1.0700	0.9756	1.0782	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0774	1.0279	0.9300	1.0700	0.9765	1.0793	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP 1	115.0	345	360	1.0779	1.0284	0.9300	1.0700	0.9770	1.0798	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0779	1.0284	0.9300	1.0700	0.9770	1.0798	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0779	1.0284	0.9300	1.0700	0.9770	1.0798	H	803	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	1SHAMPT1	13.8	345	360	1.0466	0.9965	0.9300	1.0700	0.9467	1.0463	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314516	3BRUNS 1	115.0	345	358	1.0723	1.0095	0.9300	1.0700	0.9590	1.0600	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314675	3BRODAX	115.0	345	358	1.0621	1.0070	0.9300	1.0700	0.9567	1.0574	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314676	3BRUNSWK	115.0	345	358	1.0718	1.0090	0.9300	1.0700	0.9586	1.0595	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314693	3FRMAN D	115.0	345	358	1.0865	1.0062	0.9300	1.0700	0.9559	1.0565	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314704	3LAWRENC	115.0	345	358	1.0937	1.0080	0.9300	1.0700	0.9576	1.0584	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314782	2BRUNSWC	69.0	345	358	1.0770	1.0289	0.9300	1.0700	0.9775	1.0804	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314785	2DANLTWN	69.0	345	358	1.0402	0.9750	0.9300	1.0700	0.9263	1.0238	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314786	2GRASBURG	69.0	345	358	1.0780	1.0122	0.9300	1.0700	0.9616	1.0628	HR	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314787	2BRUNSW2	69.0	345	358	1.0647	1.0013	0.9300	1.0700	0.9513	1.0514	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314850	3CLBHS 1	115.0	345	362	1.0518	1.0051	0.9300	1.0700	0.9382	1.0369	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
314872	2BRUNSWICK	69.0	345	358	1.0518	0.9876	0.9300	1.0700	0.9382	1.0369	R	861	314562 3CLUBHSE 115 314565 3CLUBH571 115 21
313830	3KPAWK 1	115.0	345	361	1.0729	1.0402	0.9300	1.0700	0.9882	1.0922	H	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314634	3COLANGTP	115.0	345	361	1.0729	1.0297	0.9300	1.0700	0.9782	1.0812	H	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314635	3COLANGTP	115.0	345	361	1.0925	1.0299	0.9300	1.0700	0.9784	1.0814	HR	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314636	3COLANG2	115.0	345	361	1.0928	1.0349	0.9300	1.0700	0.9832	1.0866	HR	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0818	1.0397	0.9300	1.0700	0.9877	1.0917	H	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314646	3KITTY 4	34.5	345	361	1.0818	1.0397	0.9300	1.0700	0.9877	1.0917	H	946	314635 3COLANGTP 115 314720 3 52T190 115 1
314650	3KITTY 5	34.5	345	361	1.0828	1.0407	0.9300	1.0700	0.9886	1.0927	H	946	314635 3COLANGTP 115 314720 3 52T190 115 1

Bus #	Bus Name	KV	Area	Zone	ContVlt	BaseVlt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Noon	Contingency Description
314829	3COLIN 1	115.0	345	361	1.0983	1.0354	0.9300	1.0700	0.9836	1.0872	HR	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314830	3COLNG 1	115.0	345	361	1.0734	1.0302	0.9300	1.0700	0.9787	1.0818	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315146	1KITTHKA	13.8	345	361	1.0818	1.0397	0.9300	1.0700	0.9877	1.0917	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
315147	1KITTHKB	13.8	345	361	1.0829	1.0407	0.9300	1.0700	0.9887	1.0928	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1162	KITT 3M4	1.0	345	361	1.0818	1.0397	0.9300	1.0700	0.9877	1.0917	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
BS1163	KITT 3M5	1.0	345	361	1.0829	1.0407	0.9300	1.0700	0.9887	1.0928	H	946	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRN 1	69.0	345	358	1.0777	1.0082	0.9300	1.0700	0.9578	1.0586	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0774	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SW3ST57	69.0	345	358	1.0676	1.0126	0.9300	1.0700	0.9620	1.0632	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0621	1.0068	0.9300	1.0700	0.9565	1.0572	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0676	1.0126	0.9300	1.0700	0.9620	1.0632	R	1052	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0708	1.0082	0.9300	1.0700	0.9578	1.0586	HR	1053	314731 2GRETN 69.0 314732 2GRNA DP 69.0 1
314731	2GRETN 1	69.0	345	358	1.0708	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1053	314731 2GRETN 69.0 314732 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1053	314731 2GRETN 69.0 314732 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9406	0.9981	0.9300	1.0700	0.9482	1.0480	D	1062	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9422	1.0034	0.9300	1.0700	0.9532	1.0536	D	1105	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9446	0.9992	0.9300	1.0700	0.9492	1.0491	D	1197	314853 3LEXNGTN 115 314958 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9282	0.9789	0.9300	1.0700	0.9299	1.0278	LD	1200	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	1N ANNA2	22.0	345	366	1.0714	1.0606	0.9300	1.0700	1.0075	1.1136	H	1212	314897 8MORRS 1 500 314916 8MORRSVL 500 1
315226	1N ANNA2	22.0	345	366	1.0704	1.0606	0.9300	1.0700	1.0075	1.1136	H	1255	314918 BNO ANNA 500 315225 1N ANNA 22.0 1
315226	1N ANNA2	22.0	345	366	1.0712	1.0606	0.9300	1.0700	1.0075	1.1136	H	1272	235105 01DOUBS 500 314917 8MT STM 500 1
315226	1N ANNA2	22.0	345	366	1.0725	1.0606	0.9300	1.0700	1.0075	1.1136	H	1274	235110 01MDWRK 500 314913 8LOUDOUN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 9:31 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret CSCyork2.sav
Subsys.File X:\S2021\drv.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	Baseflo W	Rating %	Loading %	Ncon	Contingency Description
314029	6DUMFRES	230	314074 6POSSUM	230 1	LN	661.0	547.7	705.0	93.8	207	LN 237
314756	3DOUBLOY	115	314776 3SOMRSET	115 1	LN	245.9	139.9	262.0	93.9	224	LN 255
314421	6WINCHST	230	314540 6POOLSVL	230 1	LN	530.7	394.9	559.0	94.9	233	LN 263
314913	8LOUDOUN	500	314933 8BRAMBLETON	500 1	LN	2205.9	1465.2	2323.0	95.0	284	LN 551
314123	3WELLGTN	115	314141 3LIBERTY	115 1	LN	172.8	84.2	180.0	96.0	322	LN 2011

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- THU, MAR 07 2013 9:33 <VOV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE NO GEN RET
Case File X:\S2021\sum_2021(2013Lf)_wpre No Gen Ret CSCYork2.sav
Subsys File X:\S2021\drv.sub
Monit File X:\S2021\vapsys.mon
Contn File X:\S2021\sum2021wpre.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314524	3ERNLN	115.0	345	360	1.0792	1.0264	0.9300	1.0700	0.9751	1.0777	HR	60	LN 68
314534	3S HAMPT	115.0	345	360	1.0753	1.0269	0.9300	1.0700	0.9756	1.0782	H	60	LN 68
314539	3UNCAMP	115.0	345	360	1.0829	1.0256	0.9300	1.0700	0.9744	1.0769	HR	60	LN 68
314541	3WATKINS	115.0	345	360	1.0775	1.0279	0.9300	1.0700	0.9765	1.0793	H	60	LN 68
314824	3UNCAM 1	115.0	345	360	1.0837	1.0263	0.9300	1.0700	0.9750	1.0777	HR	60	LN 68
314826	3WATKI 1	115.0	345	360	1.0780	1.0284	0.9300	1.0700	0.9770	1.0798	H	60	LN 68
314827	3WATKI 2	115.0	345	360	1.0780	1.0284	0.9300	1.0700	0.9770	1.0798	H	60	LN 68
315115	1SHAMPT1	13.8	345	360	1.0468	0.9965	0.9300	1.0700	0.9467	1.0463	R	60	LN 68
314147	3MICR172	115.0	345	353	0.9292	0.9656	0.9300	1.0700	0.9173	1.0139	L	150	LN 172
314348	2GRETN 1	69.0	345	358	1.0708	1.0082	0.9300	1.0700	0.9578	1.0586	HR	151	LN 173
314731	2GRETN A	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	151	LN 173
314732	2GRNA FB	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	151	LN 173
314874	2LN 174	69.0	345	351	1.0574	1.0018	0.9300	1.0700	0.9517	1.0519	R	152	LN 174
314878	2LN 178	69.0	345	351	1.0570	1.0018	0.9300	1.0700	0.9517	1.0519	R	154	LN 178
314879	2LN 179	69.0	345	351	1.0574	1.0018	0.9300	1.0700	0.9517	1.0519	R	155	LN 179
314880	2LN 180	69.0	345	351	1.0573	1.0018	0.9300	1.0700	0.9517	1.0519	R	156	LN 180
314122	3SOWEGO	115.0	345	353	0.9316	1.0002	0.9300	1.0700	0.9502	1.0503	D	157	LN 181
314025	1 TX500	13.2	345	353	0.9230	0.9977	0.9300	1.0700	0.9478	1.0476	LD	170	LN 197
314049	3LONA172	115.0	345	353	0.9280	0.9655	0.9300	1.0700	0.9173	1.0138	L	170	LN 197
314051	3LONA197	115.0	345	353	0.8967	0.9967	0.9300	1.0700	0.9468	1.0465	LD	170	LN 197
314146	1 TX502	13.2	345	353	0.9456	0.9996	0.9300	1.0700	0.9496	1.0496	D	170	LN 197
314147	3MICR172	115.0	345	353	0.9284	0.9656	0.9300	1.0700	0.9173	1.0139	L	170	LN 197
314148	3MICR197	115.0	345	353	0.8589	0.9962	0.9300	1.0700	0.9464	1.0460	LD	170	LN 197
314158	3GOW197	115.0	345	353	0.9141	0.9960	0.9300	1.0700	0.9462	1.0458	LD	170	LN 197
314160	1 TX503	13.2	345	353	0.9231	0.9977	0.9300	1.0700	0.9479	1.0476	LD	170	LN 197
314161	1 TX501	13.2	345	353	0.9456	0.9996	0.9300	1.0700	0.9496	1.0496	D	170	LN 197

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis a	Viol	Ncon	Contingency Description
315111	ILKINGA	13.8	345	359	0.9937	0.9430	0.9300	1.0700	0.8959	0.9902 R		237	LN 267
315112	ILKINGB	13.8	345	359	0.9937	0.9430	0.9300	1.0700	0.8959	0.9902 R		237	LN 267
315226	IN ANNA2	22.0	345	366	1.0725	1.0606	0.9300	1.0700	1.0075	1.1136 H		273	LN 535
315226	IN ANNA2	22.0	345	366	1.0712	1.0606	0.9300	1.0700	1.0075	1.1136 H		284	LN 551
315083	ISPRUNCA	13.8	345	357	0.9343	0.9847	0.9300	1.0700	0.9354	1.0339 R		308	LN 576
314014	3CANNONB	115.0	345	353	0.8359	0.9976	0.9300	1.0700	0.9477	1.0475 LD		322	LN 2011
314025	1 TX500	13.2	345	353	0.8970	0.9977	0.9300	1.0700	0.9478	1.0476 LD		322	LN 2011
314049	3LOWAL12	115.0	345	353	0.9092	0.9655	0.9300	1.0700	0.9173	1.0138 LD		322	LN 2011
314050	1 TX181	13.2	345	353	0.9277	1.0033	0.9300	1.0700	0.9532	1.0535 LD		322	LN 2011
314051	3LOWAL197	115.0	345	353	0.8362	0.9967	0.9300	1.0700	0.9468	1.0465 LD		322	LN 2011
314055	1 TX600	13.2	345	353	0.9175	0.9972	0.9300	1.0700	0.9473	1.0470 LD		322	LN 2011
314123	3WELLGNT	115.0	345	353	0.9218	0.9680	0.9300	1.0700	0.9196	1.0164 L		322	LN 2011
314141	3LIBERTY	115.0	345	353	0.9255	0.9691	0.9300	1.0700	0.9207	1.0176 L		322	LN 2011
314146	1 TX502	13.2	345	353	0.9229	0.9996	0.9300	1.0700	0.9496	1.0496 LD		322	LN 2011
314147	3MICR172	115.0	345	353	0.9098	0.9656	0.9300	1.0700	0.9173	1.0139 LD		322	LN 2011
314148	3MICR197	115.0	345	353	0.8362	0.9962	0.9300	1.0700	0.9464	1.0460 LD		322	LN 2011
314155	3CANBR T	115.0	345	353	0.8361	0.9969	0.9300	1.0700	0.9470	1.0467 LD		322	LN 2011
314157	3GOWM172	115.0	345	353	0.9144	0.9666	0.9300	1.0700	0.9182	1.0149 LD		322	LN 2011
314158	3GOWM197	115.0	345	353	0.8365	0.9960	0.9300	1.0700	0.9462	1.0458 LD		322	LN 2011
314159	1 TX601	13.2	345	353	0.9175	0.9977	0.9300	1.0700	0.9479	1.0476 LD		322	LN 2011
314160	1 TX503	13.2	345	353	0.9278	0.9972	0.9300	1.0700	0.9473	1.0476 LD		322	LN 2011
314161	1 TX501	13.2	345	353	0.9229	0.9996	0.9300	1.0700	0.9496	1.0496 LD		322	LN 2011
315083	ISPRUNCA	13.8	345	357	1.0440	0.9847	0.9300	1.0700	0.9354	1.0339 R		363	LN 2055
314207	6OAK GRE	230.0	345	363	0.9393	0.9983	0.9300	1.0700	0.9370	1.0356 R		419	LN 2122
314025	1 TX500	13.2	345	353	0.8968	0.9977	0.9300	1.0700	0.9478	1.0476 LD		427	LN 2133
314160	1 TX503	13.2	345	353	0.8969	0.9977	0.9300	1.0700	0.9479	1.0476 LD		456	TX-1 3MICR19
314114	3LINDNL	115.0	345	353	0.9271	0.9899	0.9300	1.0700	0.9404	1.0394 LD		473	TX-1 60X
314118	3MINNIEV	115.0	345	353	0.9255	0.9924	0.9300	1.0700	0.9428	1.0421 LD		473	TX-1 60X
314167	3OX	115.0	345	352	0.9256	1.0019	0.9300	1.0700	0.9518	1.0520 LD		473	TX-1 60X
314122	3SOWGO	115.0	345	353	0.9322	1.0002	0.9300	1.0700	0.9502	1.0503 D		495	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9322	1.0041	0.9300	1.0700	0.9539	1.0543 D		495	TX-1 6BRISTE
314049	3LOWAL12	115.0	345	353	0.8944	0.9655	0.9300	1.0700	0.9173	1.0138 LD		498	TX-1 6LIBERT
314123	3WELLGNT	115.0	345	353	0.8921	0.9680	0.9300	1.0700	0.9196	1.0164 LD		498	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8921	0.9691	0.9300	1.0700	0.9207	1.0176 LD		498	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8941	0.9656	0.9300	1.0700	0.9173	1.0139 LD		498	TX-1 6LIBERT
314157	3GOWM172	115.0	345	353	0.8934	0.9666	0.9300	1.0700	0.9182	1.0149 LD		498	TX-1 6LIBERT
315226	IN ANNA2	22.0	345	366	1.0703	1.0606	0.9300	1.0700	1.0075	1.1136 H		583	TX-1 8NO AN2

CATEGORY B

AC Branch Violations

FSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 7:08 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\vapsys.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo W	Rating	Loading %	Ncon	Contingency Description
314123	3WELLGTH	115	314141 3LIBERTY	115	LN	170.6	84.2	180.0	94.8	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	LN	666.5	549.9	705.0	94.5	158	314054 6KEENE M 230 314057 6LAKERD 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	LN	683.1	549.9	705.0	96.9	160	314057 6LAKERD 230 314074 6POSSUM 230 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	LN	246.4	139.6	262.0	94.1	1105	314766 6LOUISA 230 314777 6S ANNA 230 1
314913	8LOUDOUN	500	314933 8BRAMBLETON	500	LN	2205.8	1467.6	2323.0	95.0	1280	235105 01DOUBS 500 314917 8MT STM 500 1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 7:09 <VOV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys File X:\S2021\wvp_sub
Monit File X:\S2021\wvsys.mon
Contn File X:\S2021\Wapsys.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314014	3CANNONB	115.0	345	353	0.8487	0.9977	0.9300	1.0700	0.9478	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9098	0.9979	0.9300	1.0700	0.9480	1.0478	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOMA172	115.0	345	353	0.9469	0.9656	0.9300	1.0700	0.9174	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8491	0.9968	0.9300	1.0700	0.9470	1.0466	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLGTN	115.0	345	353	0.9290	0.9681	0.9300	1.0700	0.9197	1.0165	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9174	0.9657	0.9300	1.0700	0.9174	1.0140	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.8490	0.9963	0.9300	1.0700	0.9465	1.0461	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANBR T	115.0	345	353	0.8489	0.9970	0.9300	1.0700	0.9471	1.0468	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GODW172	115.0	345	353	0.9219	0.9667	0.9300	1.0700	0.9184	1.0150	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GODW197	115.0	345	353	0.8493	0.9961	0.9300	1.0700	0.9463	1.0459	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9098	0.9979	0.9300	1.0700	0.9480	1.0478	LD	76	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9374	0.9979	0.9300	1.0700	0.9480	1.0478	D	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314049	3LOMA172	115.0	345	353	0.9294	0.9656	0.9300	1.0700	0.9174	1.0139	L	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314051	3LOMA197	115.0	345	353	0.8901	0.9968	0.9300	1.0700	0.9470	1.0466	LD	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314147	3MICR172	115.0	345	353	0.9298	0.9657	0.9300	1.0700	0.9174	1.0140	L	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314148	3MICR197	115.0	345	353	0.8799	0.9963	0.9300	1.0700	0.9465	1.0461	LD	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314155	3CANBR T	115.0	345	353	0.8800	0.9970	0.9300	1.0700	0.9471	1.0468	LD	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314158	3GODW197	115.0	345	353	0.8601	0.9961	0.9300	1.0700	0.9463	1.0459	LD	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9374	0.9979	0.9300	1.0700	0.9480	1.0478	D	76	314014 3CANNONB 115 314155 3CANBR T 115 1
314025	1 TX500	13.2	345	353	0.8972	0.9979	0.9300	1.0700	0.9480	1.0478	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	0.8971	0.9979	0.9300	1.0700	0.9480	1.0478	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	1.0819	0.9979	0.9300	1.0700	0.9480	1.0478	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314051	3LOMA197	115.0	345	353	0.9318	0.9968	0.9300	1.0700	0.9470	1.0466	D	152	314051 3LOMA197 115 314155 3CANBR T 115 1
314114	3LINNDL	115.0	345	353	0.9339	0.9900	0.9300	1.0700	0.9405	1.0395	D	186	314068 60X 230 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9323	0.9925	0.9300	1.0700	0.9429	1.0422	D	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9324	1.0020	0.9300	1.0700	0.9519	1.0521	D	186	314068 60X 230 314167 30X 115 1
314114	3LINNDL	115.0	345	353	0.9323	0.9900	0.9300	1.0700	0.9405	1.0395	D	261	314118 3MINNIEV 115 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9306	0.9925	0.9300	1.0700	0.9429	1.0422	D	261	314118 3MINNIEV 115 314167 30X 115 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowVltm t	UplVltm t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314122	3SONEGO	115.0	345	353	0.9317	1.0004	0.9300	1.0700	0.9503	1.0504	D	265	314122 3SONEGO 115 314156 3BRISTER 115 1
314049	3LOMA172	115.0	345	353	0.8958	0.9656	0.9300	1.0700	0.9174	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8936	0.9681	0.9300	1.0700	0.9197	1.0165	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3GDM172	115.0	345	353	0.8956	0.9657	0.9300	1.0700	0.9174	1.0140	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3GDM172	115.0	345	353	0.8949	0.9667	0.9300	1.0700	0.9184	1.0150	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3SONEGO	115.0	345	353	0.9323	1.0004	0.9300	1.0700	0.9503	1.0504	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314156	3BRISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314010	6DRAHGRN	230.0	345	354	0.9446	0.9944	0.9300	1.0700	0.9477	1.0442	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9446	0.9976	0.9300	1.0700	0.9477	1.0474	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
313810	6DRAHGRN	230.0	345	354	0.9402	0.9944	0.9300	1.0700	0.9447	1.0442	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9394	0.9976	0.9300	1.0700	0.9477	1.0474	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9393	0.9980	0.9300	1.0700	0.9481	1.0479	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314049	3LOMA172	115.0	345	353	0.8960	0.9656	0.9300	1.0700	0.9174	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8937	0.9681	0.9300	1.0700	0.9197	1.0165	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3BRISTER	115.0	345	353	0.8937	0.9657	0.9300	1.0700	0.9174	1.0140	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3GDM172	115.0	345	353	0.8950	0.9667	0.9300	1.0700	0.9184	1.0150	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314775	3NI RVER	115.0	345	363	0.9423	1.0029	0.9300	1.0700	0.9527	1.0520	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3SLABTWN	115.0	345	355	0.9466	1.0025	0.9300	1.0700	0.9524	1.0526	D	286	314136 3FREUBRG 115 314151 3SLABTWN 115 1
314025	1 TX500	13.2	345	353	0.9453	0.9979	0.9300	1.0700	0.9480	1.0478	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314148	3MICR197	115.0	345	353	0.8833	0.9963	0.9300	1.0700	0.9465	1.0461	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314156	3GDM197	115.0	345	353	0.8835	0.9961	0.9300	1.0700	0.9463	1.0459	LD	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9454	0.9979	0.9300	1.0700	0.9460	1.0478	D	301	314148 3MICR197 115 314155 3CANBR T 115 1
314160	CHAYES	230.0	345	354	0.9391	1.0380	0.9300	1.0700	0.9861	1.0899	D	328	314180 6HAYES 230 314423 6YORKTWN 230 1
314207	6OAK GRE	230.0	345	363	0.9068	0.9984	0.9300	1.0700	0.9484	1.0483	LD	352	314207 6OAK GRE 230 314232 6NO ANNA 230 1
314249	3SHOCKOE	115.0	345	355	0.9340	0.9835	0.9300	1.0700	0.9343	1.0327	D	360	314211 3ACCA 115 314249 3SHOCKOE 115 1
314259	3CAR56 1	115.0	345	362	1.1475	1.0232	0.9300	1.0700	0.9720	1.0744	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314526	3HANDSON	115.0	345	360	1.0759	1.0258	0.9300	1.0700	0.9745	1.0771	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314534	3S HAMPT	115.0	345	360	1.0738	1.0277	0.9300	1.0700	0.9763	1.0790	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314541	3WATKINS	115.0	345	360	1.0736	1.0287	0.9300	1.0700	0.9773	1.0801	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314558	3BOYKINS	115.0	345	362	1.0811	1.0216	0.9300	1.0700	0.9705	1.0727	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314587	3MARGT5V	115.0	345	362	1.1045	1.0209	0.9300	1.0700	0.9698	1.0719	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314604	3SEABORD	115.0	345	362	1.1159	1.0206	0.9300	1.0700	0.9696	1.0717	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314826	3WATKI 1	115.0	345	360	1.0742	1.0292	0.9300	1.0700	0.9777	1.0807	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314827	3WATKI 2	115.0	345	360	1.0742	1.0292	0.9300	1.0700	0.9777	1.0807	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314835	3CAROL 1	115.0	345	362	1.1486	1.0242	0.9300	1.0700	0.9730	1.0754	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
315083	1SPRUNCK	13.8	345	357	1.0449	0.9817	0.9300	1.0700	0.9326	1.0308	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
315085	1SPRUNCK	13.8	345	357	1.0496	0.9834	0.9300	1.0700	0.9342	1.0326	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
314328	6PLAZA	230.0	345	357	0.9429	1.0001	0.9300	1.0700	0.9501	1.0501	D	570	314328 6PLAZA 230 314338 6SQUWEST 230 1
314680	2CHATTAM	69.0	345	358	0.9450	0.9951	0.9300	1.0700	0.9454	1.0449	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314685	2CHITM TP	69.0	345	358	0.9456	0.9958	0.9300	1.0700	0.9460	1.0455	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLAMX DP	69.0	345	358	0.9421	0.9924	0.9300	1.0700	0.9428	1.0420	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLAMX TP	69.0	345	358	0.9421	0.9932	0.9300	1.0700	0.9438	1.0428	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9455	0.9956	0.9300	1.0700	0.9458	1.0454	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314176	6HARMONY	230.0	345	354	0.9727	1.0237	0.9300	1.0700	0.9725	1.0749	D	598	314375 6CORCTN 230 314388 6LANEXA 230 1
314189	6PAPEMIL	230.0	345	354	0.9661	1.0197	0.9300	1.0700	0.9687	1.0707	D	598	314375 6CORCTN 230 314388 6LANEXA 230 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VolDro p	VolTris e	Viol	Ncon	Contingency Description
314375	6CORRECTN	230.0	345	354	0.9658	1.0199	0.9300	1.0700	0.9689	1.0709	D	598	314375 6CORRECTN 230 314388 6LANEXA 230 1
315111	1LAKINGA	13.8	345	359	0.9919	0.9427	0.9300	1.0700	0.8955	0.9898	R	677	314444 6BOMERS 230 314453 6CHRLAND 230 1
315112	1LAKINGB	13.8	345	359	0.9919	0.9427	0.9300	1.0700	0.8955	0.9898	R	677	314444 6BOMERS 230 314453 6CHRLAND 230 1
315111	1LAKINGA	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8955	0.9898	R	704	314453 6CHRLAND 230 314653 6CHRL 1 230 1
315112	1LAKINGB	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8955	0.9898	R	704	314453 6CHRLAND 230 314653 6CHRL 1 230 1
314527	3HOLLAND	115.0	345	360	1.0663	1.0146	0.9300	1.0700	0.9639	1.0654	R	805	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314524	3FRANKLN	115.0	345	360	1.0793	1.0273	0.9300	1.0700	0.9758	1.0786	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HANPT	115.0	345	360	1.0753	1.0273	0.9300	1.0700	0.9763	1.0790	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0830	1.0265	0.9300	1.0700	0.9752	1.0778	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0776	1.0287	0.9300	1.0700	0.9773	1.0801	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP 1	115.0	345	360	1.0838	1.0292	0.9300	1.0700	0.9777	1.0807	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0781	1.0292	0.9300	1.0700	0.9777	1.0807	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0781	1.0292	0.9300	1.0700	0.9777	1.0807	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314516	3BRUNS 1	115.0	345	358	1.0723	1.0095	0.9300	1.0700	0.9591	1.0600	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314565	3CLBHS71	115.0	345	362	1.0952	1.0046	0.9300	1.0700	0.9544	1.0949	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314675	3BROUNMAX	115.0	345	358	1.0620	1.0071	0.9300	1.0700	0.9567	1.0574	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314676	3BRUNSWK	115.0	345	358	1.0717	1.0091	0.9300	1.0700	0.9586	1.0595	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314693	3FRAN D	115.0	345	358	1.0865	1.0062	0.9300	1.0700	0.9559	1.0565	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314704	3LAURENC	115.0	345	358	1.0770	1.0081	0.9300	1.0700	0.9577	1.0585	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314782	2BRUNSWC	69.0	345	358	1.0936	1.0290	0.9300	1.0700	0.9775	1.0804	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314785	2DANLPM	69.0	345	358	1.0401	0.9751	0.9300	1.0700	0.9263	1.0238	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314786	2GRASBURG	69.0	345	358	1.0779	1.0122	0.9300	1.0700	0.9616	1.0628	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314787	2BRUNSW2	69.0	345	358	1.0647	1.0014	0.9300	1.0700	0.9513	1.0515	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314850	3CLBHS 1	115.0	345	362	1.0958	1.0051	0.9300	1.0700	0.9549	1.0554	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314872	2BRUNSWIC	69.0	345	358	1.0518	0.9876	0.9300	1.0700	0.9382	1.0370	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314830	3KRAWK 1	115.0	345	361	1.0831	1.0410	0.9300	1.0700	0.9889	1.0920	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314634	3COLNGTN	115.0	345	361	1.0736	1.0305	0.9300	1.0700	0.9790	1.0821	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314635	3COLNGTP	115.0	345	361	1.0932	1.0308	0.9300	1.0700	0.9792	1.0823	HR	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314636	3COLING2	115.0	345	361	1.0885	1.0357	0.9300	1.0700	0.9839	1.0875	HR	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0826	1.0405	0.9300	1.0700	0.9884	1.0925	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0826	1.0405	0.9300	1.0700	0.9884	1.0925	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0835	1.0414	0.9300	1.0700	0.9894	1.0935	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314829	3COLIN 1	115.0	345	361	1.0990	1.0362	0.9300	1.0700	0.9844	1.0880	HR	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314830	3COLIN 1	115.0	345	361	1.0741	1.0311	0.9300	1.0700	0.9795	1.0826	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
315146	1KITTYHKA	13.8	345	361	1.0826	1.0405	0.9300	1.0700	0.9884	1.0925	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
315147	1KITTYHKB	13.8	345	361	1.0836	1.0415	0.9300	1.0700	0.9895	1.0936	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
351162	KITT 3W4	1.0	345	361	1.0826	1.0405	0.9300	1.0700	0.9884	1.0925	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
351163	KITT 3W5	1.0	345	361	1.0836	1.0415	0.9300	1.0700	0.9895	1.0936	H	949	314635 3COLNGTP 115 314720 3 52T190 115 1
314348	2GRETNA 1	69.0	345	358	1.0774	1.0081	0.9300	1.0700	0.9577	1.0585	HR	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0774	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314737	2SW35T57	69.0	345	358	1.0675	1.0126	0.9300	1.0700	0.9619	1.0632	R	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0821	1.0068	0.9300	1.0700	0.9564	1.0571	R	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0875	1.0126	0.9300	1.0700	0.9619	1.0632	R	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0708	1.0081	0.9300	1.0700	0.9577	1.0585	HR	1056	314731 2GRETNA 69.0 314733 2GRNA DP 69.0 1
314731	2GRETNA	69.0	345	358	1.0705	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1056	314731 2GRETNA 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0708	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1056	314731 2GRETNA 69.0 314733 2GRNA DP 69.0 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314746	4BREMO	138.0	345	363	0.9406	0.9981	0.9300	1.0700	0.9482	1.0480	D	1065	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9424	1.0035	0.9300	1.0700	0.9533	1.0536	D	1108	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9447	0.9993	0.9300	1.0700	0.9493	1.0492	D	1200	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9283	0.9790	0.9300	1.0700	0.9300	1.0279	LD	1203	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	1N ANNA2	22.0	345	366	1.0708	1.0597	0.9300	1.0700	1.0067	1.1127	H	1258	314918 8NO ANNA 500 315225 1N ANNA1 22.0 1
315226	1N ANNA2	22.0	345	366	1.0718	1.0597	0.9300	1.0700	1.0067	1.1127	H	1280	235105 01DOUBS 500 314917 8MT STM 500 1
315226	1N ANNA2	22.0	345	366	1.0730	1.0597	0.9300	1.0700	1.0067	1.1127	H	1282	235110 01MDWBRK 500 314913 8LOUDOUN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 7:48 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\sum2021wpre ALT.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314029	6DUMFRES	230	314074	6POSSUM	230 LN	663.9	549.9	705.0	94.2	212 LN 237	
314756	3DOUBLDY	115	314776	3SOMRSET	115 LN	245.6	139.6	262.0	93.7	229 LN 255	
314913	8LOUDOUN	500	314933	8BRAMBLETON	500 LN	2206.8	1467.6	2323.0	95.0	293 LN 551	
314123	3WELLGTN	115	314141	3LIBERTY	115 LN	172.8	84.2	180.0	96.0	331 LN 2011	

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 7:49 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFESCREEK

Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav

Subsys.File X:\S2021\wvp.sub

Monit.File X:\S2021\wvpsys.mon

Contn.File X:\S2021\sum2021wpre AUT.con

Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314524	3FRNKLN	115.0	345	360	1.0794	1.0272	0.9300	1.0700	0.9758	1.0786	HR	63	LN 68
314534	3S HAMPT	115.0	345	360	1.0755	1.0277	0.9300	1.0700	0.9763	1.0790	H	63	LN 68
314539	3UNCAMP	115.0	345	360	1.0831	1.0265	0.9300	1.0700	0.9752	1.0778	HR	63	LN 68
314541	3WATKINS	115.0	345	360	1.0777	1.0287	0.9300	1.0700	0.9773	1.0801	H	63	LN 68
314824	3UNCAM 1	115.0	345	360	1.0839	1.0272	0.9300	1.0700	0.9758	1.0785	HR	63	LN 68
314826	3WATKI 1	115.0	345	360	1.0783	1.0292	0.9300	1.0700	0.9777	1.0807	H	63	LN 68
314827	3WATKI 2	115.0	345	360	1.0783	1.0292	0.9300	1.0700	0.9777	1.0807	H	63	LN 68
314249	3SHOCKOE	115.0	345	355	0.9340	0.9835	0.9300	1.0700	0.9343	1.0327	D	143	LN 159
314147	3MICR172	115.0	345	353	0.9294	0.9657	0.9300	1.0700	0.9174	1.0140	L	153	LN 172
314348	3GRETN 1	69.0	345	358	1.0708	1.0081	0.9300	1.0700	0.9577	1.0585	HR	154	LN 173
314731	3GRETN	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	154	LN 173
314732	3GRNA FB	69.0	345	358	1.0706	1.0079	0.9300	1.0700	0.9575	1.0583	HR	154	LN 173
314874	2IN 174	69.0	345	351	1.0572	1.0019	0.9300	1.0700	0.9518	1.0520	R	155	LN 174
314878	2IN 178	69.0	345	351	1.0571	1.0019	0.9300	1.0700	0.9518	1.0520	R	157	LN 178
314879	2IN 179	69.0	345	351	1.0572	1.0019	0.9300	1.0700	0.9518	1.0520	R	158	LN 179
314880	2IN 180	69.0	345	351	1.0573	1.0019	0.9300	1.0700	0.9518	1.0520	R	159	LN 180
314122	3SOWEGO	115.0	345	353	0.9317	1.0004	0.9300	1.0700	0.9503	1.0504	D	160	LN 181
314025	1 TX500	13.2	345	353	0.9232	0.9979	0.9300	1.0700	0.9480	1.0139	L	173	LN 197
314049	3LOMA172	115.0	345	353	0.9281	0.9656	0.9300	1.0700	0.9174	1.0478	LD	173	LN 197
314051	3LOMA197	115.0	345	353	0.8968	0.9968	0.9300	1.0700	0.9470	1.0466	LD	173	LN 197
314146	1 TX502	13.2	345	353	0.9457	0.9997	0.9300	1.0700	0.9497	1.0497	D	173	LN 197
314147	3MICR172	115.0	345	353	0.9285	0.9657	0.9300	1.0700	0.9174	1.0140	L	173	LN 197
314148	3MICR197	115.0	345	353	0.8590	0.9963	0.9300	1.0700	0.9465	1.0461	LD	173	LN 197
314158	3GOWW197	115.0	345	353	0.9143	0.9961	0.9300	1.0700	0.9463	1.0459	LD	173	LN 197
314160	1 TX503	13.2	345	353	0.9232	0.9979	0.9300	1.0700	0.9480	1.0478	LD	173	LN 197
314161	1 TX501	13.2	345	353	0.9457	0.9997	0.9300	1.0700	0.9497	1.0497	D	173	LN 197

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UpLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315111	ILKINGA	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8955	0.9698 R		242	LN 267
315112	ILKINGB	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8955	0.9698 R		242	LN 267
315226	IN ANNA2	22.0	345	366	1.0730	1.0597	0.9300	1.0700	1.0067	1.1127 H		282	LN 535
315226	IN ANNA2	22.0	345	366	1.0718	1.0597	0.9300	1.0700	1.0067	1.1127 H		293	LN 551
314014	3CANNONB	115.0	345	353	0.8360	0.9977	0.9300	1.0700	0.9478	1.0476 LD		331	LN 2011
314025	1 TX500	13.2	345	353	0.8971	0.9979	0.9300	1.0700	0.9480	1.0478 LD		331	LN 2011
314049	31ONA172	115.0	345	353	0.9093	0.9656	0.9300	1.0700	0.9174	1.0139 LD		331	LN 2011
314050	1 TX181	13.2	345	353	0.9279	1.0034	0.9300	1.0700	0.9533	1.0536 LD		331	LN 2011
314051	31OMA197	115.0	345	353	0.9364	0.9968	0.9300	1.0700	0.9470	1.0466 LD		331	LN 2011
314055	1 TX600	13.2	345	353	0.9176	0.9973	0.9300	1.0700	0.9474	1.0472 LD		331	LN 2011
314123	3WEL1G7N	115.0	345	353	0.9219	0.9681	0.9300	1.0700	0.9197	1.0165 L		331	LN 2011
314141	3LIBERTY	115.0	345	353	0.9256	0.9693	0.9300	1.0700	0.9208	1.0177 L		331	LN 2011
314146	1 TX502	13.2	345	353	0.9230	0.9997	0.9300	1.0700	0.9497	1.0497 LD		331	LN 2011
314147	3MICR172	115.0	345	353	0.9100	0.9657	0.9300	1.0700	0.9174	1.0140 LD		331	LN 2011
314148	3MICR197	115.0	345	353	0.9363	0.9963	0.9300	1.0700	0.9465	1.0461 LD		331	LN 2011
314155	3CANBR T	115.0	345	353	0.8962	0.9970	0.9300	1.0700	0.9471	1.0468 LD		331	LN 2011
314157	3GOW172	115.0	345	353	0.9146	0.9667	0.9300	1.0700	0.9184	1.0150 LD		331	LN 2011
314158	3GOW197	115.0	345	353	0.8366	0.9961	0.9300	1.0700	0.9463	1.0459 LD		331	LN 2011
314159	1 TX601	13.2	345	353	0.9176	0.9973	0.9300	1.0700	0.9474	1.0472 LD		331	LN 2011
314160	1 TX503	13.2	345	353	0.8972	0.9979	0.9300	1.0700	0.9480	1.0478 LD		331	LN 2011
314161	1 TX501	13.2	345	353	0.9230	0.9997	0.9300	1.0700	0.9497	1.0497 LD		331	LN 2011
314162	1 TX182	13.2	345	353	0.9279	1.0034	0.9300	1.0700	0.9533	1.0536 LD		331	LN 2011
315083	1SPRUNCA	13.8	345	357	1.0449	0.9817	0.9300	1.0700	0.9326	1.0308 R		372	LN 2055
315085	1SPRUNCC	13.8	345	357	1.0496	0.9834	0.9300	1.0700	0.9342	1.0326 R		372	LN 2055
314180	6HAYES	230.0	345	354	0.9760	1.0380	0.9300	1.0700	0.9861	1.0899 D		428	LN 2122
314207	60AK GRE	230.0	345	363	0.9394	0.9984	0.9300	1.0700	0.9484	1.0483 D		436	LN 2133
314025	1 TX500	13.2	345	353	0.8970	0.9979	0.9300	1.0700	0.9480	1.0478 LD		465	TX-1 3MICR19
314160	1 TX503	13.2	345	353	0.8970	0.9979	0.9300	1.0700	0.9480	1.0478 LD		465	TX-1 3MICR19
314114	3LINNDL	115.0	345	353	0.9273	0.9900	0.9300	1.0700	0.9405	1.0395 LD		482	TX-1 60X
314118	3MINNIEV	115.0	345	353	0.9257	0.9825	0.9300	1.0700	0.9429	1.0422 LD		482	TX-1 60X
314167	30X	115.0	345	352	0.9258	1.0020	0.9300	1.0700	0.9519	1.0521 LD		482	TX-1 60X
314122	3SOWEGO	115.0	345	353	0.9323	1.0004	0.9300	1.0700	0.9503	1.0504 D		504	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544 D		504	TX-1 6BRISTE
314049	31OMA172	115.0	345	353	0.8945	0.9656	0.9300	1.0700	0.9174	1.0139 LD		507	TX-1 6LIBERT
314123	3WEL1G7N	115.0	345	353	0.8923	0.9681	0.9300	1.0700	0.9197	1.0165 LD		507	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8923	0.9693	0.9300	1.0700	0.9208	1.0177 LD		507	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8943	0.9657	0.9300	1.0700	0.9174	1.0140 LD		507	TX-1 6LIBERT
314157	3GOW172	115.0	345	353	0.8936	0.9667	0.9300	1.0700	0.9184	1.0150 LD		507	TX-1 6LIBERT
315226	1N ANNA2	22.0	345	366	1.0707	1.0597	0.9300	1.0700	1.0067	1.1127 H		692	TX-1 8NO AN2

CATEGORY C

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 8:12 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case.File X:\S2021\sum_2013(LF)_wpre No Gen Ret Wskiffes.sav
Subsys.File X:\S2021\dpv.sub
Monit.File X:\S2021\wapsys.mon
Contin.File X:\S2021\2021_rtep_tower_contingency_DVP_alt.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314074	6POSSUM	230	315008	1FOSSM6A	18.0	TR	TR	181.4	181.4	190.0	95.5		** Base Case **
314074	6POSSUM	230	315009	1FOSSM6B	18.0	TR	TR	181.4	181.4	190.0	95.5		** Base Case **
314289	6DARBYTN	230	315067	1DARBY 1	13.8	TR	TR	87.4	87.4	90.0	97.1		** Base Case **
314289	6DARBYTN	230	315068	1DARBY 2	13.8	TR	TR	87.4	87.4	90.0	97.1		** Base Case **
314289	6DARBYTN	230	315069	1DARBY 3	13.8	TR	TR	87.4	87.4	90.0	97.1		** Base Case **
314289	6DARBYTN	230	315070	1DARBY 4	13.8	TR	TR	87.4	87.4	90.0	97.1		** Base Case **
314465	6ELIZ R	230	315110	1ELIZAR3	13.8	TR	TR	122.9	122.9	130.0	94.6		** Base Case **
314543	6GRAVELA	230	315119	1GRAVEL3	13.8	TR	TR	85.5	85.5	90.0	94.9		** Base Case **
314543	6GRAVELA	230	315120	1GRAVEL4	13.8	TR	TR	85.5	85.5	90.0	94.9		** Base Case **
314544	6GRAVELB	230	315121	1GRAVEL5	13.8	TR	TR	85.5	85.5	90.0	95.0		** Base Case **
314544	6GRAVELB	230	315122	1GRAVEL6	13.8	TR	TR	85.5	85.5	90.0	95.0		** Base Case **
314682	3BUGGS I	115	315150	1BUGGS 1	13.8	TR	TR	70.0	70.0	74.6	93.9		** Base Case **
314682	3BUGGS I	115	315151	1BUGGS 2	13.8	TR	TR	69.9	69.9	70.0	99.8		** Base Case **
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	TR	TR	508.2	508.2	540.0	94.1		** Base Case **
314041	6GLEBE	230	314185	6RADNOR	230	LN	LN	367.4	174.9	354.0	103.8	64	2506258

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 8:12 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\2021_rtep_tower_contingency_dvp_alt.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description ** Base Case **
315218	1CUNINGC	18.0	345	366	1.0712	1.0712	0.9300	1.0700	1.0177	1.1248	H		
314800	6ENDLCAY	230.0	345	364	1.0859	1.0278	0.9300	1.0700	0.9765	1.0792	HR		7 2017#9020
315111	1LKINGA	13.8	345	359	0.9916	0.9427	0.9300	1.0700	0.8955	0.9898	R		36 223#267
315112	1LKINGB	13.8	345	359	0.9916	0.9427	0.9300	1.0700	0.8955	0.9898	R		36 223#267
31497	6SEWLSPT	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9571	1.0579	LD		47 257#2099
314500	6NAVYS	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9571	1.0579	LD		47 257#2099
314501	6NAVYS1	230.0	345	359	0.8675	1.0074	0.9300	1.0700	0.9571	1.0578	LD		47 257#2099
314505	6NAVYN	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9572	1.0579	LD		47 257#2099
314510	6NAVYN1	230.0	345	359	0.8673	1.0073	0.9300	1.0700	0.9569	1.0577	LD		47 257#2099
315226	1N ANNA2	22.0	345	366	1.0712	1.0597	0.9300	1.0700	1.0067	1.1127	H		94 535#2114
315226	1N ANNA2	22.0	345	366	1.0725	1.0597	0.9300	1.0700	1.0067	1.1127	H		95 535#2030

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 10:04 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFESCREEK

Case.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\S201(20131F)_wpre No Gen Ret Wskiffes.sav
Subsys.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\S201(20131F)_wpre No Gen Ret Wskiffes.sav
Monit.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\S201(20131F)_wpre No Gen Ret Wskiffes.sav
Contn.File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiFFesCreek Application\Rebuttal Study\S201(20131F)_wpre No Gen Ret Wskiffes.sav
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 99.0 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlow	Rating	Loading%	Ncon	Contingency Description
314682	3BUGGS I	115	3145151 1BUGGS 2	13.8	1	TR	69.9	69.9	70.0	99.8		** Base Case **
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	326.4	31.6	269.0	121.3	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314191 3WHITE S	115	1	LN	345.6	43.0	269.0	128.5	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314178 3LANCAST	115	1	LN	284.4	15.9	249.0	114.2	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314181 3NORNECK	115	1	LN	246.9	38.7	249.0	99.1	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	362.3	51.7	169.0	214.4	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	295.8	31.6	269.0	110.0	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314191 3WHITE S	115	1	LN	311.1	43.0	269.0	115.6	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178 3LANCAST	115	1	LN	256.8	15.9	249.0	103.1	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314181 3NORNECK	115	1	LN	260.4	38.7	249.0	104.6	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	317.6	51.7	169.0	187.9	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	273.2	51.7	169.0	161.6	1009	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	311.3	31.6	269.0	115.7	1010	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314191 3WHITE S	115	1	LN	329.4	43.0	269.0	122.4	1010	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178 3LANCAST	115	1	LN	266.3	15.9	249.0	107.0	1010	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	343.4	51.7	169.0	203.2	1010	D:6DAHLGRE-6OAKGROV1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	333.2	31.6	269.0	123.9	3934	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314191 3WHITE S	115	1	LN	353.6	43.0	269.0	131.5	3934	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115	314178 3LANCAST	115	1	LN	288.5	15.9	249.0	115.9	3934	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	373.3	51.7	169.0	220.9	3934	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	411.0	31.6	269.0	152.8	3935	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314191 3WHITE S	115	1	LN	436.6	43.0	269.0	162.3	3935	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115	314178 3LANCAST	115	1	LN	362.0	15.9	249.0	145.4	3935	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115	314191 3WHITE S	115	1	LN	467.4	51.7	169.0	276.6	3935	D:6ARNOLDS-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115	314178 3LANCAST	115	1	LN	286.5	31.6	269.0	106.5	4254	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlow	Rating	Loading%	Ncon	Contingency Description
313813	3OCRAN	115 314191	3WHITE S	115 1	LN	301.2	43.0	269.0	112.0	4254	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115 314178	3BLANCAST	115 1	LN	252.4	15.9	249.0	101.4	4254	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	306.1	51.7	169.0	181.1	4254	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115 314178	3BLANCAST	115 1	LN	410.0	31.6	269.0	152.4	4255	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115 314191	3WHITE S	115 1	LN	435.9	43.0	269.0	162.1	4255	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115 314178	3BLANCAST	115 1	LN	360.3	15.9	249.0	144.7	4255	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	470.8	51.7	169.0	278.6	4255	D:6BIRCHWD-6COMORN 1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	191.5	51.7	169.0	113.3	4891	D:6OAKGROV-6WESTMOR1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	278.8	51.7	169.0	165.0	4892	D:6OAKGROV-6WESTMOR1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	172.2	51.7	169.0	101.9	5225	D:6DUNNSVL-6NORNECK1 +6SANDERS-6WESTMOR1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	189.1	51.7	169.0	111.9	5540	D:6DUNNSVL-6LANEXA 1 +6NORNECK-6SANDERS1
314174	3HARMONY	115 314191	3WHITE S	115 1	LN	243.7	51.7	169.0	144.2	5541	D:6DUNNSVL-6LANEXA 1 +6SANDERS-6WESTMOR1
314443	3BOWERS	115 314462	3DEEPC87	115 1	LN	200.0	57.0	202.0	99.0	33991	D:6BOWERS -6CHRHLD1 +6CRITTDN-6SURREY 1
314448	3CHESAPK	115 314462	3DEEPC87	115 1	LN	200.0	57.0	202.0	99.0	33991	D:6BOWERS -6CHRHLD1 +6CRITTDN-6SURREY 1
314443	3BOWERS	115 314462	3DEEPC87	115 1	LN	204.7	57.1	202.0	101.3	34157	D:6BOWERS -6YADKIN 1 +6HARBORV-6CRITTDN1
314448	3CHESAPK	115 314462	3DEEPC87	115 1	LN	204.7	57.0	202.0	101.3	34157	D:6BOWERS -6YADKIN 1 +6HARBORV-6CRITTDN1
314443	3BOWERS	115 314462	3DEEPC87	115 1	LN	216.3	57.1	202.0	107.1	34198	D:6BOWERS -6YADKIN 1 +6CRITTDN-6SURREY 1
314448	3CHESAPK	115 314462	3DEEPC87	115 1	LN	216.3	57.0	202.0	107.1	34198	D:6BOWERS -6YADKIN 1 +6CRITTDN-6SURREY 1
314441	3BERKL51	115 314469	3GOSPORT	115 1	LN	295.6	137.7	278.0	106.3	34910	D:3CHESAPK-3CRADOCK1 +3CHESAPK-3REEVES 1
314441	3BERKL51	115 314493	3REEVES	115 1	LN	285.1	127.2	278.0	102.6	34910	D:3CHESAPK-3CRADOCK1 +3CHESAPK-3REEVES 1
314764	3LOCST G	115 314815	3OAK GRE	115 1	LN	239.6	104.8	235.0	101.9	54031	D:8BRISTER-8CHANCE 1 +8CHANCE -8LDYSMT1
314339	6SPRUNCE	230 315083	1SPRUNCA	13.8 1	TR	67.3	58.6	67.5	99.8	54453	D:8CARSON -8CLOVER 1 +8ELMONT -8CUNNING1
314061	6LOUDOUN	230 314913	8LOUDOUN	500 1	TR	1044.0	604.4	1048.4	99.6	54748	D:8CLIFTON-8LOUDOUN1 +8LOUDOUN-8BRAMBLE1
314061	6LOUDOUN	230 314913	8LOUDOUN	500 2	TR	1037.8	600.9	1041.3	99.7	54748	D:8CLIFTON-8LOUDOUN1 +8LOUDOUN-8BRAMBLE1
314207	6OAK GRE	230 314815	3OAK GRE	115 1	TR	315.4	106.0	287.5	109.7	55245	D:8LDYSMT1-8NO ANNA1 +8MORRISVL-8NO ANNA1
314339	6SPRUNCE	230 315083	1SPRUNCA	13.8 1	TR	67.2	58.6	67.5	99.5	55895	D:01DOUBS -8MT STM 1 +6MDLTIAN-8MDLTIAN1
314764	3LOCST G	115 314815	3OAK GRE	115 1	LN	239.4	104.8	235.0	101.9	56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314339	6SPRUNCE	230 315083	1SPRUNCA	13.8 1	TR	67.1	58.6	67.5	99.4	57042	D:6ELMONT -8ELMONT 1 +6MDLTIAN-8MDLTIAN1
314339	6SPRUNCE	230 315083	1SPRUNCA	13.8 1	TR	67.2	58.6	67.5	99.6	57063	D:6ELMONT -8ELMONT 2 +6MDLTIAN-8MDLTIAN1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 10:04 <VOV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFESCREEK

Case File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\peninsula_AC.sub
Monit File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\vapys.mon
Contn File H:\Trans Customer Planning\Peter Nedwick\Year2011\SkiffesCreek Application\Rebuttal Study\S2021\peninsula.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	UpplLimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
313810	6DAHLGREN	230.0	345	354	0.1994	0.9944	0.9300	1.0700	0.9447	1.0442	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313813	3OCRAN	115.0	345	354	0.6253	0.9996	0.9300	1.0700	0.9497	1.0496	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
313828	3WHITEMAR	115.0	345	354	0.9133	1.0033	0.9300	1.0700	0.9532	1.0535	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314139	6OAKGROW	230.0	345	354	0.2092	0.9964	0.9300	1.0700	0.9465	1.0462	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.4084	1.0005	0.9300	1.0700	0.9504	1.0505	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115.0	345	354	0.8086	1.0016	0.9300	1.0700	0.9516	1.0517	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314178	3LANCAST	115.0	345	354	0.6018	1.0010	0.9300	1.0700	0.9509	1.0510	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314181	3NORNECK	115.0	345	354	0.2573	1.0099	0.9300	1.0700	0.9595	1.0604	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314182	6SANDERS	230.0	345	354	0.2260	0.9971	0.9300	1.0700	0.9472	1.0469	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.2216	0.9967	0.9300	1.0700	0.9469	1.0465	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314184	3SHACKLE	115.0	345	354	0.8692	1.0001	0.9300	1.0700	0.9501	1.0502	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314187	3WAN 176	115.0	345	354	0.7865	0.9846	0.9300	1.0700	0.9354	1.0339	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314188	3WEST PT	115.0	345	354	0.9605	0.9995	0.9300	1.0700	0.9496	1.0495	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314190	6WESTHOR	230.0	345	354	0.2364	0.9969	0.9300	1.0700	0.9470	1.0467	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.6710	0.9991	0.9300	1.0700	0.9491	1.0490	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314365	3HARMO 1	115.0	345	354	0.8091	1.0023	0.9300	1.0700	0.9522	1.0524	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314395	3HARMO 2	115.0	345	354	0.8090	1.0021	0.9300	1.0700	0.9520	1.0522	LD	679	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6NORNECK1
314400	3LANCA 1	115.0	345	354	0.6021	1.0015	0.9300	1.0700	0.9514	1.0515	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.3280	0.9944	0.9300	1.0700	0.9447	1.0442	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115.0	345	354	0.6678	0.9996	0.9300	1.0700	0.9497	1.0496	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.9199	1.0033	0.9300	1.0700	0.9532	1.0535	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314139	6OAKGROW	230.0	345	354	0.3323	0.9964	0.9300	1.0700	0.9465	1.0462	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.3384	1.0018	0.9300	1.0700	0.9517	1.0519	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.4739	1.0005	0.9300	1.0700	0.9504	1.0505	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.8236	1.0016	0.9300	1.0700	0.9516	1.0517	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.6287	1.0010	0.9300	1.0700	0.9509	1.0510	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.3601	1.0099	0.9300	1.0700	0.9595	1.0604	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314182	6SANDERS	230.0	345	354	0.3393	0.9971	0.9300	1.0700	0.9472	1.0469	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.3393	0.9967	0.9300	1.0700	0.9469	1.0465	LD	680	D:6DAHLGRE-6ARNOLDS1 +6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314184	3SRACKLE	115.0	345	354	0.8791	1.0001	0.9300	1.0700	0.9501	1.0502	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8011	0.9846	0.9300	1.0700	0.9354	1.0339	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.9079	0.9995	0.9300	1.0700	0.9496	1.0495	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.3353	0.9969	0.9300	1.0700	0.9470	1.0467	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.6939	0.9991	0.9300	1.0700	0.9491	1.0490	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.8241	1.0023	0.9300	1.0700	0.9522	1.0524	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.8240	1.0021	0.9300	1.0700	0.9520	1.0522	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.6321	1.0015	0.9300	1.0700	0.9514	1.0515	LD	660	D:6DAHLGRE-GARNOLDS1 +6DUNNSVL-6LANEXA 1
313813	3OCRAN	115.0	345	354	0.8410	0.9996	0.9300	1.0700	0.9497	1.0496	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314139	6OAKGROV	230.0	345	354	0.6457	0.9964	0.9300	1.0700	0.9465	1.0462	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.7392	1.0005	0.9300	1.0700	0.9504	1.0505	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314178	3LANCAST	115.0	345	354	0.8274	1.0010	0.9300	1.0700	0.9509	1.0510	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314181	3NORNECK	115.0	345	354	0.6831	1.0099	0.9300	1.0700	0.9595	1.0604	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314182	6NORNECK	230.0	345	354	0.6460	0.9971	0.9300	1.0700	0.9472	1.0469	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.6453	0.9967	0.9300	1.0700	0.9469	1.0465	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314187	3WAN 176	115.0	345	354	0.9079	0.9946	0.9300	1.0700	0.9470	1.0467	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314190	6WESTMOR	230.0	345	354	0.6458	0.9969	0.9300	1.0700	0.9470	1.0467	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.8564	0.9991	0.9300	1.0700	0.9491	1.0490	LD	1009	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6NORNECK1
314174	3HARMONY	115.0	345	354	0.8795	1.0016	0.9300	1.0700	0.9516	1.0517	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.7266	1.0010	0.9300	1.0700	0.9509	1.0510	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.4819	1.0099	0.9300	1.0700	0.9595	1.0604	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.4329	0.9971	0.9300	1.0700	0.9472	1.0469	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.8910	1.0021	0.9300	1.0700	0.9520	1.0524	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8709	0.9846	0.9300	1.0700	0.9354	1.0339	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.4324	0.9969	0.9300	1.0700	0.9470	1.0467	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.7787	0.9991	0.9300	1.0700	0.9491	1.0490	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.8911	1.0023	0.9300	1.0700	0.9522	1.0524	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.8910	1.0021	0.9300	1.0700	0.9520	1.0524	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.7270	1.0015	0.9300	1.0700	0.9514	1.0515	LD	1010	D:6DAHLGRE-GOAKGROV1 +6DUNNSVL-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9170	1.0237	0.9300	1.0700	0.9725	1.0749	LD	2035	D:3OCRAN -3LANCAST1 +6CORRCTN-6LANEXA 1
314189	6PAPERMILL	230.0	345	354	0.9109	1.0197	0.9300	1.0700	0.9687	1.0707	LD	2035	D:3OCRAN -3LANCAST1 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9106	1.0199	0.9300	1.0700	0.9689	1.0709	LD	3311	D:3WHITEMA-3HARMONY1 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8959	1.0237	0.9300	1.0700	0.9725	1.0749	LD	3311	D:3WHITEMA-3HARMONY1 +6PAPERMI-6CORRCTN1
314189	6PAPERMILL	230.0	345	354	0.8627	1.0197	0.9300	1.0700	0.9687	1.0707	LD	3333	D:3WHITEMA-3HARMONY1 +6CORRCTN-6LANEXA 1
314169	6CORRCTN	230.0	345	354	0.8627	1.0199	0.9300	1.0700	0.9689	1.0709	LD	3333	D:3WHITEMA-3HARMONY1 +6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9039	1.0237	0.9300	1.0700	0.9725	1.0749	LD	3633	D:3WHITEMA-3HAYES91 +6PAPERMI-6CORRCTN1
314189	6PAPERMILL	230.0	345	354	0.8939	1.0197	0.9300	1.0700	0.9687	1.0707	LD	3633	D:3WHITEMA-3HAYES91 +6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8706	1.0237	0.9300	1.0700	0.9725	1.0749	LD	3655	D:3WHITEMA-3HAYES91 +6CORRCTN-6LANEXA 1
314189	6PAPERMILL	230.0	345	354	0.8640	1.0197	0.9300	1.0700	0.9687	1.0707	LD	3655	D:3WHITEMA-3HAYES91 +6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8637	1.0199	0.9300	1.0700	0.9689	1.0709	LD	3655	D:3WHITEMA-3HAYES91 +6CORRCTN-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVlt	BaseVlt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
313810	60AHLGRN	230.0	345	354	0.1924	0.9944	0.9300	1.0700	0.9447	1.0442	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
313813	30CRAN	115.0	345	354	0.6301	0.9996	0.9300	1.0700	0.9497	1.0496	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
313828	3WHITENAR	115.0	345	354	0.9116	1.0033	0.9300	1.0700	0.9532	1.0535	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314131	6ARNOLDS	230.0	345	354	0.1921	0.9976	0.9300	1.0700	0.9477	1.0474	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314139	60ARGROV	230.0	345	354	0.2026	0.9964	0.9300	1.0700	0.9465	1.0462	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.4017	1.0005	0.9300	1.0700	0.9504	1.0505	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314174	3HARMONY	115.0	345	354	0.8053	1.0016	0.9300	1.0700	0.9516	1.0517	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314178	3LANCAST	115.0	345	354	0.5963	1.0010	0.9300	1.0700	0.9509	1.0510	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314181	3NORNECK	115.0	345	354	0.2597	1.0099	0.9300	1.0700	0.9595	1.0604	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314182	6NORNECK	230.0	345	354	0.2197	0.9971	0.9300	1.0700	0.9472	1.0469	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314183	6SANDERS	230.0	345	354	0.2153	0.9967	0.9300	1.0700	0.9469	1.0465	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314184	3SHACKLE	115.0	345	354	0.8668	1.0001	0.9300	1.0700	0.9501	1.0502	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314187	3WAN 176	115.0	345	354	0.7832	0.9846	0.9300	1.0700	0.9354	1.0339	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314188	3WEST PT	115.0	345	354	0.8985	0.9995	0.9300	1.0700	0.9496	1.0495	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314190	6WESTMOR	230.0	345	354	0.2100	0.9969	0.9300	1.0700	0.9470	1.0467	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314191	3WHITE S	115.0	345	354	0.6661	0.9991	0.9300	1.0700	0.9491	1.0490	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314395	3HARMO 2	115.0	345	354	0.8057	1.0021	0.9300	1.0700	0.9520	1.0522	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
314400	3LANCA 1	115.0	345	354	0.5966	1.0015	0.9300	1.0700	0.9514	1.0515	LD	3934	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6NORNECK1
313810	60AHLGRN	230.0	345	354	0.0030	0.9944	0.9300	1.0700	0.9447	1.0442	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313813	30CRAN	115.0	345	354	0.5104	0.9996	0.9300	1.0700	0.9497	1.0496	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313828	3WHITENAR	115.0	345	354	0.8858	1.0033	0.9300	1.0700	0.9532	1.0535	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314131	6ARNOLDS	230.0	345	354	0.0024	0.9976	0.9300	1.0700	0.9477	1.0474	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314139	60ARGROV	230.0	345	354	0.0248	0.9964	0.9300	1.0700	0.9465	1.0462	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.2116	1.0005	0.9300	1.0700	0.9517	1.0519	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.7467	1.0016	0.9300	1.0700	0.9504	1.0505	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.9065	1.0237	0.9300	1.0700	0.9725	1.0749	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.4647	1.0010	0.9300	1.0700	0.9509	1.0510	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.0488	1.0099	0.9300	1.0700	0.9595	1.0604	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.0248	0.9971	0.9300	1.0700	0.9472	1.0469	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.0216	0.9967	0.9300	1.0700	0.9469	1.0465	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314184	3SHACKLE	115.0	345	354	0.8293	1.0001	0.9300	1.0700	0.9501	1.0502	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.7239	0.9846	0.9300	1.0700	0.9354	1.0339	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.8711	0.9995	0.9300	1.0700	0.9496	1.0495	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.0177	0.9969	0.9300	1.0700	0.9470	1.0467	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.5593	0.9991	0.9300	1.0700	0.9491	1.0490	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7472	1.0023	0.9300	1.0700	0.9522	1.0524	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7471	1.0021	0.9300	1.0700	0.9520	1.0522	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.4649	1.0015	0.9300	1.0700	0.9514	1.0515	LD	3935	D: GARNOLDS-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313810	60AHLGRN	230.0	345	354	0.9157	0.9944	0.9300	1.0700	0.9447	1.0442	LD	3940	D: GARNOLDS-6COMORN 1 + 3HARMONY-3WHITE S1
314131	6ARNOLDS	230.0	345	354	0.9152	0.9976	0.9300	1.0700	0.9477	1.0474	LD	3940	D: GARNOLDS-6COMORN 1 + 3HARMONY-3WHITE S1
313813	30CRAN	115.0	345	354	0.2929	0.9944	0.9300	1.0700	0.9447	1.0442	LD	4254	D: 6BIRCHWD-6COMORN 1 + 6DUNNSVL-6NORNECK1
313813	30CRAN	115.0	345	354	0.6799	0.9996	0.9300	1.0700	0.9477	1.0474	LD	4254	D: 6BIRCHWD-6COMORN 1 + 6DUNNSVL-6NORNECK1
314131	6ARNOLDS	230.0	345	354	0.2924	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4254	D: 6BIRCHWD-6COMORN 1 + 6DUNNSVL-6NORNECK1
314139	60ARGROV	230.0	345	354	0.3022	0.9964	0.9300	1.0700	0.9465	1.0462	LD	4254	D: 6BIRCHWD-6COMORN 1 + 6DUNNSVL-6NORNECK1
314173	3GARNER	115.0	345	354	0.4791	1.0005	0.9300	1.0700	0.9504	1.0505	LD	4254	D: 6BIRCHWD-6COMORN 1 + 6DUNNSVL-6NORNECK1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Uplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314174	3HARMONY	115.0	345	354	0.8330	1.0016	0.9300	1.0700	0.9516	1.0517	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314175	6COMORN	230.0	345	354	0.2923	0.9980	0.9300	1.0700	0.9481	1.0479	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314178	3LANCAST	115.0	345	354	0.6505	1.0010	0.9300	1.0700	0.9509	1.0510	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314181	3GNORNECK	115.0	345	354	0.3462	1.0099	0.9300	1.0700	0.9595	1.0604	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314182	6GNORNECK	230.0	345	354	0.3170	0.9971	0.9300	1.0700	0.9472	1.0469	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314183	6SANDERS	230.0	345	354	0.3132	0.9967	0.9300	1.0700	0.9469	1.0465	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314184	3SHACKLE	115.0	345	354	0.8864	1.0001	0.9300	1.0700	0.9501	1.0502	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314187	3WAN 176	115.0	345	354	0.8108	0.9946	0.9300	1.0700	0.9354	1.0339	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314188	3WEST PT	115.0	345	354	0.9138	0.9995	0.9300	1.0700	0.9496	1.0495	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314190	6WESTMOR	230.0	345	354	0.3087	0.9969	0.9300	1.0700	0.9470	1.0467	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314191	3WHITE S	115.0	345	354	0.7215	0.9991	0.9300	1.0700	0.9491	1.0490	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314385	3HARMO 1	115.0	345	354	0.8336	1.0023	0.9300	1.0700	0.9522	1.0524	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314395	3HARMO 2	115.0	345	354	0.8334	1.0021	0.9300	1.0700	0.9520	1.0522	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
314400	3LANCA 1	115.0	345	354	0.6508	1.0015	0.9300	1.0700	0.9514	1.0515	LD	4254	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6GNORNECK1
313810	6DAHLGREN	230.0	345	354	0.0011	0.9944	0.9300	1.0700	0.9447	1.0442	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313813	3OCRAN	115.0	345	354	0.5045	0.9996	0.9300	1.0700	0.9497	1.0496	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313816	3WHITEMAR	115.0	345	354	0.8828	1.0033	0.9300	1.0700	0.9532	1.0535	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314131	6ARNOLDS	230.0	345	354	0.0019	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314139	6OAKGROV	230.0	345	354	0.0083	0.9964	0.9300	1.0700	0.9465	1.0462	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.0244	1.0018	0.9300	1.0700	0.9517	1.0519	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314173	3GARNER	115.0	345	354	0.2084	1.0005	0.9300	1.0700	0.9504	1.0505	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.7413	1.0016	0.9300	1.0700	0.9516	1.0517	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314175	6COMORN	230.0	345	354	0.0020	0.9980	0.9300	1.0700	0.9481	1.0479	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314176	3HARMONY	115.0	345	354	0.9022	1.0237	0.9300	1.0700	0.9729	1.0749	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.4592	1.0010	0.9300	1.0700	0.9509	1.0510	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314181	3GNORNECK	115.0	345	354	0.0467	1.0099	0.9300	1.0700	0.9595	1.0604	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314182	6GNORNECK	230.0	345	354	0.0224	0.9971	0.9300	1.0700	0.9472	1.0469	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.0189	0.9967	0.9300	1.0700	0.9469	1.0465	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314184	3SHACKLE	115.0	345	354	0.8247	1.0001	0.9300	1.0700	0.9501	1.0502	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.7195	0.9946	0.9300	1.0700	0.9354	1.0339	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314188	3WEST PT	115.0	345	354	0.8672	0.9995	0.9300	1.0700	0.9496	1.0495	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314190	6WESTMOR	230.0	345	354	0.0147	0.9969	0.9300	1.0700	0.9470	1.0467	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.5531	0.9991	0.9300	1.0700	0.9491	1.0490	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.7418	1.0023	0.9300	1.0700	0.9522	1.0524	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.7417	1.0021	0.9300	1.0700	0.9520	1.0522	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
314400	3LANCA 1	115.0	345	354	0.4594	1.0015	0.9300	1.0700	0.9514	1.0515	LD	4255	D:6BIRCHWD-6COMORN 1 + 6DUNNSVL-6LANEXA 1
313810	6DAHLGREN	230.0	345	354	0.9108	0.9944	0.9300	1.0700	0.9447	1.0442	LD	4260	D:6BIRCHWD-6COMORN 1 + 3HARMONY-WHITE S1
314131	6ARNOLDS	230.0	345	354	0.9099	0.9976	0.9300	1.0700	0.9477	1.0474	LD	4260	D:6BIRCHWD-6COMORN 1 + 3HARMONY-WHITE S1
314139	6OAKGROV	230.0	345	354	0.9292	0.9964	0.9300	1.0700	0.9465	1.0462	LD	4260	D:6BIRCHWD-6COMORN 1 + 3HARMONY-WHITE S1
314175	6COMORN	230.0	345	354	0.8863	1.0005	0.9300	1.0700	0.9504	1.0505	LD	4891	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6GNORNECK1
314173	3GARNER	115.0	345	354	0.8530	1.0099	0.9300	1.0700	0.9595	1.0604	LD	4891	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6GNORNECK1
314181	3GNORNECK	115.0	345	354	0.7709	0.9971	0.9300	1.0700	0.9472	1.0469	LD	4891	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6GNORNECK1
314182	6GNORNECK	230.0	345	354	0.7708	0.9969	0.9300	1.0700	0.9470	1.0467	LD	4891	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6GNORNECK1
314183	6SANDERS	230.0	345	354	0.7708	0.9967	0.9300	1.0700	0.9469	1.0465	LD	4891	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6GNORNECK1
314190	6WESTMOR	230.0	345	354	0.8423	0.9996	0.9300	1.0700	0.9497	1.0496	LD	4892	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6LANEXA 1
313813	3OCRAN	115.0	345	354	0.5914	1.0018	0.9300	1.0700	0.9517	1.0519	LD	4892	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6LANEXA 1
314172	6DUNNSVL	230.0	345	354	0.5914	1.0018	0.9300	1.0700	0.9517	1.0519	LD	4892	D:6OAKGROV-6WESTMOR1 + 6DUNNSVL-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314173	3GARNER	115.0	345	354	0.7258	1.0005	0.9300	1.0700	0.9504	1.0505	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314178	3LANCAST	115.0	345	354	0.8266	1.0010	0.9300	1.0700	0.9509	1.0510	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314181	3NORNECK	115.0	345	354	0.6571	1.0099	0.9300	1.0700	0.9595	1.0604	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314182	6NORNECK	230.0	345	354	0.5935	0.9971	0.9300	1.0700	0.9472	1.0469	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314183	6SANDERS	230.0	345	354	0.5928	0.9967	0.9300	1.0700	0.9469	1.0465	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.9177	0.9846	0.9300	1.0700	0.9354	1.0339	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314190	6WESTHOR	230.0	345	354	0.8932	0.9969	0.9300	1.0700	0.9470	1.0467	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314191	3WHITE S	115.0	345	354	0.8599	0.9991	0.9300	1.0700	0.9491	1.0490	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314190	3LANCA 1	115.0	345	354	0.8270	1.0015	0.9300	1.0700	0.9514	1.0515	LD	4892	D: 60AKGROV-6WESTHOR1 + 6DUNNSVL-6LANEXA 1
314191	3NORNECK	115.0	345	354	0.9061	1.0099	0.9300	1.0700	0.9505	1.0604	LD	5224	D: 6DUNNSVL-6NORNECK1 + 6NORNECK-6SANDERS1
314182	6NORNECK	230.0	345	354	0.8295	0.9971	0.9300	1.0700	0.9472	1.0469	LD	5224	D: 6DUNNSVL-6NORNECK1 + 6NORNECK-6SANDERS1
314173	3GARNER	115.0	345	354	0.8947	1.0005	0.9300	1.0700	0.9505	1.0505	LD	5225	D: 6DUNNSVL-6NORNECK1 + 6SANDERS-6WESTHOR1
314181	3NORNECK	115.0	345	354	0.8611	1.0099	0.9300	1.0700	0.9595	1.0604	LD	5225	D: 6DUNNSVL-6NORNECK1 + 6SANDERS-6WESTHOR1
314182	6NORNECK	230.0	345	354	0.7760	0.9971	0.9300	1.0700	0.9472	1.0469	LD	5225	D: 6DUNNSVL-6NORNECK1 + 6SANDERS-6WESTHOR1
314183	6SANDERS	230.0	345	354	0.7752	0.9967	0.9300	1.0700	0.9469	1.0465	LD	5225	D: 6DUNNSVL-6NORNECK1 + 6SANDERS-6WESTHOR1
314172	6DUNNSVL	230.0	345	354	0.7659	1.0018	0.9300	1.0700	0.9517	1.0519	LD	5540	D: 6DUNNSVL-6LANEXA 1 + 6NORNECK-6SANDERS1
314173	3GARNER	115.0	345	354	0.8853	1.0005	0.9300	1.0700	0.9504	1.0505	LD	5540	D: 6DUNNSVL-6LANEXA 1 + 6NORNECK-6SANDERS1
314181	3NORNECK	115.0	345	354	0.8497	1.0099	0.9300	1.0700	0.9595	1.0604	LD	5540	D: 6DUNNSVL-6LANEXA 1 + 6NORNECK-6SANDERS1
314182	6NORNECK	230.0	345	354	0.7666	0.9971	0.9300	1.0700	0.9472	1.0469	LD	5540	D: 6DUNNSVL-6LANEXA 1 + 6NORNECK-6SANDERS1
313813	3OCRAV	115.0	345	354	0.8773	0.9996	0.9300	1.0700	0.9497	1.0496	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314172	6DUNNSVL	230.0	345	354	0.6461	1.0018	0.9300	1.0700	0.9517	1.0519	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314173	3GARNER	115.0	345	354	0.7797	1.0005	0.9300	1.0700	0.9504	1.0505	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314178	3LANCAST	115.0	345	354	0.8648	1.0010	0.9300	1.0700	0.9509	1.0510	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314181	3NORNECK	115.0	345	354	0.7191	1.0099	0.9300	1.0700	0.9595	1.0604	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314182	6NORNECK	230.0	345	354	0.6481	0.9971	0.9300	1.0700	0.9472	1.0469	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314193	6SANDERS	230.0	345	354	0.6472	0.9967	0.9300	1.0700	0.9469	1.0465	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314191	3WHITE S	115.0	345	354	0.8915	0.9991	0.9300	1.0700	0.9491	1.0490	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314190	3LANCA 1	115.0	345	354	0.8652	1.0015	0.9300	1.0700	0.9514	1.0515	LD	5541	D: 6DUNNSVL-6LANEXA 1 + 6SANDERS-6WESTHOR1
314176	6HARMONY	230.0	345	354	0.9021	1.0237	0.9300	1.0700	0.9725	1.0749	LD	5881	D: 3GARNER - 3LANCAST1 + 6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8959	1.0197	0.9300	1.0700	0.9687	1.0709	LD	5881	D: 3GARNER - 3LANCAST1 + 6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.8955	1.0199	0.9300	1.0700	0.9689	1.0709	LD	5881	D: 3GARNER - 3LANCAST1 + 6CORRECTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9169	1.0237	0.9300	1.0700	0.9861	1.0899	LD	6166	D: 3GARNER - 3NORNECK1 + 6HAYES - 6YORKTWN1
314176	6HARMONY	230.0	345	354	0.8760	1.0237	0.9300	1.0700	0.9725	1.0749	LD	6173	D: 3GARNER - 3NORNECK1 + 6PAPERMI-6CORRECTN1
314189	6PAPERMI	230.0	345	354	0.8768	1.0197	0.9300	1.0700	0.9687	1.0709	LD	6173	D: 3GARNER - 3NORNECK1 + 6PAPERMI-6CORRECTN1
314176	6HARMONY	230.0	345	354	0.8657	1.0237	0.9300	1.0700	0.9725	1.0749	LD	6195	D: 3GARNER - 3NORNECK1 + 6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8592	1.0197	0.9300	1.0700	0.9687	1.0709	LD	6195	D: 3GARNER - 3NORNECK1 + 6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.8587	1.0199	0.9300	1.0700	0.9689	1.0709	LD	6195	D: 3GARNER - 3NORNECK1 + 6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.9162	1.0197	0.9300	1.0700	0.9687	1.0709	LD	6486	D: 3HARMONY-3SHACKLE1 + 6PAPERMI-6CORRECTN1
314176	6HARMONY	230.0	345	354	0.8771	1.0237	0.9300	1.0700	0.9725	1.0749	LD	6508	D: 3HARMONY-3SHACKLE1 + 6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8707	1.0197	0.9300	1.0700	0.9687	1.0709	LD	6508	D: 3HARMONY-3SHACKLE1 + 6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.8703	1.0199	0.9300	1.0700	0.9689	1.0709	LD	6508	D: 3HARMONY-3SHACKLE1 + 6CORRECTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9141	1.0237	0.9300	1.0700	0.9861	1.0899	LD	7412	D: 3HARMONY-3HARMO 11 + 6HAYES - 6YORKTWN1
314176	6HARMONY	230.0	345	354	0.9050	1.0237	0.9300	1.0700	0.9725	1.0749	LD	7419	D: 3HARMONY-3HARMO 11 + 6PAPERMI-6CORRECTN1
314189	6PAPERMI	230.0	345	354	0.9000	1.0197	0.9300	1.0700	0.9687	1.0709	LD	7419	D: 3HARMONY-3HARMO 11 + 6PAPERMI-6CORRECTN1
314176	6HARMONY	230.0	345	354	0.8753	1.0237	0.9300	1.0700	0.9725	1.0749	LD	7441	D: 3HARMONY-3HARMO 11 + 6CORRECTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8688	1.0197	0.9300	1.0700	0.9687	1.0709	LD	7441	D: 3HARMONY-3HARMO 11 + 6CORRECTN-6LANEXA 1
314375	6CORRECTN	230.0	345	354	0.8684	1.0199	0.9300	1.0700	0.9689	1.0709	LD	7441	D: 3HARMONY-3HARMO 11 + 6CORRECTN-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314180	6HAYES	230.0	345	354	0.9157	1.0380	0.9300	1.0700	0.9861	1.0899	LD	7721	D: 3HARMONY-3HARMO 21 + 6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.9009	1.0237	0.9300	1.0700	0.9725	1.0749	LD	7750	D: 3HARMONY-3HARMO 21 + 6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8947	1.0197	0.9300	1.0700	0.9687	1.0707	LD	7750	D: 3HARMONY-3HARMO 21 + 6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8943	1.0199	0.9300	1.0700	0.9669	1.0709	LD	7750	D: 3HARMONY-3HARMO 21 + 6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8857	1.0237	0.9300	1.0700	0.9725	1.0749	LD	8334	D: 6HARMONY-6PAPERMI1 + 3HAYES89-6HAYES 1
314176	6HARMONY	230.0	345	354	0.8867	1.0237	0.9300	1.0700	0.9725	1.0749	LD	8336	D: 6HARMONY-6PAPERMI1 + 6HAYES -6YORKTWN1
314180	6HAYES	230.0	345	354	0.8605	1.0380	0.9300	1.0700	0.9861	1.0899	LD	8336	D: 6HARMONY-6PAPERMI1 + 6HAYES -6YORKTWN1
313828	3WHITEMAR	115.0	345	354	0.9104	1.0033	0.9300	1.0700	0.9532	1.0535	LD	8649	D: 3HAYES89-6HAYES 1 + 6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.8518	1.0237	0.9300	1.0700	0.9725	1.0749	LD	8649	D: 3HAYES89-6HAYES 1 + 6PAPERMI-6CORRCTN1
314177	3HAYES89	115.0	345	354	0.9049	1.0037	0.9300	1.0700	0.9535	1.0539	LD	8649	D: 3HAYES89-6HAYES 1 + 6PAPERMI-6CORRCTN1
314187	3WAN 176	115.0	345	354	0.9094	0.9846	0.9300	1.0700	0.9354	1.0339	LD	8649	D: 3HAYES89-6HAYES 1 + 6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8465	1.0197	0.9300	1.0700	0.9687	1.0707	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.8961	1.0033	0.9300	1.0700	0.9532	1.0535	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314174	3HARMONY	230.0	345	354	0.9161	1.0237	0.9300	1.0700	0.9725	1.0749	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8374	1.0037	0.9300	1.0700	0.9725	1.0749	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.8925	1.0037	0.9300	1.0700	0.9535	1.0539	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8972	0.9846	0.9300	1.0700	0.9354	1.0339	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8305	1.0197	0.9300	1.0700	0.9687	1.0707	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.8301	1.0199	0.9300	1.0700	0.9689	1.0709	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314365	3HARMO 1	115.0	345	354	0.9167	1.0237	0.9300	1.0700	0.9522	1.0524	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.9265	1.0021	0.9300	1.0700	0.9520	1.0522	LD	8671	D: 3HAYES89-6HAYES 1 + 6CORRCTN-6LANEXA 1
314160	6HAYES	230.0	345	354	0.9138	1.0380	0.9300	1.0700	0.9861	1.0899	LD	8947	D: 3LANCAST-3LANCA 11 + 6HAYES -6YORKTWN1
314176	6HARMONY	230.0	345	354	0.9269	1.0237	0.9300	1.0700	0.9725	1.0749	LD	8976	D: 3LANCAST-3LANCA 11 + 6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.9268	1.0197	0.9300	1.0700	0.9687	1.0707	LD	8976	D: 3LANCAST-3LANCA 11 + 6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9105	1.0199	0.9300	1.0700	0.9689	1.0709	LD	8976	D: 3LANCAST-3LANCA 11 + 6CORRCTN-6LANEXA 1
313828	3WHITEMAR	115.0	345	354	0.9091	1.0033	0.9300	1.0700	0.9532	1.0535	LD	9258	D: 6HAYES -6YORKTWN1 + 6PAPERMI-6CORRCTN1
314174	3HARMONY	115.0	345	354	0.8506	1.0237	0.9300	1.0700	0.9725	1.0749	LD	9258	D: 6HAYES -6YORKTWN1 + 6PAPERMI-6CORRCTN1
314176	6HARMONY	230.0	345	354	0.9035	1.0037	0.9300	1.0700	0.9535	1.0539	LD	9258	D: 6HAYES -6YORKTWN1 + 6PAPERMI-6CORRCTN1
314187	3WAN 176	115.0	345	354	0.8957	0.9846	0.9300	1.0700	0.9354	1.0339	LD	9258	D: 6HAYES -6YORKTWN1 + 6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8452	1.0197	0.9300	1.0700	0.9687	1.0707	LD	9258	D: 6HAYES -6YORKTWN1 + 6PAPERMI-6CORRCTN1
313828	3WHITEMAR	115.0	345	354	0.8967	1.0033	0.9300	1.0700	0.9532	1.0535	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314174	3HARMONY	115.0	345	354	0.9147	1.0016	0.9300	1.0700	0.9516	1.0517	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8360	1.0237	0.9300	1.0700	0.9725	1.0749	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314177	3HAYES89	115.0	345	354	0.8910	1.0037	0.9300	1.0700	0.9535	1.0539	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.8957	1.0380	0.9300	1.0700	0.9861	1.0899	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.8291	1.0197	0.9300	1.0700	0.9354	1.0339	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8287	1.0199	0.9300	1.0700	0.9689	1.0709	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314375	6CORRCTN	230.0	345	354	0.9153	1.0023	0.9300	1.0700	0.9522	1.0524	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314385	3HARMO 1	115.0	345	354	0.9151	1.0021	0.9300	1.0700	0.9520	1.0522	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314395	3HARMO 2	115.0	345	354	0.9152	1.0021	0.9300	1.0700	0.9520	1.0522	LD	9280	D: 6HAYES -6YORKTWN1 + 6CORRCTN-6LANEXA 1
314180	6HAYES	230.0	345	354	0.9152	1.0021	0.9300	1.0700	0.9861	1.0899	LD	9291	D: 6HAYES -6YORKTWN1 + 6KINGS H-6SKIFCRE1
314187	3WAN 176	115.0	345	354	0.9153	1.0380	0.9300	1.0700	0.9681	1.0684	LD	9296	D: 6HAYES -6YORKTWN1 + 6LANEXA -6LANEX 11
314189	6PAPERMI	230.0	345	354	0.9083	1.0099	0.9300	1.0700	0.9595	1.0604	LD	9556	D: 3MORNECK-3MORNECK1 + 3MORNECK-3MORNECK2
314176	6HARMONY	230.0	345	354	0.8766	1.0237	0.9300	1.0700	0.9725	1.0749	LD	10763	D: 3SHACKLE-3WEST PT1 + 6PAPERMI-6CORRCTN1
314189	6PAPERMI	230.0	345	354	0.8701	1.0197	0.9300	1.0700	0.9687	1.0707	LD	10785	D: 3SHACKLE-3WEST PT1 + 6CORRCTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8701	1.0197	0.9300	1.0700	0.9687	1.0707	LD	10785	D: 3SHACKLE-3WEST PT1 + 6CORRCTN-6LANEXA 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314375	6CORRTN	230.0	345	354	0.8698	1.0199	0.9300	1.0700	0.9689	1.0709	LD	10765	D:3SHACKLE-WEST PT1 +6CORRTN-6LANEXA 1
314176	6HARMONY	230.0	345	354	0.8763	1.0237	0.9300	1.0700	0.9725	1.0749	LD	11061	D:3WEST PT-3LANEXA 1 +6PAPERMI-6CORRTN1
314189	6PAPERMI	230.0	345	354	0.8702	1.0197	0.9300	1.0700	0.9689	1.0709	LD	11061	D:3WEST PT-3LANEXA 1 +6PAPERMI-6CORRTN1
314176	6HARMONY	230.0	345	354	0.8559	1.0237	0.9300	1.0700	0.9725	1.0749	LD	11083	D:3WEST PT-3LANEXA 1 +6CORRTN-6LANEXA 1
314187	3WAN 176	115.0	345	354	0.9198	0.9846	0.9300	1.0700	0.9354	1.0339	LD	11083	D:3WEST PT-3LANEXA 1 +6CORRTN-6LANEXA 1
314189	6PAPERMI	230.0	345	354	0.8523	1.0197	0.9300	1.0700	0.9689	1.0709	LD	11083	D:3WEST PT-3LANEXA 1 +6CORRTN-6LANEXA 1
314375	6CORRTN	230.0	345	354	0.8519	1.0199	0.9300	1.0700	0.9689	1.0709	LD	11083	D:3WEST PT-3LANEXA 1 +6CORRTN-6LANEXA 1
314399	6PMBROK	230.0	345	356	0.9161	1.0293	0.9300	1.0700	0.9778	1.0807	LD	24494	D:6NP NEWS-6PMBROK1 +6PENINSL-6SHELBNK1
314407	6SHELBNK	230.0	345	356	0.9166	1.0270	0.9300	1.0700	0.9756	1.0783	LD	24494	D:6NP NEWS-6PMBROK1 +6PENINSL-6SHELBNK1
314407	6SHELBNK	230.0	345	356	0.9166	1.0270	0.9300	1.0700	0.9756	1.0783	LD	24989	D:6PMBROK-6SHELBNK1 +6PENINSL-6SHELBNK1
314497	6SEWLSPT	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9571	1.0579	LD	38776	D:6CHRLND-6SEWLSPT1 +6CHRLND-6SEWLSPT2
314500	6NAVYS	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9571	1.0579	LD	38776	D:6CHRLND-6SEWLSPT1 +6CHRLND-6SEWLSPT2
314501	6NAVYS1	230.0	345	359	0.8675	1.0074	0.9300	1.0700	0.9571	1.0578	LD	38776	D:6CHRLND-6SEWLSPT1 +6CHRLND-6SEWLSPT2
314505	6NAVYN	230.0	345	359	0.8676	1.0075	0.9300	1.0700	0.9572	1.0579	LD	38776	D:6CHRLND-6SEWLSPT1 +6CHRLND-6SEWLSPT2
314510	6NAVYN1	230.0	345	359	0.8673	1.0073	0.9300	1.0700	0.9569	1.0577	LD	38776	D:6CHRLND-6SEWLSPT1 +6CHRLND-6SEWLSPT2
314735	3CHANCE	115.0	345	363	0.9111	1.0060	0.9300	1.0700	0.9557	1.0563	LD	54031	D:8BRISTER-CHANCE 1 +8CHANCE -8LDYSMTN1
314367	3CHANC	115.0	345	363	0.9117	1.0067	0.9300	1.0700	0.9564	1.0571	LD	54031	D:8BRISTER-CHANCE 1 +8CHANCE -8LDYSMTN1
314775	3NI RVER	115.0	345	363	0.9114	1.0029	0.9300	1.0700	0.9527	1.0530	LD	54031	D:8BRISTER-CHANCE 1 +8CHANCE -8LDYSMTN1
314779	3TDTAVRN	115.0	345	363	0.9161	0.9945	0.9300	1.0700	0.9448	1.0442	LD	54031	D:8BRISTER-CHANCE 1 +8CHANCE -8LDYSMTN1
314780	3MILLURNS	115.0	345	363	0.9180	0.9780	0.9300	1.0700	0.9291	1.0269	LD	54031	D:8BRISTER-CHANCE 1 +8CHANCE -8LDYSMTN1
314348	2GRETN 1	69.0	345	358	0.7886	1.0081	0.9300	1.0700	0.9577	1.0585	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314354	2ALTYS 1	69.0	345	358	0.8199	1.0272	0.9300	1.0700	0.9759	1.0786	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314515	3ALTYS 1	115.0	345	358	0.8198	0.9992	0.9300	1.0700	0.9492	1.0491	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314666	3ALTYSTA	138.0	345	358	0.8178	0.9986	0.9300	1.0700	0.9487	1.0486	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314671	4ALTYSTA	138.0	345	358	0.8059	0.9956	0.9300	1.0700	0.9459	1.0454	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314668	4BANTSTR	138.0	345	358	0.8687	0.9907	0.9300	1.0700	0.9412	1.0403	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314670	2ALTYSTA	69.0	345	358	0.8197	1.0270	0.9300	1.0700	0.9756	1.0783	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314671	4BEARSKN	138.0	345	358	0.8532	0.9931	0.9300	1.0700	0.9435	1.0428	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314680	2CHATHAM	69.0	345	358	0.7741	0.9951	0.9300	1.0700	0.9454	1.0449	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314685	2CHTM TP	69.0	345	358	0.7748	0.9958	0.9300	1.0700	0.9460	1.0455	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314689	3DOMINIO	115.0	345	358	0.7988	0.9910	0.9300	1.0700	0.9415	1.0406	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314694	3GRAT	115.0	345	358	0.8332	0.9998	0.9300	1.0700	0.9498	1.0498	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314700	3HALL BR	115.0	345	358	0.8199	0.9991	0.9300	1.0700	0.9492	1.0491	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314705	3HURT	115.0	345	358	0.8234	1.0000	0.9300	1.0700	0.9500	1.0500	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314712	3OTTER R	115.0	345	358	0.8199	0.9983	0.9300	1.0700	0.9484	1.0483	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314714	3PERTH	115.0	345	358	0.8897	1.0065	0.9300	1.0700	0.9582	1.0569	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314727	2CLMX DP	69.0	345	358	0.7719	0.9924	0.9300	1.0700	0.9428	1.0420	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314728	2CLMX TP	69.0	345	358	0.8150	0.9932	0.9300	1.0700	0.9435	1.0428	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314729	2GLADYS	69.0	345	358	0.7931	1.0042	0.9300	1.0700	0.9540	1.0545	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314730	2GLDY TP	69.0	345	358	0.8150	0.9932	0.9300	1.0700	0.9435	1.0428	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314731	2GRETN	69.0	345	358	0.7884	1.0079	0.9300	1.0700	0.9575	1.0583	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314732	2GRNA FB	69.0	345	358	0.7884	1.0079	0.9300	1.0700	0.9575	1.0583	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314733	2GRNA DP	69.0	345	358	0.7862	1.0060	0.9300	1.0700	0.9557	1.0563	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314734	2KLOP DP	69.0	345	358	0.8086	1.0196	0.9300	1.0700	0.9686	1.0706	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314735	2KLOP TP	69.0	345	358	0.8086	1.0196	0.9300	1.0700	0.9686	1.0706	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314736	2SHKO DP	69.0	345	358	0.7746	0.9956	0.9300	1.0700	0.9458	1.0454	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI
314737	2SM35757	69.0	345	358	0.7969	1.0126	0.9300	1.0700	0.9619	1.0632	LD	54247	D:8BATH CO-SVALLEY 1 +8DOOMS -8LEXNGTNI

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	Upplimit	VoltDrop	VoltBase	Viol	Ncon	Contingency Description
314738	2MT AIRY	69.0	345	358	0.7904	1.0068	0.9300	1.0700	0.9564	1.0571 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314739	2MT A TP	69.0	345	358	0.7969	1.0126	0.9300	1.0700	0.9619	1.0632 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314740	2ALT V535	69.0	345	358	0.8197	1.0270	0.9300	1.0700	0.9756	1.0763 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314789	2BEARSKN	69.0	345	358	0.8532	0.9931	0.9300	1.0700	0.9435	1.0428 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314836	3BALCFLS	115.0	345	365	0.9321	0.9991	0.9300	1.0700	0.9491	1.0490 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314837	3BUENA V	115.0	345	365	0.9341	0.9982	0.9300	1.0700	0.9483	1.0481 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314838	3BUSTLEB	115.0	345	365	0.9323	1.0025	0.9300	1.0700	0.9524	1.0526 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314839	3BUSTLT T	115.0	345	365	0.9325	1.0027	0.9300	1.0700	0.9525	1.0528 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314840	3CLFTN F	230.0	345	365	0.9292	0.9794	0.9300	1.0700	0.9304	1.0283 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314841	3CLFTN F	138.0	345	365	0.9291	1.0349	0.9300	1.0700	0.9632	1.0867 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314842	3CONGT2	138.0	345	365	0.9201	1.0247	0.9300	1.0700	0.9735	1.0760 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314843	3CONGT1	138.0	345	365	0.9274	1.0229	0.9300	1.0700	0.9717	1.0740 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314844	3CRAISGV	115.0	345	365	0.9350	0.9988	0.9300	1.0700	0.9489	1.0486 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314845	3FEFFNGR	115.0	345	365	0.9336	1.0021	0.9300	1.0700	0.9520	1.0522 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314846	3FAIRFLD	115.0	345	365	0.9200	1.0017	0.9300	1.0700	0.9516	1.0517 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314847	3FUDGE H	138.0	345	365	0.9274	1.0208	0.9300	1.0700	0.9698	1.0719 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314848	3GLASGOW	115.0	345	365	0.9367	1.0001	0.9300	1.0700	0.9501	1.0501 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314849	3GOSHEN	115.0	345	365	0.9368	1.0000	0.9300	1.0700	0.9500	1.0500 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314851	3JAMES L	115.0	345	365	0.9337	0.9981	0.9300	1.0700	0.9482	1.0480 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314852	3JMS L T	115.0	345	365	0.9343	0.9985	0.9300	1.0700	0.9486	1.0485 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314853	3LEXNGT1	115.0	345	365	0.9328	1.0035	0.9300	1.0700	0.9533	1.0537 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314854	3LEXNGT1	230.0	345	365	0.9286	0.9916	0.9300	1.0700	0.9420	1.0411 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314855	3LOWMOOR	230.0	345	365	0.9297	0.9790	0.9300	1.0700	0.9300	1.0279 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314856	3LEXNGT2	230.0	345	365	0.9366	0.9916	0.9300	1.0700	0.9420	1.0412 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314857	3LOWMOOR	138.0	345	365	0.9293	1.0326	0.9300	1.0700	0.9809	1.0842 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314858	3ROCKB T	115.0	345	365	0.9361	0.9993	0.9300	1.0700	0.9493	1.0492 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314859	3WSTVACO	138.0	345	365	0.92708	1.0184	0.9300	1.0700	0.9675	1.0693 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314860	3E MILL	138.0	345	365	0.92746	1.0190	0.9300	1.0700	0.9681	1.0700 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314861	3KIMMER	115.0	345	365	0.9433	0.9728	0.9300	1.0700	0.9242	1.0214 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314894	3LOWMO 1	138.0	345	365	0.92920	1.0331	0.9300	1.0700	0.9814	1.0847 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314901	3BATH CO	500.0	345	366	0.9501	1.0500	0.9300	1.0700	0.9975	1.1025 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314912	3LEXNGT1	500.0	345	366	0.9363	1.0349	0.9300	1.0700	0.9946	1.0993 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315165	3HURT 1	13.8	345	358	0.8566	1.0032	0.9300	1.0700	0.9530	1.0533 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315166	3HURT 2	13.8	345	358	0.8566	1.0032	0.9300	1.0700	0.9530	1.0533 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315201	3BATH 1A	20.5	345	366	0.9586	1.0324	0.9300	1.0700	0.9808	1.0840 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315202	3BATH 2B	20.5	345	366	0.9661	1.0324	0.9300	1.0700	0.9808	1.0840 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315203	3BATH 3C	20.5	345	366	0.9662	1.0320	0.9300	1.0700	0.9804	1.0836 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315204	3BATH 4D	20.5	345	366	0.9580	1.0321	0.9300	1.0700	0.9804	1.0837 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315205	3BATH 5E	20.5	345	366	0.9582	1.0324	0.9300	1.0700	0.9808	1.0840 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
315206	3BATH 6F	20.5	345	366	0.9573	1.0324	0.9300	1.0700	0.9808	1.0840 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
BS0510	3BATH 3W1	1.0	345	366	0.9429	1.0245	0.9300	1.0700	0.9733	1.0737 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
BS0511	3BATH 3W3	1.0	345	366	0.9385	1.0227	0.9300	1.0700	0.9716	1.0739 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
BS0512	3BATH 3W5	1.0	345	366	0.9383	1.0232	0.9300	1.0700	0.9721	1.0744 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
BS1090	3HURT 3WD	1.0	345	358	0.8248	1.0000	0.9300	1.0700	0.9500	1.0500 LD		54247	D:8BATH CO-8VALLEY 1 +8DOOMS -8LEXNGTNI
314135	3CHANCE	115.0	345	363	0.9137	1.0060	0.9300	1.0700	0.9557	1.0563 LD		56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314367	3CHANCE 1	115.0	345	363	0.9123	1.0067	0.9300	1.0700	0.9564	1.0571 LD		56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314775	3NI RVER	115.0	345	363	0.9120	1.0029	0.9300	1.0700	0.9527	1.0530 LD		56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	LowLimit	UppLimit	VoltDrop	VoltRise	Viol	Ncon	Contingency Description
314779	3TDTAVRN	115.0	345	363	0.9167	0.9945	0.9300	1.0700	0.9448	1.0442	LD	56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2
314780	3WILDRNS	115.0	345	363	0.9166	0.9780	0.9300	1.0700	0.9291	1.0269	LD	56792	D:3CHANCE -8CHANCE 1 +3CHANCE -8CHANCE 2

CATEGORY D

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 8:19 <BRV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFESCREEK

Case.File X:\S2021\sum 2021(2013LF)_wpre No Gen Ret Wskiffes.sav

Subsys.File X:\S2021\drv.sub

Monit.File X:\S2021\vapsys.mon

Contin.File X:\S2021\2015 Category D Alts.con

Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314074	6POSSUM	230	315008	1POSSM6A	18.0	TR	181.4	181.4	190.0	95.5	**	Base Case **
314074	6POSSUM	230	315009	1POSSM6B	18.0	TR	181.4	181.4	190.0	95.5	**	Base Case **
314289	6DARBYN	230	315067	1DARBY 1	13.8	TR	87.4	87.4	90.0	97.1	**	Base Case **
314289	6DARBYN	230	315068	1DARBY 2	13.8	TR	87.4	87.4	90.0	97.1	**	Base Case **
314289	6DARBYN	230	315069	1DARBY 3	13.8	TR	87.4	87.4	90.0	97.1	**	Base Case **
314289	6DARBYN	230	315070	1DARBY 4	13.8	TR	87.4	87.4	90.0	97.1	**	Base Case **
314465	6ELIZ R	230	315110	1ELIZAR3	13.8	TR	122.9	122.9	130.0	94.6	**	Base Case **
314543	6GRAVELA	230	315119	1GRAVEL3	13.8	TR	85.5	85.5	90.0	94.9	**	Base Case **
314543	6GRAVELA	230	315120	1GRAVEL4	13.8	TR	85.5	85.5	90.0	94.9	**	Base Case **
314544	6GRAVELB	230	315121	1GRAVEL5	13.8	TR	85.5	85.5	90.0	95.0	**	Base Case **
314544	6GRAVELB	230	315122	1GRAVEL6	13.8	TR	85.5	85.5	90.0	95.0	**	Base Case **
314682	3BUGGS I	115	315150	1BUGGS 1	13.8	TR	70.0	70.0	74.6	93.9	**	Base Case **
314682	3BUGGS I	115	315151	1BUGGS 2	13.8	TR	69.9	69.9	70.0	99.8	**	Base Case **
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	TR	508.2	508.2	540.0	94.1	**	Base Case **
314269	6PGDP	230	314291	3DEFEN97	115	TR	226.4	92.7	224.0	101.1	4	ROW 567
314278	6BERMUDA	230	314286	6CHSTF A	230	LN	706.7	90.6	541.0	130.6	4	ROW 567
314278	6BERMUDA	230	314303	6HOPEWLL	230	LN	706.9	90.7	549.0	128.8	4	ROW 567
314287	6CHSTF B	230	314303	6HOPEWLL	230	LN	645.7	52.9	549.0	117.6	4	ROW 567

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 8:19 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFESCREEK
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret Wskiffes.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\2015 Category D Alts.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
315218	LCUNIGC	18.0	345	366	1.0712	1.0712	0.9300	1.0700	1.0177	1.1248 H			** Base Case **
315064	ICHESTFS	13.8	345	357	1.0519	1.0005	0.9300	1.0700	0.9505	1.0506 R		4	ROW 567
313813	30CRAN	115.0	345	354	0.9406	0.9996	0.9300	1.0700	0.9497	1.0496 D		7	Lanexa
314172	6DUNNSVL	230.0	345	354	0.9328	1.0018	0.9300	1.0700	0.9517	1.0519 D		7	Lanexa
314174	3HARMONY	115.0	345	354	0.9367	1.0016	0.9300	1.0700	0.9516	1.0517 D		7	Lanexa
314176	6HARMONY	230.0	345	354	0.9269	1.0237	0.9300	1.0700	0.9725	1.0749 LD		7	Lanexa
314178	3LANCAST	115.0	345	354	0.9431	1.0010	0.9300	1.0700	0.9509	1.0510 D		7	Lanexa
314182	6NORNECK	230.0	345	354	0.9341	0.9971	0.9300	1.0700	0.9472	1.0469 D		7	Lanexa
314183	6SANDERS	230.0	345	354	0.9372	0.9967	0.9300	1.0700	0.9469	1.0465 D		7	Lanexa
314184	3SHACKLE	115.0	345	354	0.9246	1.0001	0.9300	1.0700	0.9501	1.0502 LD		7	Lanexa
314187	3WAN 176	115.0	345	354	0.9183	0.9846	0.9300	1.0700	0.9354	1.0339 LD		7	Lanexa
314188	3WEST PT	115.0	345	354	0.9192	0.9995	0.9300	1.0700	0.9496	1.0495 LD		7	Lanexa
314189	6FAPERMIL	230.0	345	354	0.9209	1.0197	0.9300	1.0700	0.9687	1.0707 LD		7	Lanexa
314190	6WESTMOR	230.0	345	354	0.9432	0.9969	0.9300	1.0700	0.9470	1.0467 D		7	Lanexa
314191	3WHITE S	115.0	345	354	0.9388	0.9991	0.9300	1.0700	0.9491	1.0490 D		7	Lanexa
314243	3PROV 92	115.0	345	355	0.9321	1.0000	0.9300	1.0700	0.9500	1.0500 D		7	Lanexa
314375	6CORRECTN	230.0	345	354	0.9206	1.0199	0.9300	1.0700	0.9689	1.0709 LD		7	Lanexa
314385	3HARMO 1	115.0	345	354	0.9374	1.0023	0.9300	1.0700	0.9522	1.0524 D		7	Lanexa
314387	3LANEXA	115.0	345	356	0.9162	1.0035	0.9300	1.0700	0.9534	1.0537 LD		7	Lanexa
314395	3HARMO 2	115.0	345	354	0.9221	1.0021	0.9300	1.0700	0.9520	1.0522 D		7	Lanexa
314396	3NEWS56	115.0	345	356	0.9121	0.9988	0.9300	1.0700	0.9498	1.0498 LD		7	Lanexa
314400	3LANCA 1	115.0	345	354	0.9436	1.0015	0.9300	1.0700	0.9514	1.0515 D		7	Lanexa
314411	3TORANOS6	115.0	345	356	0.9115	0.9992	0.9300	1.0700	0.9493	1.0492 LD		7	Lanexa
314180	6HAYES	230.0	345	354	0.9680	1.0380	0.9300	1.0700	0.9861	1.0899 D		9	Yorktown

CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 06 2013 9:38 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500KV.sav
Subsys.File X:\S2021\dvp.sub
Monit.File X:\S2021\vapsys.mon
Contn.File X:\S2021\vapsys.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314074	6POSSUM	230	315008	1POSSM6A	18.0	1	TR	181.0	190.0	95.3		** Base Case **
314074	6POSSUM	230	315009	1POSSM6B	18.0	1	TR	181.0	190.0	95.3		** Base Case **
314289	6DARBYTN	230	315067	1DARBY 1	13.8	1	TR	87.6	90.0	97.4		** Base Case **
314289	6DARBYTN	230	315068	1DARBY 2	13.8	1	TR	87.6	90.0	97.4		** Base Case **
314289	6DARBYTN	230	315069	1DARBY 3	13.8	1	TR	87.6	90.0	97.4		** Base Case **
314289	6DARBYTN	230	315070	1DARBY 4	13.8	1	TR	87.6	90.0	97.4		** Base Case **
314465	6ELIZ R	230	315110	1ELIZAR3	13.8	1	TR	122.9	130.0	94.5		** Base Case **
314543	6GRAVELA	230	315119	1GRAVEL3	13.8	1	TR	85.5	90.0	94.9		** Base Case **
314543	6GRAVELA	230	315120	1GRAVEL4	13.8	1	TR	85.5	90.0	94.9		** Base Case **
314544	6GRAVELB	230	315121	1GRAVEL5	13.8	1	TR	85.5	90.0	95.0		** Base Case **
314544	6GRAVELB	230	315122	1GRAVEL6	13.8	1	TR	85.5	90.0	95.0		** Base Case **
314682	3BUGGS I	115	315150	1BUGGS 1	13.8	1	TR	70.0	74.6	93.9		** Base Case **
314682	3BUGGS I	115	315151	1BUGGS 2	13.8	1	TR	69.9	70.0	99.8		** Base Case **
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	1	TR	509.8	540.0	94.4		** Base Case **
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	1	TR	509.8	540.0	94.4		** Base Case **
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	1	TR	509.8	540.0	94.4		** Base Case **
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	1	TR	509.8	540.0	94.4		** Base Case **
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	1	TR	509.8	540.0	94.4		** Base Case **
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	1	TR	509.8	540.0	94.4		** Base Case **
314123	3WELLGTN	115	314141	3LIBERTY	115	1	LN	170.7	180.0	94.8		75 314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115	314160	1TX503	13.2	1	TR	64.3	38.2	142.8		75 314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115	314160	1TX503	13.2	1	TR	55.8	38.2	124.0		76 314014 3CANNONB 115 314155 3CANER T 115 1
314147	3MICR172	115	314160	1TX503	13.2	1	TR	85.2	38.2	189.4		102 314025 1 TX500 13.2 314148 3MICR197 115 1
314025	1TX500	13.2	314148	3MICR197	115	1	TR	83.4	40.4	185.4		103 314025 1 TX500 13.2 314160 1 TX503 13.2 21
314029	6DUMFRES	230	314074	6POSSUM	230	1	LN	674.0	542.8	95.6		160 314057 6LANERD 230 314074 6POSSUM 230 1
314025	1TX500	13.2	314148	3MICR197	115	1	TR	67.7	40.4	150.4		266 314123 3WELLGTN 115 314141 3LIBERTY 115 1
314025	1TX500	13.2	314148	3MICR197	115	1	TR	56.4	40.4	125.3		267 314123 3WELLGTN 115 314157 3GODW172 115 1
314025	1TX500	13.2	314148	3MICR197	115	1	TR	67.8	40.4	150.7		275 314133 6LIBERTY 230 314141 3LIBERTY 115 1

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 9:38 < UDF000.0 >

2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

**	From bus	**	**	To bus	**	Ckt	Type	ContMVA	BaseFlo w	Rating	Loading %	Noon	Contingency Description
314025	1 TX500	13.2	314148	3MICR197	115	1	TR	58.0	40.4	45.0	128.9	298	314147 3MICR172 115 314157 3GOW172 115 1
314025	1 TX500	13.2	314148	3MICR197	115	1	TR	83.4	40.4	45.0	185.4	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314147	3MICR172	115	314160	1 TX503	13.2	1	TR	58.0	38.2	45.0	128.8	301	314148 3MICR197 115 314155 3CANBR T 115 1
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	LN	246.2	141.1	262.0	94.0	406	314232 6NO ANNA 230 314766 6LOUISA 230 1
314289	6DARBYN	230	315067	1DARB1	13.8	1	TR	84.6	87.6	90.0	94.0	413	314236 6NRTHST 230 314289 6DARBYN 230 1
314289	6DARBYN	230	315068	1DARB2	13.8	1	TR	84.6	87.6	90.0	94.0	413	314236 6NRTHST 230 314289 6DARBYN 230 1
314289	6DARBYN	230	315069	1DARB3	13.8	1	TR	84.6	87.6	90.0	94.0	413	314236 6NRTHST 230 314289 6DARBYN 230 1
314289	6DARBYN	230	315070	1DARB4	13.8	1	TR	84.6	87.6	90.0	94.0	413	314236 6NRTHST 230 314289 6DARBYN 230 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	63.5	59.1	67.5	94.0	413	314236 6NRTHST 230 314289 6DARBYN 230 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	69.9	59.1	67.5	103.5	468	314275 6BELMEAD 230 314276 6BASIN 230 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	63.3	59.1	67.5	93.8	542	314307 6HULL282 230 314322 6MDLTHAN 230 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	67.6	59.1	67.5	100.2	560	314322 6MDLTHAN 230 314467 6MDLTHAN 230 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	67.2	59.1	67.5	99.6	561	314322 6MDLTHAN 230 314914 8MDLTHAN 500 1
314543	6GRAVELA	230	315119	1GRAVEL3	13.8	1	TR	89.5	85.5	90.0	99.5	826	314538 6SURRY 230 315116 1SURRY 1 22.0 1
314543	6GRAVELA	230	315120	1GRAVEL4	13.8	1	TR	89.2	85.5	90.0	99.1	826	314538 6SURRY 230 315116 1SURRY 1 22.0 1
314544	6GRAVELB	230	315121	1GRAVEL5	13.8	1	TR	89.2	85.5	90.0	99.1	826	314538 6SURRY 230 315116 1SURRY 1 22.0 1
314544	6GRAVELB	230	315122	1GRAVEL6	13.8	1	TR	89.1	85.5	90.0	99.1	826	314538 6SURRY 230 315116 1SURRY 1 22.0 1
314756	3DOUBLDY	115	314769	3ORANGE	115	1	LN	248.7	138.0	262.0	94.9	1105	314766 6LOUISA 230 314777 6S ANNA 230 1
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	LN	251.9	141.1	262.0	96.1	1105	314766 6LOUISA 230 314777 6S ANNA 230 1
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	1	TR	514.2	509.8	540.0	95.2	1221	314901 8BATH CO 500 314912 8LEXNGTN 500 1
314901	8BATH CO	500	314912	8LEXNGTN	500	1	LN	2925.5	1047.5	3118.0	93.8	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
314901	8BATH CO	500	BS0510	BATH 3W1	1.00	1	TR	1011.8	1008.3	1080.0	93.7	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
314901	8BATH CO	500	BS0511	BATH 3W3	1.00	1	TR	1012.0	1008.6	1080.0	93.7	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	1	TR	516.0	509.8	540.0	95.6	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	1	TR	519.3	509.8	540.0	96.2	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	1	TR	520.2	509.8	540.0	96.3	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	1	TR	515.8	509.8	540.0	95.5	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	1	TR	516.0	509.8	540.0	95.6	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	1	TR	515.6	509.8	540.0	95.5	1222	314901 8BATH CO 500 314926 8VALLEY 500 1
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	63.3	59.1	67.5	93.8	1238	314908 8ELMONT 500 314910 8CUNNING 500 1

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 9:38 < UDF000.0 >
2021 SUMMER BASE CASE (ERAG/MMW/G22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV
Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Subsys File X:\S2021\sub_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Monit File X:\S2021\mon_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Contn File X:\S2021\contn_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Exclud File none

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 9:38 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMW/G22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV
Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Subsys File X:\S2021\sub_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Monit File X:\S2021\mon_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Contn File X:\S2021\contn_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314014	3CANNONB	115.0	345	353	0.8487	0.9977	0.9300	1.0700	0.9478	1.0475	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9097	0.9978	0.9300	1.0700	0.9479	1.0477	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOMA172	115.0	345	353	0.9167	0.9656	0.9300	1.0700	0.9173	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOMA197	115.0	345	353	0.8490	0.9967	0.9300	1.0700	0.9469	1.0466	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELLSTN	115.0	345	353	0.9290	0.9681	0.9300	1.0700	0.9497	1.0165	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9273	0.9656	0.9300	1.0700	0.9174	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.8490	0.9967	0.9300	1.0700	0.9471	1.0468	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.9218	0.9666	0.9300	1.0700	0.9183	1.0150	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GODW172	115.0	345	353	0.8493	0.9961	0.9300	1.0700	0.9463	1.0459	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GODW197	115.0	345	353	0.9097	0.9978	0.9300	1.0700	0.9479	1.0477	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9374	0.9978	0.9300	1.0700	0.9479	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	3LOMA172	115.0	345	353	0.9293	0.9656	0.9300	1.0700	0.9173	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	3LOMA197	115.0	345	353	0.8800	0.9967	0.9300	1.0700	0.9469	1.0466	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MICR172	115.0	345	353	0.9298	0.9656	0.9300	1.0700	0.9174	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MICR197	115.0	345	353	0.8799	0.9962	0.9300	1.0700	0.9464	1.0461	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8800	0.9969	0.9300	1.0700	0.9471	1.0468	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GODW197	115.0	345	353	0.8801	0.9961	0.9300	1.0700	0.9463	1.0459	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314160	1 TX503	13.2	345	353	0.9374	0.9978	0.9300	1.0700	0.9479	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314025	1 TX500	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9479	1.0477	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	0.8971	0.9978	0.9300	1.0700	0.9479	1.0477	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	1.0819	0.9978	0.9300	1.0700	0.9479	1.0477	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314051	3LOMA197	115.0	345	353	0.9318	0.9967	0.9300	1.0700	0.9469	1.0466	D	152	314051 3LOMA197 115 314155 3CANNB T 115 1
314114	3MINNDL	115.0	345	353	0.9339	0.9900	0.9300	1.0700	0.9405	1.0395	D	186	314068 60X 230 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9323	0.9926	0.9300	1.0700	0.9430	1.0422	D	186	314068 60X 230 314167 30X 115 1
314167	30X	115.0	345	352	0.9324	1.0020	0.9300	1.0700	0.9519	1.0321	D	186	314068 60X 230 314167 30X 115 1
314114	3MINNDL	115.0	345	353	0.9323	0.9900	0.9300	1.0700	0.9405	1.0395	D	261	314118 3MINNIEV 115 314167 30X 115 1
314118	3MINNIEV	115.0	345	353	0.9306	0.9926	0.9300	1.0700	0.9430	1.0422	D	261	314118 3MINNIEV 115 314167 30X 115 1

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 9:38 < UDF000.0 >

2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UpplLim t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
314122	3SOWEGO	115.0	345	353	0.9317	1.0004	0.9300	1.0700	0.9504	1.0504	D	265	314122 3SOWEGO 115 314156 3BRISTER 115 1
314049	3LOMA172	115.0	345	353	0.8962	0.9656	0.9300	1.0700	0.9173	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8939	0.9681	0.9300	1.0700	0.9197	1.0165	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3MCR172	115.0	345	353	0.8959	0.9656	0.9300	1.0700	0.9174	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8951	0.9666	0.9300	1.0700	0.9183	1.0150	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3SOWEGO	115.0	345	353	0.9323	1.0004	0.9300	1.0700	0.9504	1.0504	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
314156	3BRISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544	D	269	314130 6BRISTER 230 314156 3BRISTER 115 1
313810	6DAHLGREN	230.0	345	354	0.9392	0.9937	0.9300	1.0700	0.9440	1.0433	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9387	0.9972	0.9300	1.0700	0.9473	1.0471	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
313810	6DAHLGREN	230.0	345	354	0.9347	0.9937	0.9300	1.0700	0.9440	1.0433	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9339	0.9972	0.9300	1.0700	0.9473	1.0471	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314139	6ORAGROV	230.0	345	354	0.9428	0.9951	0.9300	1.0700	0.9453	1.0449	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9338	0.9978	0.9300	1.0700	0.9479	1.0476	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314049	3LOMA172	115.0	345	353	0.8959	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8936	0.9681	0.9300	1.0700	0.9197	1.0165	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	353	0.8936	0.9692	0.9300	1.0700	0.9208	1.0177	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MCR172	115.0	345	353	0.8956	0.9656	0.9300	1.0700	0.9174	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3GOWM172	115.0	345	353	0.8950	0.9666	0.9300	1.0700	0.9183	1.0150	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314775	3NI RVER	115.0	345	363	0.9420	1.0028	0.9300	1.0700	0.9527	1.0530	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314779	3TOTAVRN	115.0	345	363	0.9446	0.9944	0.9300	1.0700	0.9447	1.0441	D	281	314135 3CHANCE 115 314775 3NI RVER 115 1
314151	3SLABTWN	115.0	345	355	0.9466	1.0029	0.9300	1.0700	0.9528	1.0531	D	286	314136 3FREDERG 115 314151 3SLABTWN 115 1
314025	1 TX5003	13.2	345	353	0.9453	0.9978	0.9300	1.0700	0.9479	1.0477	D	301	314148 3MCR197 115 314155 3CANBR T 115 1
314148	3MCR197	115.0	345	353	0.8832	0.9962	0.9300	1.0700	0.9464	1.0461	LD	301	314148 3MCR197 115 314155 3CANBR T 115 1
314156	3GOWM197	115.0	345	353	0.8834	0.9961	0.9300	1.0700	0.9463	1.0459	LD	301	314148 3MCR197 115 314155 3CANBR T 115 1
314160	1 TX503	13.2	345	353	0.9453	0.9978	0.9300	1.0700	0.9479	1.0477	D	301	314148 3MCR197 115 314155 3CANBR T 115 1
314160	6HAYES	230.0	345	354	0.9341	1.0324	0.9300	1.0700	0.9807	1.0840	D	328	314180 6HAYES 230 314423 6YORKTWN 230 1
314207	6OAK GRE	230.0	345	363	0.9068	0.9982	0.9300	1.0700	0.9483	1.0481	LD	352	314207 6OAK GRE 230 314232 6NO ANNA 230 1
314259	3CAR56 1	115.0	345	362	1.1466	1.0216	0.9300	1.0700	0.9705	1.0727	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314526	3HANDSON	115.0	345	360	1.0752	1.0240	0.9300	1.0700	0.9728	1.0752	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314534	3S HAMPT	115.0	345	360	1.0731	1.0259	0.9300	1.0700	0.9746	1.0772	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314541	3WATKINS	115.0	345	360	1.0730	1.0269	0.9300	1.0700	0.9756	1.0783	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314558	3BOYKINS	115.0	345	362	1.0803	1.0197	0.9300	1.0700	0.9687	1.0707	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314587	3MARGT5V	115.0	345	362	1.1036	1.0189	0.9300	1.0700	0.9680	1.0659	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314604	3SEABORD	115.0	345	362	1.1150	1.0187	0.9300	1.0700	0.9678	1.0656	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314626	3WATKI 1	115.0	345	360	1.0736	1.0275	0.9300	1.0700	0.9761	1.0788	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314827	3WATKI 2	115.0	345	360	1.0736	1.0275	0.9300	1.0700	0.9761	1.0788	H	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
314835	3CAROL 1	115.0	345	362	1.1477	1.0226	0.9300	1.0700	0.9715	1.0738	HR	436	314259 3CAR56 1 115 314559 3CAROLINA 115 1
315083	3ISPRUNCA	13.8	345	357	1.0441	0.9880	0.9300	1.0700	0.9386	1.0374	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
315085	3ISPRUNCC	13.8	345	357	1.0511	0.9896	0.9300	1.0700	0.9401	1.0391	R	468	314275 6BELMEAD 230 314276 6BASIN 230 1
314328	6PLAZA	230.0	345	357	0.9430	0.9996	0.9300	1.0700	0.9497	1.0496	D	570	314328 6PLAZA 230 314338 6SOUTWEST 230 1
314680	3CHATHAM	69.0	345	358	0.9338	0.9938	0.9300	1.0700	0.9441	1.0435	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314685	3CHTH TP	69.0	345	358	0.9444	0.9945	0.9300	1.0700	0.9447	1.0442	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314727	2CLMAX TP	69.0	345	358	0.9408	0.9911	0.9300	1.0700	0.9416	1.0407	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314728	2CLMAX TP	69.0	345	358	0.9416	0.9919	0.9300	1.0700	0.9423	1.0415	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9442	0.9943	0.9300	1.0700	0.9446	1.0440	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314176	6HARMONY	230.0	345	354	0.9671	1.0196	0.9300	1.0700	0.9686	1.0706	D	590	314375 6CORRGTN 230 314388 6LANEKA 230 1

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- FRI, MAR 08 2013 9:38 < UDF000.0 >
 2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
 2013 LF WPRE NO GEN RET WISKIFFES CSC NO SURRY 500 KV

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VolDro p	VolRIs e	Viol	Ncon	Contingency Description
314189	6PAPERHILL	230.0	345	354	0.9614	1.0157	0.9300	1.0700	0.9649	1.0665	D	598	314375 6CORRECTN 230 314388 6LANEXA 230 1
314375	6CORRECTN	230.0	345	354	0.9614	1.0160	0.9300	1.0700	0.9652	1.0668	D	598	314375 6CORRECTN 230 314388 6LANEXA 230 1
315111	1LKXINGA	13.8	345	359	0.9918	0.9427	0.9300	1.0700	0.8956	0.9898	R	677	314444 6BOWERS 230 314453 6CHRLND 230 1
315112	1LKXINGB	13.8	345	359	0.9918	0.9427	0.9300	1.0700	0.8956	0.9898	R	677	314444 6BOWERS 230 314453 6CHRLND 230 1
315111	1LKXINGA	13.8	345	359	0.9921	0.9427	0.9300	1.0700	0.8956	0.9898	R	704	314453 6CHRLND 230 314653 6CHRL 1 230 1
315112	1LKXINGB	13.8	345	359	0.9921	0.9427	0.9300	1.0700	0.8956	0.9898	R	704	314453 6CHRLND 230 314653 6CHRL 1 230 1
314527	3HOLLAND	115.0	345	360	1.0649	1.0134	0.9300	1.0700	0.9628	1.0641	R	805	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314524	3PRKLN	115.0	345	360	1.0779	1.0255	0.9300	1.0700	0.9742	1.0768	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0739	1.0259	0.9300	1.0700	0.9746	1.0772	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0816	1.0249	0.9300	1.0700	0.9737	1.0772	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0762	1.0269	0.9300	1.0700	0.9756	1.0783	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAM 1	115.0	345	360	1.0823	1.0256	0.9300	1.0700	0.9743	1.0769	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0767	1.0275	0.9300	1.0700	0.9761	1.0788	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0767	1.0275	0.9300	1.0700	0.9761	1.0788	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	1SHAMPT1	13.8	345	360	1.0454	0.9955	0.9300	1.0700	0.9457	1.0452	R	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314578	3HORNRTN	115.0	345	362	0.9647	1.0163	0.9300	1.0700	0.9655	1.0671	D	855	314559 3CAROLINA 115 314578 3HORNRTN 115 1
314516	3BRUNS 1	115.0	345	358	1.0746	1.0079	0.9300	1.0700	0.9575	1.0583	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314565	3CLBHS71	115.0	345	362	1.0945	1.0032	0.9300	1.0700	0.9531	1.0534	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314675	3BRODNAX	115.0	345	358	1.0613	1.0055	0.9300	1.0700	0.9532	1.0537	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314693	3FRMAN D	115.0	345	358	1.0712	1.0074	0.9300	1.0700	0.9571	1.0578	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314704	3LAHRENC	115.0	345	358	1.0763	1.0065	0.9300	1.0700	0.9562	1.0568	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314782	2BRUNSWC	69.0	345	358	1.0929	1.0273	0.9300	1.0700	0.9760	1.0787	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314785	2DANITWN	69.0	345	358	1.0394	0.9734	0.9300	1.0700	0.9247	1.0221	K	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314786	2CASBURG	69.0	345	358	1.0772	1.0105	0.9300	1.0700	0.9600	1.0611	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314787	2BRUNS2	69.0	345	358	1.0640	0.9998	0.9300	1.0700	0.9498	1.0498	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314850	3CLBHS 1	115.0	345	362	1.0951	1.0037	0.9300	1.0700	0.9535	1.0539	HR	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314872	2BRUNSWIC	69.0	345	358	1.0511	0.9860	0.9300	1.0700	0.9367	1.0333	R	864	314562 3CLUBHSE 115 314565 3CLBHS71 115 21
314576	3FIVE PT	115.0	345	362	1.0312	0.9812	0.9300	1.0700	0.9322	1.0303	R	894	314576 3FIVE PT 115 314592 3PANTEGO 115 1
313830	3KRWAK 1	115.0	345	361	1.0847	1.0411	0.9300	1.0700	0.9890	1.0932	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314634	3COLNGTN	115.0	345	361	1.0753	1.0306	0.9300	1.0700	0.9791	1.0822	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314635	3COLNGTP	115.0	345	361	1.0949	1.0309	0.9300	1.0700	0.9793	1.0824	HR	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314636	3COLNG2	115.0	345	361	1.1002	1.0358	0.9300	1.0700	0.9840	1.0876	HR	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0842	1.0406	0.9300	1.0700	0.9885	1.0926	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0842	1.0406	0.9300	1.0700	0.9885	1.0926	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0851	1.0416	0.9300	1.0700	0.9895	1.0936	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314829	3COLIN 1	115.0	345	361	1.1007	1.0363	0.9300	1.0700	0.9845	1.0882	HR	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314830	3COLNG 1	115.0	345	361	1.0758	1.0312	0.9300	1.0700	0.9796	1.0827	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
315146	1KITVHKA	13.8	345	361	1.0842	1.0406	0.9300	1.0700	0.9885	1.0926	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
315147	1KITVHKB	13.8	345	361	1.0852	1.0416	0.9300	1.0700	0.9896	1.0937	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
BS1162	KITT 3M4	1.0	345	361	1.0842	1.0406	0.9300	1.0700	0.9885	1.0926	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
BS1163	KITT 3M5	1.0	345	361	1.0852	1.0416	0.9300	1.0700	0.9896	1.0937	H	949	314635 3COLNGTTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0765	1.0069	0.9300	1.0700	0.9565	1.0572	HR	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0762	1.0066	0.9300	1.0700	0.9563	1.0569	HR	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314737	2SW3575	69.0	345	358	1.0664	1.0113	0.9300	1.0700	0.9608	1.0619	R	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0609	1.0055	0.9300	1.0700	0.9552	1.0558	R	1055	314731 2GRETNA 69.0 314732 2GRNA FB 69.0 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	UppLim t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
314739	2MT A TP	69.0	345	358	1.0664	1.0113	0.9300	1.0700	0.9608	1.0619	R	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0696	1.0069	0.9300	1.0700	0.9565	1.0572	R	1056	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314731	2GRETN	69.0	345	358	1.0694	1.0066	0.9300	1.0700	0.9563	1.0569	R	1056	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314732	2GRNA FB	69.0	345	358	1.0694	1.0066	0.9300	1.0700	0.9563	1.0569	R	1056	314731 2GRETN 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9396	0.9977	0.9300	1.0700	0.9478	1.0476	D	1065	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9423	1.0033	0.9300	1.0700	0.9531	1.0535	D	1108	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9433	0.9979	0.9300	1.0700	0.9480	1.0478	D	1200	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9268	0.9776	0.9300	1.0700	0.9288	1.0265	LD	1203	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	1N ANNA2	22.0	345	366	1.0721	1.0609	0.9300	1.0700	1.0079	1.1140	H	1215	314897 8MORRS 1 500 314916 8MORRSVL 500 1
315226	1N ANNA2	22.0	345	366	1.0722	1.0609	0.9300	1.0700	1.0079	1.1140	H	1282	235110 01NDWBRK 500 314913 8LOUOUN 500 1

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2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 9:47 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vapsys.mon
Contn.File X:\S2021\sum2021wpre ALT.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	** **	To bus	** CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314074	6POSSUM	230	315008 1POSSM6A	18.0 1	TR	181.0	181.0	190.0	95.3	**	Base Case **
314074	6POSSUM	230	315009 1POSSM6B	18.0 1	TR	181.0	181.0	190.0	95.3	**	Base Case **
314289	6DARBYTN	230	315067 1DARBY 1	13.8 1	TR	87.6	87.6	90.0	97.4	**	Base Case **
314289	6DARBYTN	230	315068 1DARBY 2	13.8 1	TR	87.6	87.6	90.0	97.4	**	Base Case **
314289	6DARBYTN	230	315069 1DARBY 3	13.8 1	TR	87.6	87.6	90.0	97.4	**	Base Case **
314289	6DARBYTN	230	315070 1DARBY 4	13.8 1	TR	87.6	87.6	90.0	97.4	**	Base Case **
314465	6ELIZ R	230	315110 1ELIZAR3	13.8 1	TR	122.9	122.9	130.0	94.5	**	Base Case **
314543	6GRAVELA	230	315119 1GRAVEL3	13.8 1	TR	85.5	85.5	90.0	94.9	**	Base Case **
314543	6GRAVELA	230	315120 1GRAVEL4	13.8 1	TR	85.5	85.5	90.0	94.9	**	Base Case **
314544	6GRAVELB	230	315121 1GRAVEL5	13.8 1	TR	85.5	85.5	90.0	95.0	**	Base Case **
314544	6GRAVELB	230	315122 1GRAVEL6	13.8 1	TR	85.5	85.5	90.0	95.0	**	Base Case **
314682	3BUGGS I	115	315150 1BUGGS 1	13.8 1	TR	70.0	70.0	74.6	93.9	**	Base Case **
314682	3BUGGS I	115	315151 1BUGGS 2	13.8 1	TR	69.9	69.9	70.0	99.8	**	Base Case **
315201	1BATH 1A	20.5	BS0510 BATH 3W1	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
315202	1BATH 2B	20.5	BS0510 BATH 3W1	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
315203	1BATH 3C	20.5	BS0511 BATH 3W3	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
315204	1BATH 4D	20.5	BS0511 BATH 3W3	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
315205	1BATH 5E	20.5	BS0512 BATH 3W5	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
315206	1BATH 6F	20.5	BS0512 BATH 3W5	1.00 1	TR	509.8	509.8	540.0	94.4	**	Base Case **
314025	1 TX500	13.2	314148 3MICR197	115 1	TR	60.9	40.4	45.0	135.4	153 LN 172	
314147	3MICR172	115	314160 1 TX503	13.2 1	TR	62.0	38.2	45.0	137.8	173 LN 197	
314756	3DOUBLYD	115	314769 3ORANGE	115 1	LN	247.9	138.0	262.0	94.6	229 LN 255	
314756	3DOUBLYD	115	314776 3SCMRSET	115 1	LN	251.0	141.1	262.0	95.8	229 LN 255	
315201	1BATH 1A	20.5	BS0510 BATH 3W1	1.00 1	TR	514.2	509.8	540.0	95.2	289 LN 547	
315202	1BATH 2B	20.5	BS0510 BATH 3W1	1.00 1	TR	514.2	509.8	540.0	95.2	289 LN 547	
315203	1BATH 3C	20.5	BS0511 BATH 3W3	1.00 1	TR	514.2	509.8	540.0	95.2	289 LN 547	

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 2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
 2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

**	From bus	**	**	To bus	**	Ckt	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	1	TR	514.2	509.8	540.0	95.2	289	LN 547
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	1	TR	514.2	509.8	540.0	95.2	289	LN 547
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	1	TR	514.2	509.8	540.0	95.2	289	LN 547
314901	8BATH CO	500	314912	8LEXNGTN	500	1	LN	2925.9	1047.5	3118.0	93.8	290	LN 548
314901	8BATH CO	500	BS0510	BATH 3W1	1.00	1	TR	1011.8	1008.3	1080.0	93.7	290	LN 548
314901	8BATH CO	500	BS0511	BATH 3W3	1.00	1	TR	1012.0	1008.6	1080.0	93.7	290	LN 548
315201	1BATH 1A	20.5	BS0510	BATH 3W1	1.00	1	TR	516.0	509.8	540.0	95.6	290	LN 548
315202	1BATH 2B	20.5	BS0510	BATH 3W1	1.00	1	TR	519.3	509.8	540.0	96.2	290	LN 548
315203	1BATH 3C	20.5	BS0511	BATH 3W3	1.00	1	TR	520.2	509.8	540.0	96.3	290	LN 548
315204	1BATH 4D	20.5	BS0511	BATH 3W3	1.00	1	TR	515.8	509.8	540.0	95.5	290	LN 548
315205	1BATH 5E	20.5	BS0512	BATH 3W5	1.00	1	TR	516.0	509.8	540.0	95.6	290	LN 548
315206	1BATH 6F	20.5	BS0512	BATH 3W5	1.00	1	TR	515.6	509.8	540.0	95.5	290	LN 548
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	67.4	59.1	67.5	99.9	317	LN 576
314123	3WELLGTN	115	314141	3LIBERTY	115	1	LN	172.8	84.2	180.0	96.0	331	LN 2011
314147	3MICR172	115	314160	1 TX503	13.2	1	TR	66.0	38.2	45.0	146.6	331	LN 2011
314289	6DARBYTN	230	315067	1DARBY 1	13.8	1	TR	84.6	87.6	90.0	94.0	370	LN 2053
314289	6DARBYTN	230	315068	1DARBY 2	13.8	1	TR	84.6	87.6	90.0	94.0	370	LN 2053
314289	6DARBYTN	230	315069	1DARBY 3	13.8	1	TR	84.6	87.6	90.0	94.0	370	LN 2053
314289	6DARBYTN	230	315070	1DARBY 4	13.8	1	TR	84.6	87.6	90.0	94.0	370	LN 2053
314339	6SPRUNCE	230	315083	1SPRUNCA	13.8	1	TR	63.5	59.1	67.5	94.0	370	LN 2053
314147	3MICR172	115	314160	1 TX503	13.2	1	TR	69.9	59.1	67.5	103.5	372	LN 2055
314025	1 TX500	13.2	314148	3MICR197	115	1	TR	85.2	38.2	45.0	189.4	465	TX-1 3MICR19
314025	1 TX500	13.2	314148	3MICR197	115	1	TR	68.2	40.4	45.0	151.6	507	TX-1 6LIBERT
314543	6GRAVELA	230	315119	1GRAVEL3	13.8	1	TR	83.6	40.4	45.0	185.7	512	TX-1 3MICR17
314543	6GRAVELA	230	315120	1GRAVEL4	13.8	1	TR	89.5	85.5	90.0	99.5	617	TX-1 6SURRY
314544	6GRAVELB	230	315121	1GRAVEL5	13.8	1	TR	89.2	85.5	90.0	99.1	617	TX-1 6SURRY
314544	6GRAVELB	230	315122	1GRAVEL6	13.8	1	TR	89.1	85.5	90.0	99.1	617	TX-1 6SURRY

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 2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
 2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV
 Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav
 Subsys.File X:\S2021\ldvp.sub
 Monit.File X:\S2021\ldvp.sub
 Contin.File X:\S2021\sum2021wpre ALT.Con
 Exclud.File none

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 9:47 <V0V003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSC No Surry500kv.sav

Subsys.File X:\S2021\ldvp.sub

Monit.File X:\S2021\ldvp.sub

Contin.File X:\S2021\sum2021wpre ALT.Con

Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro P	VoltRis e	Viol	Noon	Contingency Description
314524	3FRNKLN	115.0	345	360	1.0781	1.0255	0.9300	1.0700	0.9742	1.0768	UR	63 LN 68	
314534	3S HAMPT	115.0	345	360	1.0741	1.0259	0.9300	1.0700	0.9746	1.0772	H	63 LN 68	
314539	3UNCAMP	115.0	345	360	1.0818	1.0249	0.9300	1.0700	0.9737	1.0762	HR	63 LN 68	
314541	3WATKINS	115.0	345	360	1.0763	1.0269	0.9300	1.0700	0.9756	1.0783	H	63 LN 68	
314824	3UNCAM 1	115.0	345	360	1.0825	1.0256	0.9300	1.0700	0.9743	1.0769	HR	63 LN 68	
314826	3WATKI 1	115.0	345	360	1.0769	1.0275	0.9300	1.0700	0.9761	1.0788	H	63 LN 68	
314827	3WATKI 2	115.0	345	360	1.0769	1.0275	0.9300	1.0700	0.9761	1.0788	H	63 LN 68	
315115	1SHAMPT1	13.8	345	360	1.0456	0.9955	0.9300	1.0700	0.9457	1.0452	R	63 LN 68	
314147	3MICR172	115.0	345	353	0.9293	0.9656	0.9300	1.0700	0.9174	1.0139	L	153 LN 172	
314348	2GRSTN 1	69.0	345	358	1.0696	1.0089	0.9300	1.0700	0.9565	1.0572	R	154 LN 173	
314731	2GRSTNA	69.0	345	358	1.0694	1.0066	0.9300	1.0700	0.9563	1.0569	R	154 LN 173	
314732	2GRNA FB	69.0	345	358	1.0694	1.0066	0.9300	1.0700	0.9563	1.0569	R	154 LN 173	
314874	21N 174	69.0	345	351	1.0571	1.0018	0.9300	1.0700	0.9518	1.0519	R	155 LN 174	
314878	21N 178	69.0	345	351	1.0570	1.0018	0.9300	1.0700	0.9518	1.0519	R	157 LN 178	
314879	21N 179	69.0	345	351	1.0572	1.0018	0.9300	1.0700	0.9517	1.0519	R	158 LN 179	
314880	21N 180	69.0	345	351	1.0573	1.0018	0.9300	1.0700	0.9517	1.0519	R	159 LN 180	
314122	3SOWEGO	115.0	345	353	0.9232	0.9978	0.9300	1.0700	0.9504	1.0504	D	160 LN 181	
314025	1 TX500	13.2	345	353	0.9281	0.9656	0.9300	1.0700	0.9479	1.0477	LD	173 LN 197	
314049	31OMA172	115.0	345	353	0.9281	0.9656	0.9300	1.0700	0.9173	1.0139	L	173 LN 197	
314051	31OMA197	115.0	345	353	0.9281	0.9656	0.9300	1.0700	0.9469	1.0466	LD	173 LN 197	
314146	1 TX502	13.2	345	353	0.9457	0.9997	0.9300	1.0700	0.9497	1.0496	D	173 LN 197	
314147	3MICR172	115.0	345	353	0.9285	0.9656	0.9300	1.0700	0.9174	1.0139	L	173 LN 197	
314148	3MICR197	115.0	345	353	0.9290	0.9962	0.9300	1.0700	0.9464	1.0461	LD	173 LN 197	
314158	3GOWM197	115.0	345	353	0.9242	0.9961	0.9300	1.0700	0.9463	1.0459	LD	173 LN 197	
314160	1 TX503	13.2	345	353	0.9232	0.9978	0.9300	1.0700	0.9479	1.0477	LD	173 LN 197	
314161	1 TX501	13.2	345	353	0.9232	0.9996	0.9300	1.0700	0.9497	1.0496	D	173 LN 197	
315111	1ILKINGA	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8956	0.9898	R	242 LN 267	

PSS(nr)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 9:47 < UDF000.0 >
 2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
 2013 LF WPRE NO GEN RET WSKIFFES CSC NO SURRY 500 KV

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLimi t	UpplLimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description
315112	ILKKNGB	13.8	345	359	0.9922	0.9427	0.9300	1.0700	0.8956	0.9698 R		242 LN 267	
315226	IN ANNA2	22.0	345	366	1.0722	1.0609	0.9300	1.0700	1.0079	1.1140 H		282 LN 535	
314014	3CANNONE	115.0	345	353	0.8360	0.9977	0.9300	1.0700	0.9478	1.0475 LD		331 LN 2011	
314025	1 TX500	13.2	345	353	0.8972	0.9978	0.9300	1.0700	0.9479	1.0477 LD		331 LN 2011	
314049	3LOMA172	115.0	345	353	0.8939	0.9656	0.9300	1.0700	0.9173	1.0139 LD		331 LN 2011	
314050	1 TX181	13.2	345	353	0.9279	1.0034	0.9300	1.0700	0.9532	1.0536 LD		331 LN 2011	
314051	3LOMA197	115.0	345	353	0.8363	0.9967	0.9300	1.0700	0.9469	1.0466 LD		331 LN 2011	
314055	1 TX600	13.2	345	353	0.9176	0.9972	0.9300	1.0700	0.9474	1.0471 LD		331 LN 2011	
314123	3WELGTVN	115.0	345	353	0.8219	0.9681	0.9300	1.0700	0.9197	1.0165 L		331 LN 2011	
314141	3LIBERTY	115.0	345	353	0.9226	0.9692	0.9300	1.0700	0.9208	1.0177 L		331 LN 2011	
314146	1 TX502	13.2	345	353	0.9230	0.9997	0.9300	1.0700	0.9497	1.0496 LD		331 LN 2011	
314147	3MICR172	115.0	345	353	0.8363	0.9656	0.9300	1.0700	0.9174	1.0139 LD		331 LN 2011	
314148	3MICR197	115.0	345	353	0.8363	0.9962	0.9300	1.0700	0.9464	1.0461 LD		331 LN 2011	
314155	3CANBR T	115.0	345	353	0.8362	0.9969	0.9300	1.0700	0.9471	1.0468 LD		331 LN 2011	
314157	3GODW172	115.0	345	353	0.9146	0.9666	0.9300	1.0700	0.9183	1.0150 LD		331 LN 2011	
314158	3GODW197	115.0	345	353	0.8366	0.9961	0.9300	1.0700	0.9463	1.0459 LD		331 LN 2011	
314159	1 TX601	13.2	345	353	0.9176	0.9972	0.9300	1.0700	0.9474	1.0471 LD		331 LN 2011	
314160	1 TX503	13.2	345	353	0.8972	0.9978	0.9300	1.0700	0.9479	1.0477 LD		331 LN 2011	
314161	1 TX501	13.2	345	353	0.9230	0.9996	0.9300	1.0700	0.9497	1.0496 LD		331 LN 2011	
314162	1 TX182	13.2	345	353	0.9279	1.0034	0.9300	1.0700	0.9532	1.0536 LD		331 LN 2011	
315083	1SFRUNCA	13.8	345	357	1.0441	0.9880	0.9300	1.0700	0.9386	1.0374 R		372 LN 2055	
315085	1SFRUNCC	13.8	345	357	1.0511	0.9896	0.9300	1.0700	0.9401	1.0391 R		372 LN 2055	
314180	6HAYES	230.0	345	354	0.9745	1.0324	0.9300	1.0700	0.9807	1.0840 D		428 LN 2122	
314207	6OAK GRE	230.0	345	363	0.9394	0.9982	0.9300	1.0700	0.9483	1.0481 D		436 LN 2133	
314025	1 TX500	13.2	345	353	0.8969	0.9978	0.9300	1.0700	0.9479	1.0477 LD		465 TX-1 3MICR19	
314160	1 TX503	13.2	345	353	0.8970	0.9976	0.9300	1.0700	0.9479	1.0477 LD		465 TX-1 3MICR19	
314114	3LINDNDL	115.0	345	353	0.9273	0.9900	0.9300	1.0700	0.9405	1.0395 LD		482 TX-1 6OX	
314118	3MINNIEV	115.0	345	353	0.9257	0.9926	0.9300	1.0700	0.9430	1.0422 LD		482 TX-1 6OX	
314167	3OX	115.0	345	352	0.9258	1.0020	0.9300	1.0700	0.9519	1.0521 LD		482 TX-1 6OX	
314122	3SOWEGO	115.0	345	353	0.9323	1.0004	0.9300	1.0700	0.9504	1.0504 D		504 TX-1 6BRISTE	
314156	3BRISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544 D		504 TX-1 6BRISTE	
314049	3LOMA172	115.0	345	353	0.8944	0.9656	0.9300	1.0700	0.9173	1.0139 LD		507 TX-1 6LIBERT	
314123	3WELGTVN	115.0	345	353	0.8922	0.9681	0.9300	1.0700	0.9197	1.0165 LD		507 TX-1 6LIBERT	
314141	3LIBERTY	115.0	345	353	0.8922	0.9692	0.9300	1.0700	0.9208	1.0177 LD		507 TX-1 6LIBERT	
314147	3MICR172	115.0	345	353	0.8942	0.9656	0.9300	1.0700	0.9174	1.0139 LD		507 TX-1 6LIBERT	
314157	3GODW172	115.0	345	353	0.8935	0.9666	0.9300	1.0700	0.9183	1.0150 LD		507 TX-1 6LIBERT	

CATEGORY B

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 11:50 <BRV003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFE CSC NO YORK2
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSCyork2.sav
Subsys.File X:\S2021\divp.sub
Monit.File X:\S2021\vapsys.mon
Contin.File X:\S2021\vapsys.con
Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo w	Rating	Loading %	Ncon	Contingency Description
314123	3WELLGTN	115	314141 3LIBERTY	115	LN	LN	171.3	84.2	180.0	95.2	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115	314160 1 TX503	13.2	TR	TR	65.8	38.2	45.0	146.3	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115	314160 1 TX503	13.2	TR	TR	56.7	38.2	45.0	126.1	76	314014 3CANNONB 115 314155 3CANER T 115 1
314147	3MICR172	115	314160 1 TX503	13.2	TR	TR	85.2	38.2	45.0	189.4	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	83.6	40.4	45.0	185.7	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21
314029	6DUMFRES	230	314074 6POSSUM	230	LN	LN	666.3	549.7	705.0	94.5	158	314054 6KEENE M 230 314057 6LAKERD 230 1
314029	6DUMFRES	230	314074 6POSSUM	230	LN	LN	682.9	549.7	705.0	96.9	160	314057 6LAKERD 230 314074 6POSSUM 230 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	68.2	40.4	45.0	151.6	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	56.1	40.4	45.0	124.7	267	314123 3WELLGTN 115 314157 3GODW172 115 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	68.2	40.4	45.0	151.6	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	57.8	40.4	45.0	128.4	298	314147 3MICR172 115 314157 3GODW172 115 1
314025	1 TX500	13.2	314148 3MICR197	115	TR	TR	83.6	40.4	45.0	185.7	299	314147 3MICR172 115 314160 1 TX503 13.2 1
314147	3MICR172	115	314160 1 TX503	13.2	TR	TR	58.7	38.2	45.0	130.5	301	314148 3MICR197 115 314155 3CANER T 115 1
314756	3DOUBLDY	115	314776 3SOMRSET	115	LN	LN	246.5	139.6	262.0	94.1	1105	314766 6LOUISA 230 314777 6S ANNA 230 1
314913	8LOUDOUN	500	314933 8BRAMBLETON	500	LN	LN	2207.1	1467.5	2323.0	95.0	1280	235105 01DOUBS 500 314917 8MT STM 500 1

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 11:51 <V0V003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22511) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFE CSC NO YORK2
Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSCyork2.sav
Subsys File X:\S2021\vpv.sub
Monit File X:\S2021\vpapsys.mon
Contn File X:\S2021\vpapsys.con
Exclud File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro P	VoltRis e	Viol	Noon	Contingency Description ** Base Case **
315218	ICUNINGC	18.0	345	366	1.0710	1.0710	0.9300	1.0700	1.0175	1.1246	H		
314014	3CANNONB	115.0	345	353	0.8436	0.9977	0.9300	1.0700	0.9478	1.0476	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9059	0.9978	0.9300	1.0700	0.9479	1.0477	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314049	3LOWA172	115.0	345	353	0.9160	0.9656	0.9300	1.0700	0.9173	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314050	1 TX181	13.2	345	353	0.9357	1.0034	0.9300	1.0700	0.9532	1.0536	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314051	3LOWA197	115.0	345	353	0.8435	0.9968	0.9300	1.0700	0.9469	1.0466	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314055	1 TX600	13.2	345	353	0.9255	0.9973	0.9300	1.0700	0.9474	1.0471	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314123	3WELAGTN	115.0	345	353	0.9285	0.9681	0.9300	1.0700	0.9197	1.0165	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314146	1 TX502	13.2	345	353	0.9306	0.9997	0.9300	1.0700	0.9497	1.0497	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314147	3MICR172	115.0	345	353	0.9167	0.9657	0.9300	1.0700	0.9174	1.0139	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314148	3MICR197	115.0	345	353	0.8439	0.9963	0.9300	1.0700	0.9465	1.0461	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314155	3CANNB T	115.0	345	353	0.8438	0.9970	0.9300	1.0700	0.9471	1.0468	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314157	3GOW172	115.0	345	353	0.9212	0.9667	0.9300	1.0700	0.9183	1.0150	L	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314158	3GOW197	115.0	345	353	0.8441	0.9961	0.9300	1.0700	0.9463	1.0459	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314159	1 TX601	13.2	345	353	0.9255	0.9973	0.9300	1.0700	0.9474	1.0471	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314160	1 TX503	13.2	345	353	0.9059	0.9978	0.9300	1.0700	0.9480	1.0477	LD	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314161	1 TX501	13.2	345	353	0.9307	0.9997	0.9300	1.0700	0.9497	1.0497	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314162	1 TX182	13.2	345	353	0.9357	1.0034	0.9300	1.0700	0.9532	1.0536	D	75	314014 3CANNONB 115 314016 6CANNONB 230 1
314025	1 TX500	13.2	345	353	0.9353	0.9978	0.9300	1.0700	0.9479	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314049	3LOWA172	115.0	345	353	0.9291	0.9656	0.9300	1.0700	0.9173	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314051	3LOWA197	115.0	345	353	0.8770	0.9968	0.9300	1.0700	0.9469	1.0466	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314147	3MICR172	115.0	345	353	0.9295	0.9657	0.9300	1.0700	0.9174	1.0139	L	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314148	3MICR197	115.0	345	353	0.8769	0.9963	0.9300	1.0700	0.9465	1.0461	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314155	3CANNB T	115.0	345	353	0.8769	0.9970	0.9300	1.0700	0.9471	1.0468	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314158	3GOW197	115.0	345	353	0.8770	0.9961	0.9300	1.0700	0.9463	1.0459	LD	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314160	1 TX503	13.2	345	353	0.9353	0.9978	0.9300	1.0700	0.9480	1.0477	D	76	314014 3CANNONB 115 314155 3CANNB T 115 1
314025	1 TX500	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9479	1.0477	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9480	1.0477	LD	102	314025 1 TX500 13.2 314148 3MICR197 115 1
314160	1 TX503	13.2	345	353	1.0810	0.9978	0.9300	1.0700	0.9480	1.0477	HR	103	314025 1 TX500 13.2 314160 1 TX503 13.2 21

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	Lowlimi t	Upllimi t	VoltDro p	VoltRis e	Viol.	Noon.	Contingency Description
314051	3LOMA197	115.0	345	353	0.9318	0.9568	0.9300	1.0700	0.9469	1.0466	D	152	314051 3LOMA197 115 314155 3CANBR T 115 1
314114	3LINDNDL	115.0	345	353	0.9272	0.9900	0.9300	1.0700	0.9405	1.0395	LD	186	314068 6OX 230 314167 3OX 115 1
314116	3MINNIEV	115.0	345	353	0.9256	0.9925	0.9300	1.0700	0.9429	1.0421	LD	186	314068 6OX 230 314167 3OX 115 1
314167	3OX	115.0	345	352	0.9257	1.0019	0.9300	1.0700	0.9518	1.0520	LD	230	314167 3OX 115 1
314118	3LINDNDL	115.0	345	353	0.9323	0.9900	0.9300	1.0700	0.9405	1.0395	D	261	314118 3MINNIEV 115 314167 3OX 115 1
314118	3MINNIEV	115.0	345	353	0.9306	0.9925	0.9300	1.0700	0.9429	1.0421	D	261	314118 3MINNIEV 115 314167 3OX 115 1
314122	3SOMEGO	115.0	345	353	0.9316	1.0003	0.9300	1.0700	0.9503	1.0504	D	265	314122 3SOMEGO 115 314156 3BRAISTER 115 1
314049	3LOMA172	115.0	345	353	0.8944	0.9656	0.9300	1.0700	0.9173	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8921	0.9661	0.9300	1.0700	0.9197	1.0165	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314147	3MCCR172	115.0	345	353	0.8941	0.9657	0.9300	1.0700	0.9174	1.0139	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314157	3SOMEGO172	115.0	345	353	0.8944	0.9667	0.9300	1.0700	0.9183	1.0150	LD	266	314123 3WELLGTN 115 314141 3LIBERTY 115 1
314122	3SOMEGO	115.0	345	353	0.9322	1.0003	0.9300	1.0700	0.9503	1.0504	D	269	314130 6BRISTER 230 314156 3BRAISTER 115 1
314156	3BRAISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544	D	269	314130 6BRISTER 230 314156 3BRAISTER 115 1
313810	3DAHLGREN	230.0	345	354	0.9424	0.9973	0.9300	1.0700	0.9441	1.0435	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9419	0.9973	0.9300	1.0700	0.9474	1.0472	D	271	314131 6ARNOLDS 230 314175 6COMORN 230 1
313810	3DAHLGREN	230.0	345	354	0.9380	0.9938	0.9300	1.0700	0.9441	1.0435	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314131	6ARNOLDS	230.0	345	354	0.9372	0.9973	0.9300	1.0700	0.9474	1.0472	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314175	6COMORN	230.0	345	354	0.9371	0.9978	0.9300	1.0700	0.9479	1.0477	D	273	314132 6BIRCHWD 230 314175 6COMORN 230 1
314049	3LOMA172	115.0	345	353	0.8945	0.9656	0.9300	1.0700	0.9173	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314123	3WELLGTN	115.0	345	353	0.8922	0.9661	0.9300	1.0700	0.9197	1.0165	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314141	3LIBERTY	115.0	345	353	0.8922	0.9692	0.9300	1.0700	0.9208	1.0177	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314147	3MCCR172	115.0	345	353	0.8943	0.9657	0.9300	1.0700	0.9174	1.0139	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314157	3SOMEGO172	115.0	345	353	0.8936	0.9667	0.9300	1.0700	0.9183	1.0150	LD	275	314133 6LIBERTY 230 314141 3LIBERTY 115 1
314775	3NT RVER	115.0	345	363	0.9357	1.0028	0.9300	1.0700	0.9527	1.0530	D	281	

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRse e	Viol	Ncon	Contingency Description
314728	2CLMX TP	69.0	345	358	0.9429	0.9931	0.9300	1.0700	0.9435	1.0428	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
314736	2SHKO DP	69.0	345	358	0.9454	0.9956	0.9300	1.0700	0.9458	1.0454	D	589	314348 2GRETN 1 69.0 314732 2GRNA FB 69.0 1
315111	1LAKINGA	13.8	345	359	0.9917	0.9423	0.9300	1.0700	0.8952	0.9895	R	677	314444 6BOWERS 230 314453 6CHRHLD 230 1
315112	1LAKINGB	13.8	345	359	0.9917	0.9423	0.9300	1.0700	0.8952	0.9895	R	677	314444 6BOWERS 230 314453 6CHRHLD 230 1
315111	1LAKINGA	13.8	345	359	0.9919	0.9423	0.9300	1.0700	0.8952	0.9895	R	704	314443 6CHRHLD 230 314653 6CHRH 1 230 1
315112	1LAKINGB	13.8	345	359	0.9919	0.9423	0.9300	1.0700	0.8952	0.9895	R	704	314443 6CHRHLD 230 314653 6CHRH 1 230 1
314524	3FENKLN	115.0	345	360	1.0661	1.0140	0.9300	1.0700	0.9633	1.0647	R	805	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314524	3FENKLN	115.0	345	360	1.0791	1.0266	0.9300	1.0700	0.9753	1.0780	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314534	3S HAMPT	115.0	345	360	1.0751	1.0271	0.9300	1.0700	0.9758	1.0785	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314539	3UNCAMP	115.0	345	360	1.0828	1.0259	0.9300	1.0700	0.9746	1.0772	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314541	3WATKINS	115.0	345	360	1.0774	1.0281	0.9300	1.0700	0.9767	1.0795	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314824	3UNCAMP 1	115.0	345	360	1.0835	1.0266	0.9300	1.0700	0.9753	1.0779	HR	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314826	3WATKI 1	115.0	345	360	1.0779	1.0287	0.9300	1.0700	0.9772	1.0801	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
314827	3WATKI 2	115.0	345	360	1.0779	1.0287	0.9300	1.0700	0.9772	1.0801	H	806	314527 3HOLLAND 115 314539 3UNCAMP 115 1
315115	1SHAMPT	115.0	345	360	1.0666	1.0140	0.9300	1.0700	0.9633	1.0647	R	805	314527 3HOLLAND 115 314536 3SUFFOLK 115 1
314516	3BKUNS 1	115.0	345	358	1.0723	1.0095	0.9300	1.0700	0.9590	1.0600	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314563	3CLUBHS71	115.0	345	362	1.0952	1.0046	0.9300	1.0700	0.9544	1.0548	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314675	3BKOUNAX	115.0	345	358	1.0620	1.0070	0.9300	1.0700	0.9567	1.0574	R	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314676	3BKOUNSWK	115.0	345	358	1.0717	1.0090	0.9300	1.0700	0.9567	1.0574	R	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314693	3FERMAN D	115.0	345	358	1.0770	1.0062	0.9300	1.0700	0.9559	1.0565	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314704	3LAURENC	115.0	345	358	1.0770	1.0080	0.9300	1.0700	0.9576	1.0584	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314782	2BRUNSWCKDE	69.0	345	358	1.0936	1.0289	0.9300	1.0700	0.9775	1.0804	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314785	2DANLTWN	69.0	345	358	1.0400	0.9750	0.9300	1.0700	0.9263	1.0238	R	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314786	2GASBURG	69.0	345	358	1.0779	1.0122	0.9300	1.0700	0.9616	1.0628	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314787	2BRUNSW2	69.0	345	358	1.0647	1.0014	0.9300	1.0700	0.9513	1.0514	R	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314850	3CLUBHS 1	115.0	345	362	1.0958	1.0051	0.9300	1.0700	0.9548	1.0553	HR	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
314872	2BRUNSWCKDE	69.0	345	358	1.0518	0.9876	0.9300	1.0700	0.9382	1.0370	R	864	314562 3CLUBHSE 115 314565 3CLUBHS71 115 21
313830	3KRWAK 1	115.0	345	361	1.0826	1.0404	0.9300	1.0700	0.9884	1.0924	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314634	3COLANGTN	115.0	345	361	1.0730	1.0299	0.9300	1.0700	0.9784	1.0814	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314635	3COLANGTP	115.0	345	361	1.0927	1.0302	0.9300	1.0700	0.9787	1.0817	HR	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314636	3COLANG2	115.0	345	361	1.0979	1.0351	0.9300	1.0700	0.9834	1.0869	HR	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314641	3KITTY H	115.0	345	361	1.0820	1.0399	0.9300	1.0700	0.9879	1.0919	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314646	1KITTY 4	34.5	345	361	1.0820	1.0399	0.9300	1.0700	0.9879	1.0919	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314650	1KITTY 5	34.5	345	361	1.0830	1.0409	0.9300	1.0700	0.9888	1.0929	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314829	3COLTN 1	115.0	345	361	1.0985	1.0356	0.9300	1.0700	0.9838	1.0874	HR	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314830	3COLING 1	115.0	345	361	1.0736	1.0305	0.9300	1.0700	0.9789	1.0820	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
315146	1KITTYHKA	13.8	345	361	1.0820	1.0399	0.9300	1.0700	0.9879	1.0919	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
315147	1KITTYHKB	13.8	345	361	1.0830	1.0410	0.9300	1.0700	0.9889	1.0930	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
BS1162	KITTY 3W4	1.0	345	361	1.0920	1.0399	0.9300	1.0700	0.9879	1.0919	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
BS1163	KITTY 3W5	1.0	345	361	1.0930	1.0410	0.9300	1.0700	0.9889	1.0930	H	949	314635 3COLANGTP 115 314720 3 52T190 115 1
314348	2GRETN 1	69.0	345	358	1.0776	1.0081	0.9300	1.0700	0.9577	1.0585	HR	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314732	2GRNA FB	69.0	345	358	1.0774	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314737	2SM35F57	69.0	345	358	1.0875	1.0126	0.9300	1.0700	0.9619	1.0632	R	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314738	2MT AIRY	69.0	345	358	1.0620	1.0068	0.9300	1.0700	0.9564	1.0571	R	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314739	2MT A TP	69.0	345	358	1.0675	1.0126	0.9300	1.0700	0.9619	1.0632	R	1055	314731 2GRETN 69.0 314732 2GRNA FB 69.0 21
314348	2GRETN 1	69.0	345	358	1.0708	1.0081	0.9300	1.0700	0.9577	1.0585	HR	1056	314731 2GRETN 69.0 314732 2GRNA DP 69.0 1
314731	2GRETN	69.0	345	358	1.0705	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1056	314731 2GRETN 69.0 314732 2GRNA DP 69.0 1

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRise	Viol	Noon	Contingency Description
314732	2GRNA FB	69.0	345	358	1.0705	1.0079	0.9300	1.0700	0.9575	1.0583	HR	1056	314731 2CRETNA 69.0 314733 2GRNA DP 69.0 1
314746	4BREMO	138.0	345	363	0.9406	0.9961	0.9300	1.0700	0.9482	1.0480	D	1065	314744 3BREMO 115 314746 4BREMO 138 1
314768	3MITCHEL	115.0	345	363	0.9423	1.0035	0.9300	1.0700	0.9533	1.0536	D	1108	314768 3MITCHEL 115 314815 3OAK GRE 115 1
314858	3ROCKB T	115.0	345	365	0.9447	0.9992	0.9300	1.0700	0.9493	1.0492	D	1200	314853 3LEXNGTN 115 314858 3ROCKB T 115 1
314855	6LOWMOOR	230.0	345	365	0.9283	0.9789	-0.9300	1.0700	0.9300	1.0279	LD	1203	314855 6LOWMOOR 230 314856 6LEXNGT2 230 1
315226	IN ANNA2	22.0	345	366	1.0702	1.0600	0.9300	1.0700	1.0070	1.1130	H	1215	314897 8MORRS 1 500 314916 8MORRSVL 500 1
315226	IN ANNA2	22.0	345	366	1.0706	1.0600	0.9300	1.0700	1.0070	1.1130	H	1258	314918 8NO ANNA 500 315225 1N ANNA1 22.0 1
315226	IN ANNA2	22.0	345	366	1.0716	1.0600	0.9300	1.0700	1.0070	1.1130	H	1280	235105 01DOUBS 500 314917 8MT STM 500 1
315226	IN ANNA2	22.0	345	366	1.0728	1.0600	0.9300	1.0700	1.0070	1.1130	H	1282	235110 01MOWBRK 500 314913 8LOUDOUN 500 1

AC Branch Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 10:34 <BRV003.0>

2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012

2013 LF WPRE NO GEN RET WSKIFFE CSC NO YORK2

Case File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSCyork2.sav

Subsys.File X:\S2021\dvp.sub

Monit.File X:\S2021\vapsys.mon

Contin.File X:\S2021\sum2021wpre ALT.con

Exclud.File none

***** Report on violations *****

Branches with MVA flow more than 93.5 % of nominal rating

**	From bus	**	To bus	**	CKT	Type	ContMVA	BaseFlo W	Rating	Loading %	Ncon	Contingency Description
314289	6DARBYTN	230	315067	1DARBY	1	13.8	1	95.3	90.0	105.9	**	** Base Case **
314025	1 TX500	13.2	314148	3MICR197	115	1	1	61.2	45.0	136.1	153	LN 172
314147	3MICR172	115	314160	1 TX503	13.2	1	1	60.9	38.2	135.3	173	LN 197
314029	6DUMFRES	230	314074	6POSSUM	230	1	1	663.6	549.7	705.0	212	LN 237
314756	3DOUBLDY	115	314776	3SOMRSET	115	1	1	245.6	139.6	262.0	229	LN 255
314901	8BATH CO	500	8S0510	BATH 3W1	1.00	1	1	1012.1	1008.7	93.7	290	LN 548
314901	8BATH CO	500	8S0511	BATH 3W3	1.00	1	1	1012.3	1009.0	93.7	290	LN 548
314913	8LOUPOUN	500	314933	8BRAMBLETON	500	1	1	2206.0	1467.5	2323.0	293	LN 551
314123	3WELLGNT	115	314141	3LIBERTY	115	1	1	172.1	84.2	180.0	331	LN 2011
314147	3MICR172	115	314160	1 TX503	13.2	1	1	64.4	38.2	143.1	331	LN 2011
314147	3MICR172	115	314160	1 TX503	13.2	1	1	85.2	38.2	189.4	465	TX-1 3MICR19
314025	1 TX500	13.2	314148	3MICR197	115	1	1	67.8	40.4	150.7	507	TX-1 6LIBERT
314025	1 TX500	13.2	314148	3MICR197	115	1	1	83.4	40.4	185.4	512	TX-1 3MICR17

AC Bus Voltage Violations

PSS(R)MUST 10.2 -- Managing and Utilizing System Transmission -- SAT, MAR 09 2013 10:42 <VOW003.0>
2021 SUMMER BASE CASE (ERAG/MMWG22S11) REV. 04/02/2012
2013 LF WPRE NO GEN RET WSKIFFE CSC NO YORK2
Case.File X:\S2021\sum_2021(2013LF)_wpre No Gen Ret wskiffes CSCyork2.sav
Subsys.File X:\S2021\vdvp.sub
Monit.File X:\S2021\vdvpsys.mon
Contin.File X:\S2021\sum2021wpre AUT.con
Exclud.File none

***** Report on violations *****

Buses with voltage violations

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplimi t	VoltDro p	VoltRis e	Viol	Ncon	Contingency Description ** Base Case **
315218	1CUNINGC	18.0	345	366	1.0710	1.0710	0.9300	1.0700	1.0175	1.1246	H	**	63 LN 68
314524	3FRANKIN	115.0	345	360	1.0792	1.0266	0.9300	1.0700	0.9753	1.0780	HR	63 LN 68	63 LN 68
314534	3S HAMPT	115.0	345	360	1.0752	1.0271	0.9300	1.0700	0.9758	1.0785	H	63 LN 68	63 LN 68
314539	3UNCAMP	115.0	345	360	1.0829	1.0259	0.9300	1.0700	0.9746	1.0772	HR	63 LN 68	63 LN 68
314541	3WATKINS	115.0	345	360	1.0781	1.0281	0.9300	1.0700	0.9767	1.0795	H	63 LN 68	63 LN 68
314824	3UNCAM 1	115.0	345	360	1.0837	1.0266	0.9300	1.0700	0.9753	1.0779	HR	63 LN 68	63 LN 68
314826	3WATKI 1	115.0	345	360	1.0780	1.0287	0.9300	1.0700	0.9772	1.0801	H	63 LN 68	63 LN 68
314827	3WATKI 2	115.0	345	360	1.0780	1.0287	0.9300	1.0700	0.9772	1.0801	H	63 LN 68	63 LN 68
315115	1SHAMPT1	13.8	345	360	1.0468	0.9967	0.9300	1.0700	0.9469	1.0466	R	63 LN 68	63 LN 68
314147	3MICR172	115.0	345	353	0.9284	0.9657	0.9300	1.0700	0.9174	1.0139	L	153 LN 172	153 LN 172
314348	2GRETN 1	69.0	345	358	1.0708	1.0081	0.9300	1.0700	0.9577	1.0585	HR	154 LN 173	154 LN 173
314731	2GRETNA	69.0	345	358	1.0705	1.0079	0.9300	1.0700	0.9575	1.0583	HR	154 LN 173	154 LN 173
314732	2GRNA FB	69.0	345	358	1.0705	1.0079	0.9300	1.0700	0.9575	1.0583	HR	154 LN 173	154 LN 173
314874	2LN 174	69.0	345	351	1.0572	1.0019	0.9300	1.0700	0.9518	1.0520	R	155 LN 174	155 LN 174
314878	2LN 178	69.0	345	351	1.0571	1.0019	0.9300	1.0700	0.9518	1.0520	R	157 LN 178	157 LN 178
314879	2LN 179	69.0	345	351	1.0572	1.0019	0.9300	1.0700	0.9518	1.0520	R	158 LN 179	158 LN 179
314880	2LN 180	69.0	345	351	1.0573	1.0019	0.9300	1.0700	0.9518	1.0520	R	159 LN 180	159 LN 180
314122	3SONEGO	115.0	345	353	0.9317	1.0003	0.9300	1.0700	0.9503	1.0504	D	160 LN 181	160 LN 181
314025	1 TX500	13.2	345	353	0.9257	0.9978	0.9300	1.0700	0.9479	1.0477	LD	173 LN 197	173 LN 197
314049	3LOMA172	115.0	345	353	0.9284	0.9656	0.9300	1.0700	0.9173	1.0139	L	173 LN 197	173 LN 197
314051	3LOMA197	115.0	345	353	0.9284	0.9656	0.9300	1.0700	0.9469	1.0466	LD	173 LN 197	173 LN 197
314147	3MICR172	115.0	345	353	0.9289	0.9657	0.9300	1.0700	0.9174	1.0139	L	173 LN 197	173 LN 197
314148	3MICR197	115.0	345	353	0.9286	0.9663	0.9300	1.0700	0.9465	1.0461	LD	173 LN 197	173 LN 197
314158	3GOWD197	115.0	345	353	0.9150	0.9961	0.9300	1.0700	0.9463	1.0459	LD	173 LN 197	173 LN 197
314160	1 TX503	13.2	345	353	0.9258	0.9978	0.9300	1.0700	0.9480	1.0477	LD	173 LN 197	173 LN 197
315111	1LKINGA	13.8	345	359	0.9921	0.9423	0.9300	1.0700	0.8952	0.9895	R	242 LN 267	242 LN 267

Bus #	Bus Name	KV	Area	Zone	ContVol t	BaseVol t	LowLim t	Upplim t	VoltDro P	VoltRis e	Viol	Ncon	Contingency Description
315112	ILKKNGB	13.8	345	359	0.9921	0.9423	0.9300	1.0700	0.8952	0.9895	R	242	LN 267
315226	1N ANNA2	22.0	345	366	1.0728	1.0600	0.9300	1.0700	1.0070	1.1130	H	282	LN 535
315226	1N ANNA2	22.0	345	366	1.0716	1.0600	0.9300	1.0700	1.0070	1.1130	H	293	LN 551
314014	3CANNONB	115.0	345	353	0.8413	0.9977	0.9300	1.0700	0.9478	1.0476	LD	331	LN 2011
314025	1 TX500	13.2	345	353	0.9010	0.9978	0.9300	1.0700	0.9479	1.0477	LD	331	LN 2011
314049	3LOWA172	115.0	345	353	0.9101	0.9656	0.9300	1.0700	0.9173	1.0139	LD	331	LN 2011
314051	3LOWA197	115.0	345	353	0.8416	0.9968	0.9300	1.0700	0.9469	1.0466	LD	331	LN 2011
314123	3WELG172	115.0	345	353	0.9225	0.9681	0.9300	1.0700	0.9197	1.0165	L	331	LN 2011
314141	3LIBERTY	115.0	345	353	0.9262	0.9692	0.9300	1.0700	0.9208	1.0177	L	331	LN 2011
314147	3MICR172	115.0	345	353	0.9107	0.9657	0.9300	1.0700	0.9174	1.0139	LD	331	LN 2011
314148	3MICR197	115.0	345	353	0.8416	0.9963	0.9300	1.0700	0.9465	1.0461	LD	331	LN 2011
314155	3CANBR T	115.0	345	353	0.8414	0.9970	0.9300	1.0700	0.9471	1.0468	LD	331	LN 2011
314157	3GODW172	115.0	345	353	0.9152	0.9667	0.9300	1.0700	0.9183	1.0150	LD	331	LN 2011
314158	3GODW197	115.0	345	353	0.8418	0.9961	0.9300	1.0700	0.9463	1.0459	LD	331	LN 2011
314160	1 TX503	13.2	345	353	0.9011	0.9978	0.9300	1.0700	0.9480	1.0477	LD	331	LN 2011
315083	1SPRUNCA	13.8	345	357	1.0445	0.9833	0.9300	1.0700	0.9341	1.0324	R	372	LN 2055
315085	1SPRUNCC	13.8	345	357	1.0516	0.9849	0.9300	1.0700	0.9357	1.0342	R	372	LN 2055
314180	6HAYES	230.0	345	354	0.9401	1.0309	0.9300	1.0700	0.9794	1.0825	D	428	LN 2122
314207	6OAK GRE	230.0	345	363	0.9068	0.9984	0.9300	1.0700	0.9484	1.0483	LD	436	LN 2133
314025	1 TX500	13.2	345	353	0.8970	0.9978	0.9300	1.0700	0.9479	1.0477	LD	465	TX-1 3MICR19
314160	1 TX503	13.2	345	353	0.8971	0.9978	0.9300	1.0700	0.9480	1.0477	LD	465	TX-1 3MICR19
314114	3LINDNDL	115.0	345	353	0.9339	0.9900	0.9300	1.0700	0.9405	1.0395	D	482	TX-1 6OX
314118	3MINNIEV	115.0	345	353	0.9323	0.9925	0.9300	1.0700	0.9429	1.0421	D	482	TX-1 6OX
314167	3OX	115.0	345	352	0.9324	1.0019	0.9300	1.0700	0.9518	1.0520	D	482	TX-1 6OX
314122	3COWEGO	115.0	345	353	0.9323	1.0003	0.9300	1.0700	0.9503	1.0504	D	504	TX-1 6BRISTE
314156	3BRISTER	115.0	345	353	0.9323	1.0042	0.9300	1.0700	0.9540	1.0544	D	504	TX-1 6BRISTE
314049	3LOWA172	115.0	345	353	0.8959	0.9656	0.9300	1.0700	0.9173	1.0139	LD	507	TX-1 6LIBERT
314123	3WELG172	115.0	345	353	0.8937	0.9681	0.9300	1.0700	0.9197	1.0165	LD	507	TX-1 6LIBERT
314141	3LIBERTY	115.0	345	353	0.8937	0.9692	0.9300	1.0700	0.9208	1.0177	LD	507	TX-1 6LIBERT
314147	3MICR172	115.0	345	353	0.8957	0.9657	0.9300	1.0700	0.9174	1.0139	LD	507	TX-1 6LIBERT
314157	3GODW172	115.0	345	353	0.8950	0.9667	0.9300	1.0700	0.9183	1.0150	LD	507	TX-1 6LIBERT
315226	1N ANNA2	22.0	345	366	1.0706	1.0600	0.9300	1.0700	1.0070	1.1130	H	692	TX-1 8NO AN2