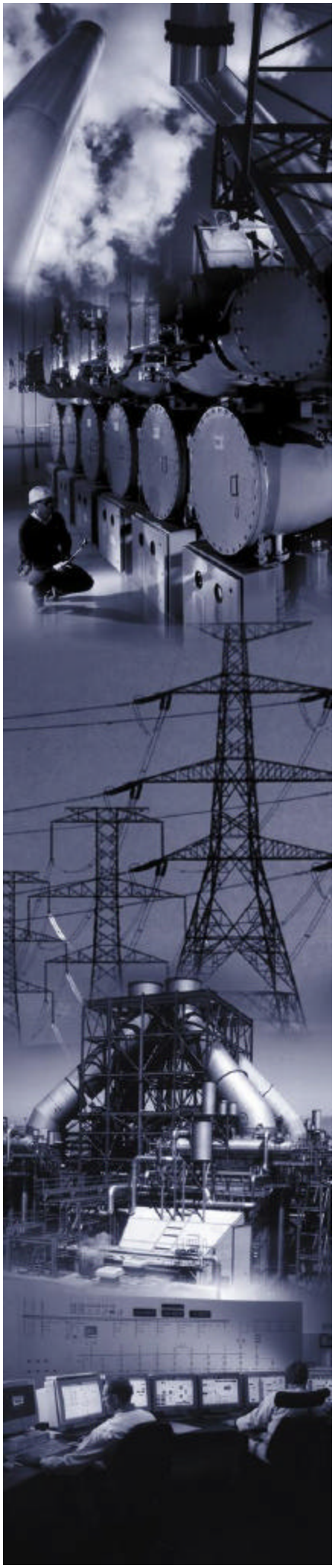

SOUTH WEST CONNECTICUT MIDDLETOWN TO NORWALK PROJECT

TRANSIENT STUDIES TO EVALUATE TEMPORARY OVERVOLTAGE LEVELS

FINAL REPORT
JANUARY 2005

PB POWER

CONTENTS

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1. INTRODUCTION

This report summarises the studies undertaken by PB Power for ISO New England (ISO-NE) to investigate prospective temporary overvoltages (TOVs) that may occur as a result of proposals to augment supplies into South West Connecticut (SWCT) by a project that extends the 345kV transmission system of Northeast Utilities (NU) and United Illuminating (UI).

The report is structured as follows:

- Section 1 comprises this brief introduction;
- Section 2 outlines the objectives of the studies;
- Section 3 documents the criteria used in assessing the TOV's;
- Section 4 presents details of the model used to undertake the study;
- Section 5 describes the various system operating configurations and conditions studied; and
- Sections 6 presents the study results.

2. OBJECTIVES

A number of system operating configurations and conditions were investigated, the main objectives being to:

- Evaluate the TOV's resulting from the clearance of faults on the 345kV network under various normal and line outage conditions; and
- Examine a range of alternative network configurations to inform the debate on the maximum length of underground cable that can be reliably and safely operated on the system.

In addition to the above, a number of further objectives were:

- Evaluate the effects of different system load levels and types of load model;
- Evaluate the effectiveness of C-Type filters in reducing TOV's;
- Examine the sensitivity of TOV's to an increase in shunt capacitor despatch;
- Examine the sensitivity of TOV's to the inclusion of additional generation on the system; and
- Examine the effect of increased lengths of 345kV underground cable on TOV's.

3. TEMPORARY OVERVOLTAGE (TOV) CRITERIA

NU commissioned a consultant with specialist knowledge of equipment withstand capabilities to establish criteria as to the acceptability or otherwise of TOVs[1]. This work established that surge arrestors had the lowest TOV withstand characteristics that were reported as:

	2 cycles	**6 cycles**
115kV	1.69pu	1.65pu
345kV	1.62pu	1.58pu

By upgrading surge arrestors on the system[2], the TOV withstand capability of surge arrestors could be increased as follows:

	2 cycles	**6 cycles**
115kV	2.03pu	1.98pu
345kV	1.85pu	1.80pu

In evaluating the results from all the different consultants case studies ISO-NE produced charts showing the variability of the overvoltages due to changes in load levels and damping characteristics, generation despatch, capacitor despatch etc. From these a safety margin of 0.25pu was agreed as acceptable for surge arrester TOV capability to account for these variances. Thus the acceptance criteria became:

	2 cycles	**6 cycles**
115kV	1.78pu	1.73pu
345kV	1.60pu	1.55pu

4. SYSTEM MODEL

To facilitate the studies an Alternative Transients Programme / Electromagnetic Transients Programme (ATP/EMTP) model was developed. The model (detailed in Appendix D) represents the complete 345kV and 115kV systems with equivalent source infeeds from

[1] Temporary Overvoltage Equipment Limits– Summary Report, K & R Consulting, 17 December 2004.

[2] It should be noted that NU and UI estimate that approximately 1200 surge arrestors will need to be replaced. Care will need to be taken to ensure that other equipment on the transmission system remains adequately protected to avoid equipment damage and excessive degradation in equipment life. Further, care will need to be undertaken in managing transmission outages to facilitate the upgrade of arrestors to ensure reliability of the system is not unduly compromised as equipment is taken out of service during the process.

other areas. The data required to produce the model was derived from Aspen[3] files supplied by the Client. The Aspen file supplied the data generally in the form of positive, negative and zero sequence impedances for generators, overhead lines, underground cables, transformers, reactors and capacitors. All overhead lines and underground cables longer than 1 mile were represented by distributed parameter travelling wave models so that transient phenomena could be investigated. As the main purpose of the model was to investigate TOV's initiated by the occurrence and clearance of faults it was considered to be acceptable and conservative to use 60Hz parameters in the line and cable models. Lines and cables shorter than 1 mile were represented by multiphase pi-section models. Generators were represented by their positive, negative and zero sequence impedances.

An important aspect of the model was to represent the inrush characteristics of proposed 345/115kV auto-transformers. A generic three-phase auto-transformer model incorporating saturation and hysteresis was developed for use in the SWCT 345/115kV transmission system ATP/EMTP model.

The system load level and load frequency characteristics are important factors influencing the damping of TOVs. Unfortunately little information was available on the frequency characteristics of the load and it was therefore was agreed with the Client that simple series R-L load models would be utilised initially. In later studies, a more complex load model as shown in Figure A.1 was employed.

5. ATP/EMTP STUDIES

The set of studies shown in Table 1 were undertaken. The studies considered a number of system topologies (detailed in Appendix B) and variations in operating conditions. The alternative topologies considered included varying amounts of cable:

- Various amounts of cable in the proposed project to augment supplies into SWCT including:

    a. Old Case 5 – This configuration is the configuration as proposed to the Siting Council but making use of XLPE cable sections for the majority of the route length;

    b. Old Case 5 + 5 miles – Similar to (a) but with an additional 5 miles of cable between East Devon and Beseck as shown in Figure B.3;

    c. Old Case 5 + 10 miles – Similar to (a) but with an additional 10.8 miles of cable between East Devon and Beseck as shown in Figure B.4;

    d. Old Case 5 + 20 miles – Similar to (a) but with an additional 17.8 miles of cable between East Devon and Beseck as shown in Figure B.5.

[3] Power system analysis tool used by NU and UI.

- The conversion of certain of the capacitor banks to C-type filters[4].

The variations in operating conditions included:

- Various load levels (30%, 40%, 50% and 70%);
- Various load models:
  a. Series R-L model; and
  b. Complex load model as shown in Figure A.1 in Appendix A.
- Various reactor, capacitor and generation dispatches.

Data associated with the various load levels, load types and reactor / capacitor / generation dispatches is included as Appendix D.

Table 1 Studies performed

Date	Configuration	Load	Load Model
09-Dec-04	Old Case 5	40%, 50%, 70%	Series R-L
07-Dec-04	Old Case 5 sensitivity with NW1 and MF1 generators in service	50%	Series R-L
08-Dec-04	Old Case 5 sensitivity with 50% increased capacitors	50%	Series R-L
10-Dec-04	Old Case 5 with C-Type filters	50%, 70%	Series R-L
10-Dec-04	Old Case 5 (10 worst cases at 40%, 50% and 70% load)	40%, 50%, 70%	Complex
07-Dec-04	Old Case 5 + 10 mile cables	50%, 70%	Series R-L
08-Dec-04	Old Case 5 + 20 mile cables	50%, 70%	Series R-L
09-Dec-04	Old Case 5 + 20 mile cables with C-Type filters	50%, 70%	Series R-L
16-Dec-04	Old Case 5	30%	Complex
16-Dec-04	Old Case 5 + 5 mile cables	30%	Complex
16-Dec-04	Old Case 5 + 10 mile cables	30%	Complex
16-Dec-04	Old Case 5 + 20 mile cables	30%	Complex

For each of the above studies the range of faults and outage conditions shown in Table 2 were examined.

Table 2 Faults and outage conditions considered

Fault Type	Fault Location (345kV)	Circuit Tripped (345kV)	Line Outage (345kV)
3-phase line	Plumtree	Plumtree – Long Mountain	
3-phase line	East Devon †	East Devon – Beseck †	
1-phase line	East Devon †	East Devon – Beseck †	
3-phase line	Norwalk	Norwalk - Plumtree	
3-phase line	Singer	Singer – East Devon	
3-phase bus	Norwalk		
3-phase bus	Plumtree		
3-phase line	East Devon †	East Devon – Beseck †	Plumtree – Long Mountain
1-phase line	East Devon †	East Devon – Beseck †	Plumtree – Long Mountain
3-phase line	Norwalk	Norwalk - Plumtree	Plumtree – Long Mountain
3-phase line	Singer	Singer – East Devon	Plumtree – Long Mountain
3-phase bus	Norwalk		Plumtree – Long Mountain

[4] Harmonic Impedance Study for Southwest Connecticut Phase II Alternatives; KEMA Inc; 18 October 2004.

Fault Type	Fault Location (345kV)	Circuit Tripped (345kV)	Line Outage (345kV)
3-phase bus	Plumtree		Plumtree – Long Mountain
3-phase line	Plumtree	Plumtree – Long Mountain	East Devon - Beseck
3-phase line	Norwalk	Norwalk - Plumtree	East Devon - Beseck
3-phase line	Singer	Singer – East Devon	East Devon - Beseck
3-phase bus	Norwalk		East Devon - Beseck
3-phase bus	Plumtree		East Devon - Beseck
3-phase line	Plumtree	Plumtree – Long Mountain	Norwalk Harbour - Northport
3-phase line	East Devon †	East Devon – Beseck †	Norwalk Harbour - Northport
1-phase line	East Devon †	East Devon – Beseck †	Norwalk Harbour - Northport
3-phase line	Norwalk	Norwalk - Plumtree	Norwalk Harbour - Northport
3-phase line	Singer	Singer – East Devon	Norwalk Harbour - Northport
3-phase bus	Norwalk		Norwalk Harbour - Northport
3-phase bus	Plumtree		Norwalk Harbour - Northport
3-phase line	Plumtree	Plumtree – Long Mountain	Long Mountain – Pleasant Valley
3-phase line	East Devon †	East Devon – Beseck †	Long Mountain – Pleasant Valley
1-phase line	East Devon †	East Devon – Beseck †	Long Mountain – Pleasant Valley
3-phase line	Norwalk	Norwalk - Plumtree	Long Mountain – Pleasant Valley
3-phase line	Singer	Singer – East Devon	Long Mountain – Pleasant Valley
3-phase bus	Norwalk		Long Mountain – Pleasant Valley
3-phase bus	Plumtree		Long Mountain – Pleasant Valley

† For the Old Case 5 studies including additional 5, 10 and 20 miles of cable, the fault location was at the 345kV East Devon – Beseck transition station between the overhead line and underground cable sections. Fault clearance was achieved by tripping the 345kV overhead line section between East Devon and Beseck with the underground cables remaining in service.

For each of the above fault and outage conditions the 2 cycle and 6 cycle TOVs were recorded at the following locations:

- Plumtree 345kV and 115kV;
- Norwalk 345kV and 115kV;
- East Devon 345kV;
- Beseck 345kV;
- East Shore 345kV;
- Frost Bridge 115kV;
- Stony Hill 115kV; and
- Rocky River 115kV.

The timing sequence of events in performing the simulations was as follows:

- The simulation runs for approximately 0.017s in the steady state;
- The fault is applied at 0.017s and remains on until the fault is cleared 4 cycles later by the relevant circuit breakers at approximately 0.082s. Voltage recovery period (TOV) until end of simulation at 0.2s

Our method in measuring the TOV's is described below.

- TOV2
  This corresponds to the TOV at 2 cycles and is measured from 0.082s to 0.126s. The additional time past 2 cycles (from 0.115s to 0.126s is to account for the time delay of the other 2 phases to subsequently clear following the first phase to clear). A point to note is that because this timing starts from fault clearance, the 2 cycle results in some cases may actually be measuring a high frequency switching transient rather than a TOV.
- TOV6
  This corresponds to the TOV at 6 cycles and is measured from 0.18s to 0.2s.

6. RESULTS

The results of the studies are outlined in the spreadsheets in Appendix C. Specific points are highlighted below, with reference to Appendix A figures where necessary.

Using these results, Figures A.2 through A.5 show the effects of dispatching additional capacitor banks and generation in the SWCT system. The dots above the neutral or zero line show that the TOVs increased resulting in a performance degradation, while those below the zero line show a performance improvement due to decreasing TOVs. The variability of the results indicate the complex and multi-dimensional nature of the issue under study and were part of the basis for establishing the 0.25pu safety margin as discussed previously in Section 3.

Figures A.6 through A.9 show the effects of introducing C-Type filters in Old Case 5 and in Old Case 5 + 20 miles. Similar to the previous figures, the variability in these cases is quite evident, and increases with greater length. While the introduction of C-Type filters appears to help in certain cases it can make things worse in other cases. Further, at low load levels (40% and below) no capacitor banks are dispatched in the SWCT system. As such, with the C-Type filters being associated with the capacitor banks, the C-Type filters will also not be in service.

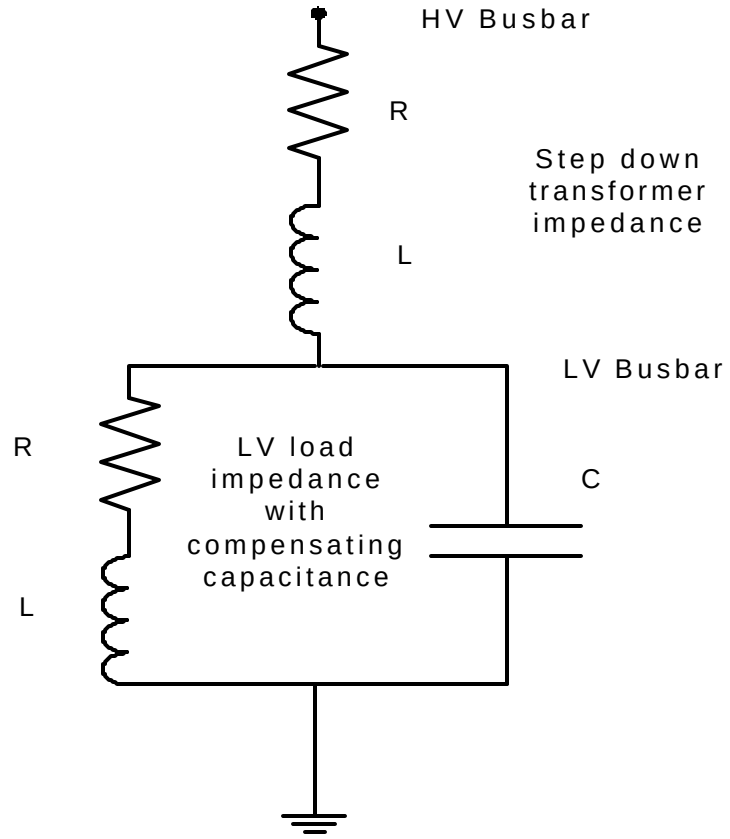
Figure A.10 shows that the resultant TOVs from Old Case 5 are right on the edge of the arrester criteria as discussed in Section 3, with the system at a 40% load level. Reducing the system to a 30% load level, as shown in Figure A.11, reveals some risk of criteria violations, displaying further the variability and possible volatility that can result from relatively minor changes in system conditions. While a small number of cases were run with additional cable lengths to examine the relative sensitivity to various system changes, it was noted that cases run with an extra 5 miles of cable between East Devon and Beseck showed a marked degradation in TOV performance.

It should also be pointed out that care will need to be taken in the development of the SWCT system as the complexity and multi-dimensionality of the system variables can result in increased variability of TOVs coupled with TOVs increasing in a counter-intuitive manner to that expected, e.g.: the studies showed that increasing system strength by dispatching the Milford 1 and Norwalk 1 generation does not necessarily result in a reduction in the level of TOVs.

APPENDICES

APPENDIX A - FIGURES

Figure A.1 Complex load model used in Old Case 5, 30% load studies



IMPACT OF ADDITIONAL CAPACITORS

Figure A.2

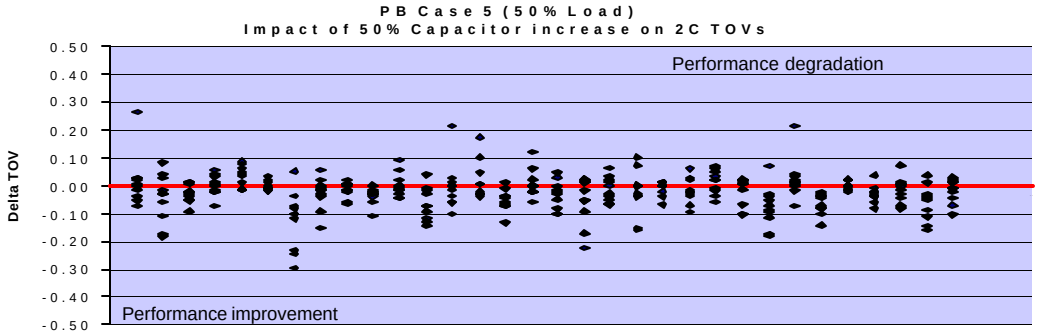
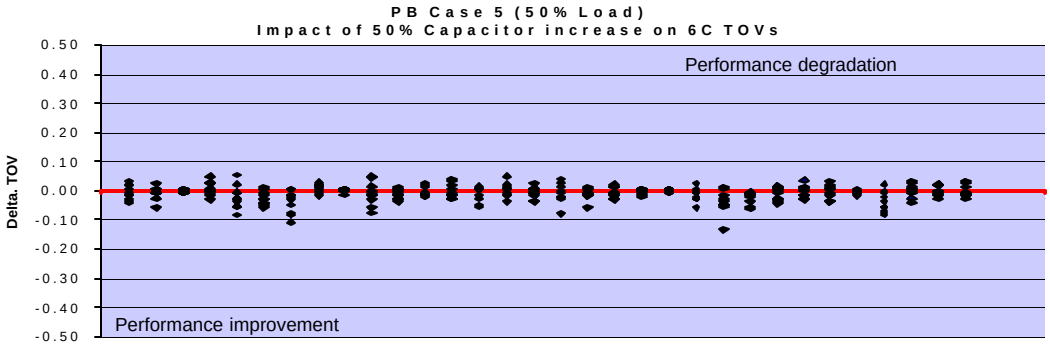


Figure A.3



IMPACT OF ADDITIONAL GENERATORS

Figure A.4

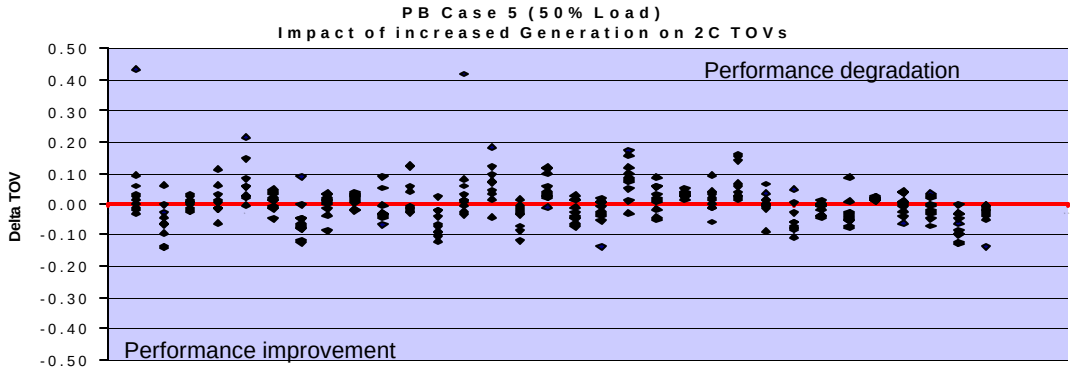
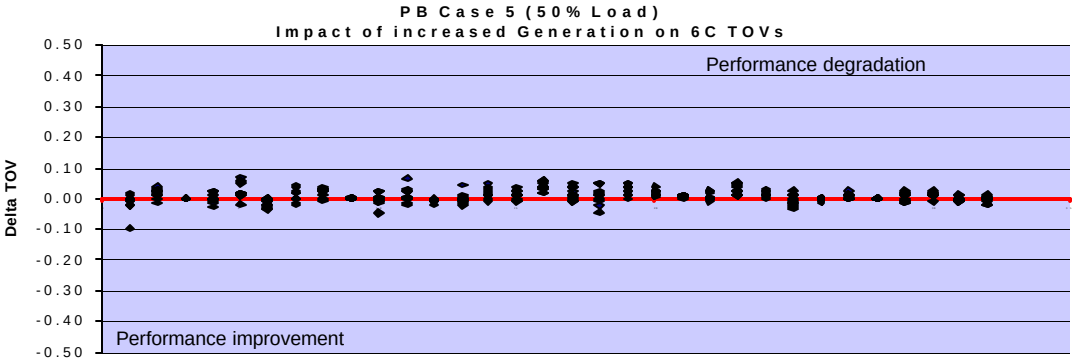


Figure A.5



IMPACT OF C -FILTERS
Case 5

Figure A.6

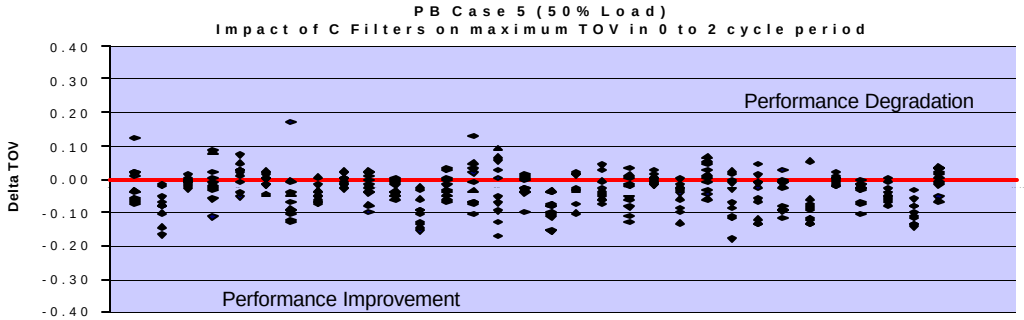
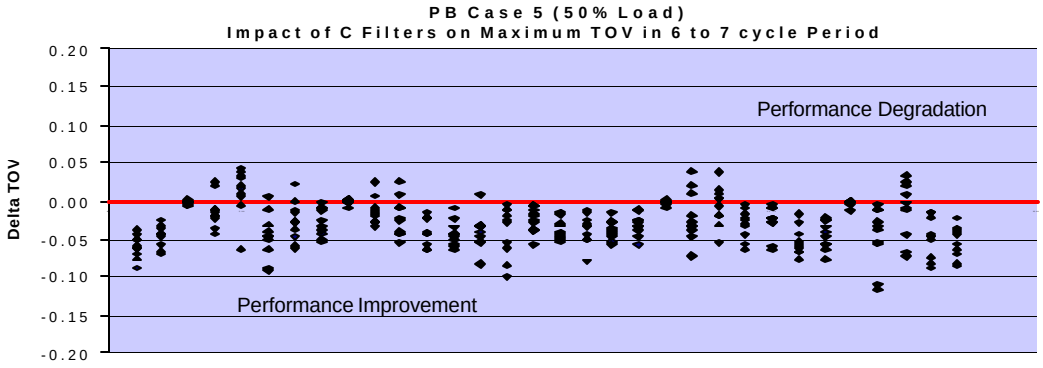


Figure A.7



IMPACT OF C -FILTERS
Case 5 + 20 Miles

Figure A.8

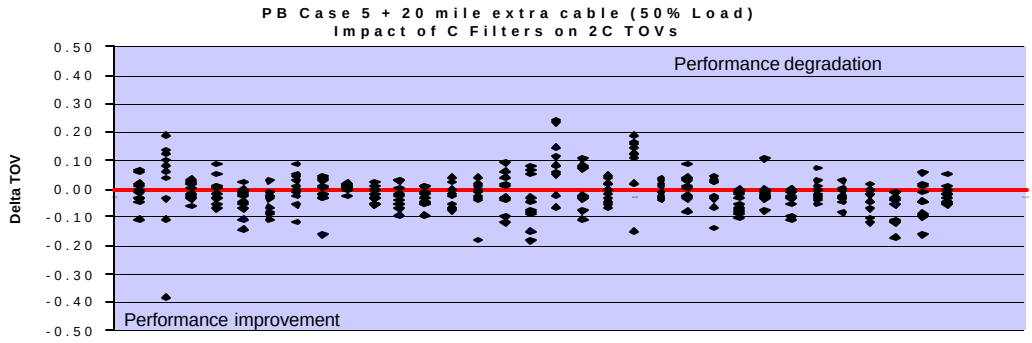


Figure A.9

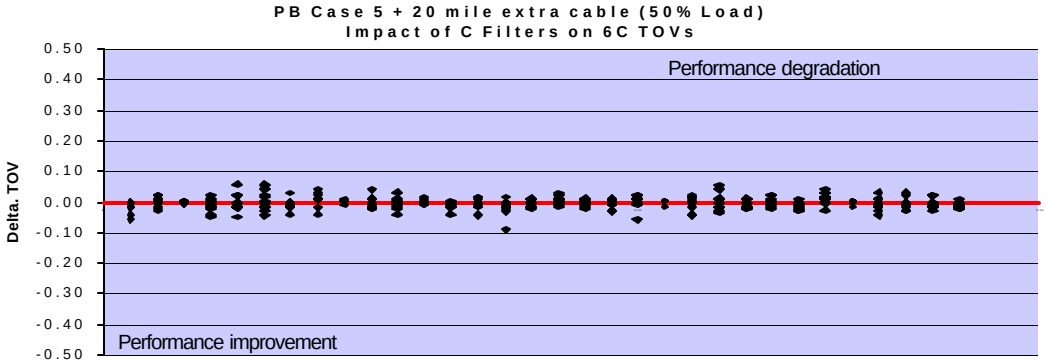


Figure A.10

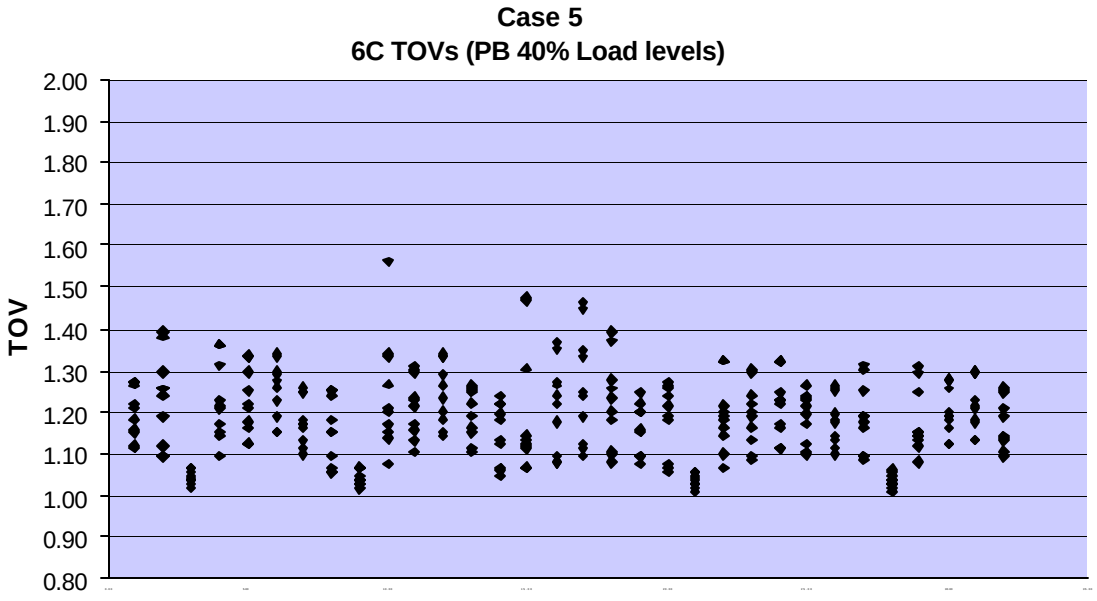
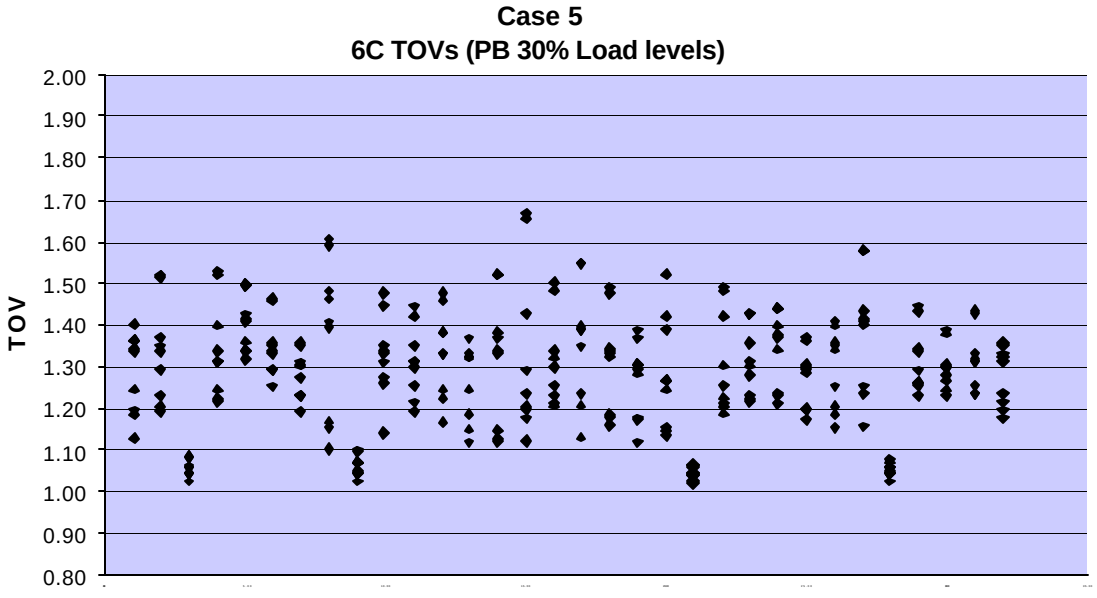


Figure A.11



APPENDIX B - CASE TOPOLOGIES

Figure B.1

OLD CASE 5
NORWALK - DEVON - PEQUONNOCK 115KV CONFIGURATION

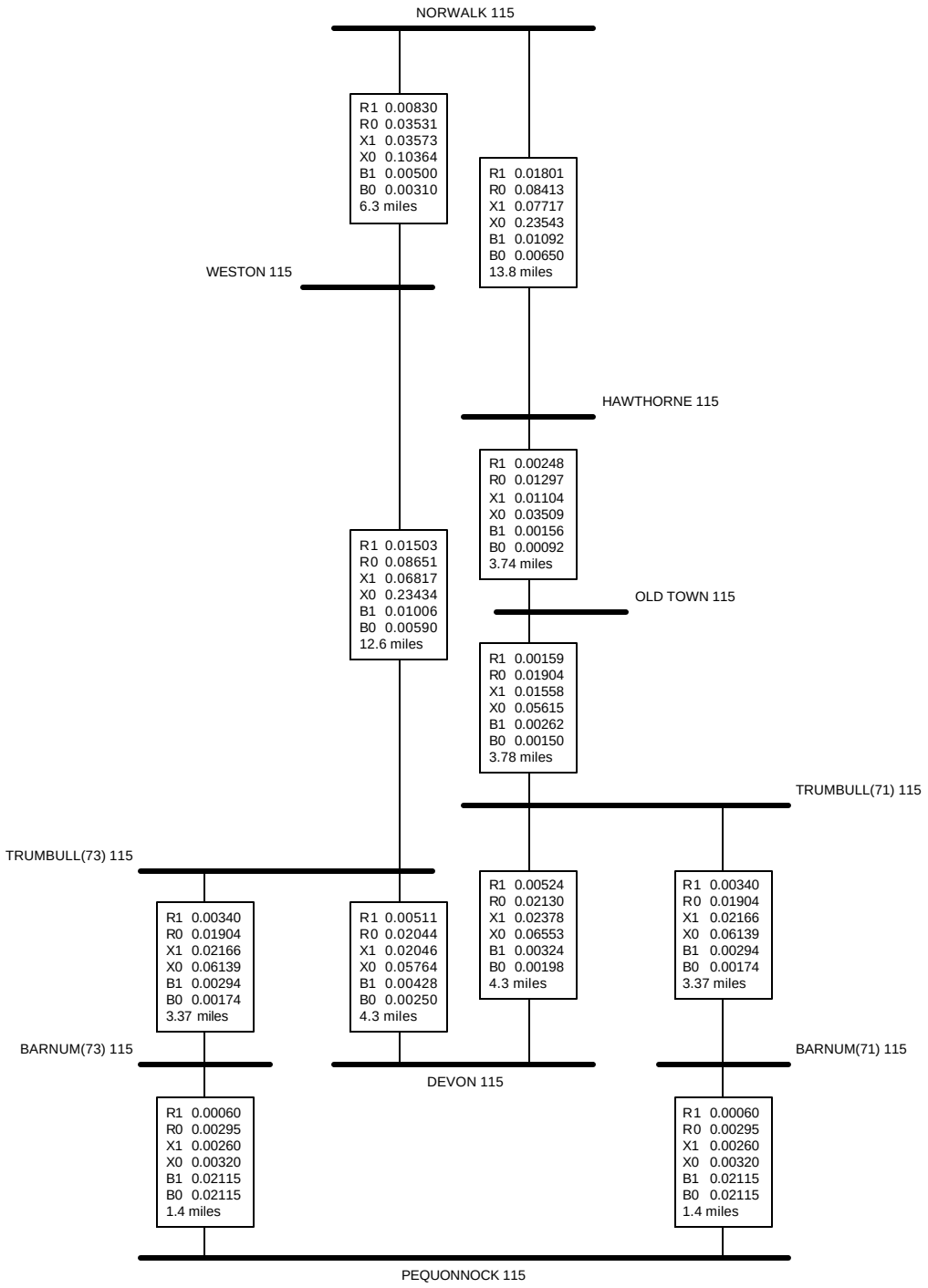


Figure B.2

OLD CASE 5
EAST DEVON - BESECK 345KV CONFIGURATION

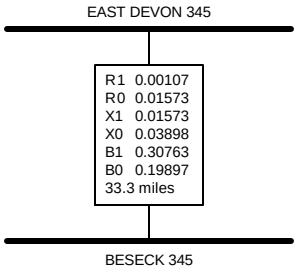


Figure B.3

OLD CASE 5 + 5 MILES
EAST DEVON - BESECK 345KV CONFIGURATION

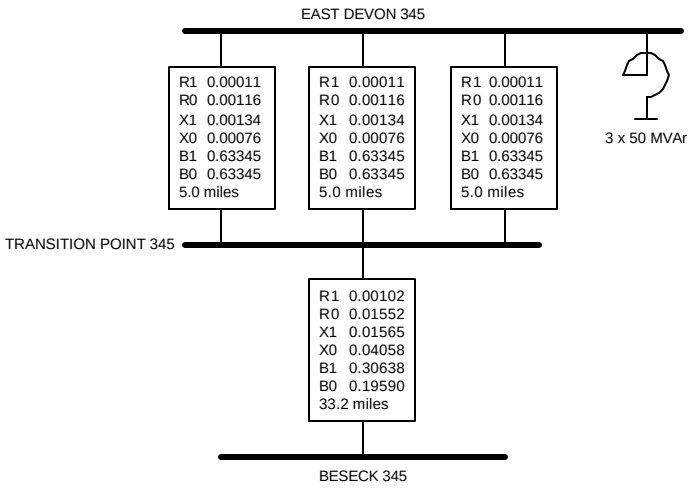


Figure B.4

OLD CASE 5 + 10 MILES
EAST DEVON - BESECK 345KV CONFIGURATION

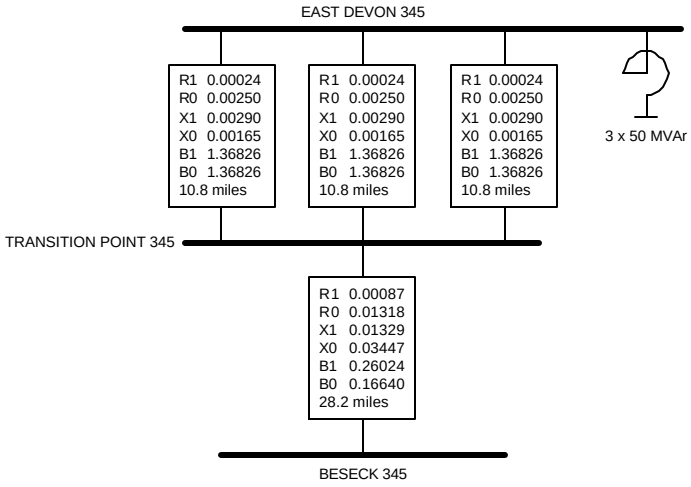
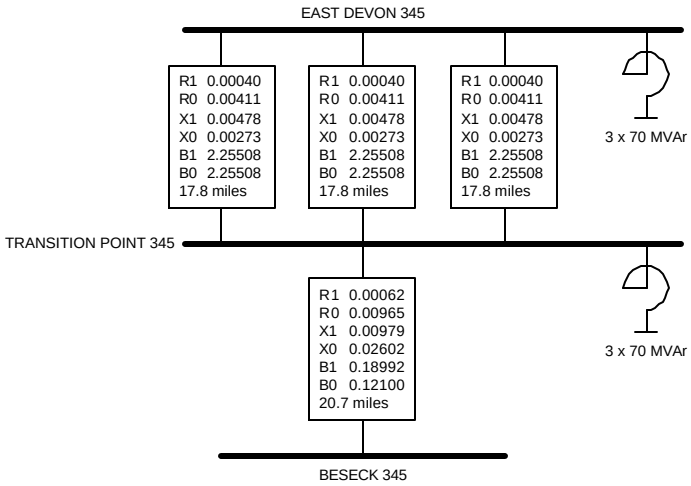


Figure B.5

OLD CASE 5 + 20 MILES
EAST DEVON - BESECK 345KV CONFIGURATIO N



APPENDIX C - SPREADSHEET RESULTS

CASE #:	OLD CASE 5					DATE:		09-Dec-04
DONE BY:	PB POWER							

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																				INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	40%				1.50	1.27	PLUM345	1.46	1.27	1.38	1.22	1.50	1.27	1.31	1.18	1.50	1.27	1.28	1.16	1.16	1.12	1.34	1.12	1.37	1.21	1.33	1.15	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph line	East Devon (ED-BK)	40%				1.79	1.40	EDVN345	1.55	1.30	1.43	1.26	1.78	1.38	1.45	1.26	1.79	1.40	1.21	1.10	1.23	1.12	1.21	1.09	1.41	1.24	1.36	1.19	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
1-Ph line	East Devon (ED-BK)	40%				1.42	1.07	EDVN345	1.27	1.06	1.17	1.04	1.40	1.06	1.15	1.04	1.42	1.07	1.12	1.04	1.11	1.03	1.09	1.02	1.15	1.04	1.10	1.03	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph line	Norwalk (NW-PT)	40%				1.67	1.36	EDVN345	1.37	1.21	1.26	1.22	1.67	1.36	1.50	1.31	1.66	1.36	1.30	1.21	1.28	1.15	1.21	1.10	1.27	1.17	1.28	1.14	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph line	Singer (SI-ED)	40%				1.57	1.34	NRWK345	1.43	1.25	1.38	1.22	1.56	1.34	1.44	1.30	1.57	1.33	1.30	1.18	1.22	1.13	1.21	1.12	1.38	1.21	1.35	1.16	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph bus	Norwalk	40%				1.72	1.34	NRWK345	1.57	1.28	1.39	1.29	1.69	1.34	1.48	1.30	1.72	1.33	1.35	1.19	1.25	1.15	1.22	1.15	1.38	1.26	1.34	1.23	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph bus	Plumtree	40%				1.64	1.26	NRWK345	1.52	1.25	1.43	1.18	1.59	1.26	1.40	1.17	1.64	1.25	1.33	1.13	1.23	1.11	1.21	1.10	1.39	1.17	1.33	1.16	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph line	East Devon (ED-BK)	40%			Plum-LM	1.54	1.25	NRWK345	1.45	1.25	1.36	1.18	1.51	1.25	1.28	1.15	1.54	1.24	1.22	1.05	1.27	1.06	1.19	1.06	1.33	1.15	1.31	1.09	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
1-Ph line	East Devon (ED-BK)	40%			Plum-LM	1.21	1.07	EDVN345	1.19	1.06	1.17	1.04	1.21	1.07	1.11	1.04	1.21	1.07	1.19	1.03	1.16	1.03	1.13	1.01	1.17	1.04	1.16	1.02	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
3-Ph line	Norwalk (NW-PT)	40%			Plum-LM	1.64	1.56	PLUM345	1.64	1.56	1.28	1.20	1.63	1.34	1.47	1.27	1.64	1.34	1.33	1.15	1.24	1.14	1.15	1.08	1.26	1.20	1.21	1.17	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
3-Ph line	Singer (SI-ED)	40%			Plum-LM	1.74	1.31	PLUM345	1.68	1.31	1.60	1.23	1.74	1.30	1.52	1.22	1.72	1.30	1.32	1.17	1.21	1.13	1.23	1.10	1.55	1.23	1.45	1.16	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
3-Ph bus	Norwalk	40%			Plum-LM	1.83	1.34	PLUM345	1.80	1.34	1.57	1.29	1.83	1.34	1.49	1.23	1.83	1.33	1.38	1.18	1.31	1.15	1.22	1.14	1.55	1.26	1.42	1.20	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
3-Ph bus	Plumtree	40%			Plum-LM	1.59	1.26	PLUM345	1.57	1.26	1.38	1.25	1.59	1.26	1.36	1.19	1.55	1.25	1.26	1.15	1.17	1.11	1.18	1.10	1.35	1.22	1.31	1.16	1.05	1.04	1.06	1.04	1.06	1.04	1.03	1.02	1.04	1.02
3-Ph line	Plumtree (PT-LM)	40%			East Devon-Besek	1.42	1.24	EDVN345	1.40	1.22	1.35	1.20	1.42	1.22	1.24	1.13	1.42	1.24	1.20	1.04	1.15	1.07	1.35	1.06	1.33	1.18	1.35	1.12	1.05	1.04	1.06	1.04	1.06	1.03	1.03	1.02	1.03	1.02
3-Ph line	Norwalk (NW-PT)	40%			East Devon-Besek	1.79	1.47	EDVN345	1.33	1.13	1.48	1.15	1.78	1.47	1.39	1.31	1.79	1.47	1.13	1.07	1.19	1.12	1.18	1.07	1.46	1.13	1.37	1.11	1.05	1.04	1.06	1.04	1.06	1.03	1.03	1.02	1.03	1.02
3-Ph line	Singer (SI-ED)	40%			East Devon-Besek	1.79	1.37	EDVN345	1.65	1.27	1.49	1.24	1.75	1.35	1.52	1.27	1.79	1.37	1.14	1.08	1.21	1.08	1.22	1.10	1.46	1.22	1.41	1.18	1.05	1.04	1.06	1.04	1.06	1.03	1.03	1.02	1.03	1.02
3-Ph bus	Norwalk	40%			East Devon-Besek	1.89	1.46	EDVN345	1.66	1.35	1.50	1.25	1.84	1.45	1.52	1.33	1.89	1.46	1.15	1.09	1.21	1.12	1.24	1.11	1.50	1.24	1.40	1.19	1.05	1.04	1.06	1.04	1.06	1.03	1.03	1.02	1.03	1.02
3-Ph bus	Plumtree	40%			East Devon-Besek	1.75	1.39	EDVN345	1.54	1.28	1.46	1.26	1.71	1.37	1.45	1.20	1.75	1.39	1.18	1.10	1.20	1.11	1.21	1.08	1.42	1.23	1.33	1.18	1.05	1.04	1.06	1.04	1.06	1.03	1.03	1.02	1.03	1.02
3-Ph line	Plumtree (PT-LM)	40%			Norwalk H-Nport	1.38	1.24	PLUM345	1.38	1.24	1.33	1.22	1.36	1.20	1.27	1.16	1.33	1.20	1.20	1.10	1.14	1.09	1.34	1.08	1.32	1.20	1.35	1.15	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph line	East Devon (ED-BK)	40%			Norwalk H-Nport	1.57	1.27	PLUM345	1.44	1.27	1.54	1.24	1.56	1.27	1.44	1.18	1.57	1.26	1.20	1.07	1.13	1.07	1.22	1.06	1.56	1.22	1.46	1.19	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
1-Ph line	East Devon (ED-BK)	40%			Norwalk H-Nport	1.29	1.05	EDVN345	1.14	1.04	1.13	1.04	1.28	1.05	1.12	1.04	1.29	1.05	1.13	1.03	1.10	1.03	1.07	1.01	1.12	1.03	1.10	1.02	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph line	Norwalk (NW-PT)	40%			Norwalk H-Nport	1.63	1.33	EDVN345	1.27	1.18	1.19	1.19	1.63	1.32	1.48	1.21	1.63	1.33	1.29	1.16	1.19	1.10	1.13	1.07	1.19	1.20	1.20	1.15	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph line	Singer (SI-ED)	40%			Norwalk H-Nport	1.51	1.30	EDVN345	1.43	1.24	1.32	1.20	1.51	1.30	1.34	1.22	1.50	1.30	1.33	1.13	1.14	1.08	1.17	1.09	1.32	1.19	1.28	1.16	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph bus	Norwalk	40%			Norwalk H-Nport	1.65	1.32	EDVN345	1.52	1.24	1.44	1.22	1.65	1.32	1.51	1.22	1.65	1.32	1.31	1.16	1.21	1.11	1.20	1.11	1.43	1.23	1.33	1.17	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph bus	Plumtree	40%			Norwalk H-Nport	1.56	1.26	EDVN345	1.45	1.23	1.37	1.23	1.56	1.24	1.44	1.20	1.54	1.26	1.31	1.12	1.17	1.10	1.17	1.10	1.37	1.21	1.40	1.17	1.04	1.04	1.05	1.04	1.05	1.04	1.03	1.02	1.03	1.02
3-Ph line	Plumtree (PT-LM)	40%			LM-Pleasant V	1.55	1.27	PLUM345	1.49	1.27	1.40	1.20	1.55	1.25	1.41	1.18	1.54	1.25	1.28	1.13	1.20	1.11	1.21	1.10	1.40	1.18	1.37	1.14	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
3-Ph line	East Devon (ED-BK)	40%			LM-Pleasant V	1.68	1.31	EDVN345	1.54	1.25	1.42	1.19	1.68	1.30	1.35	1.19	1.67	1.31	1.25	1.09	1.21	1.10	1.20	1.10	1.39	1.18	1.39	1.17	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
1-Ph line	East Devon (ED-BK)	40%			LM-Pleasant V	1.25	1.06	NRWK345	1.17	1.05	1.16	1.04	1.25	1.06	1.12	1.03	1.25	1.06	1.17	1.03	1.11	1.03	1.11	1.01	1.15	1.03	1.14	1.02	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
3-Ph line	Norwalk (NW-PT)	40%			LM-Pleasant V	1.67	1.31	NRWK345	1.35	1.15	1.23	1.14	1.67	1.31	1.46	1.25	1.65	1.29	1.37	1.15	1.25	1.13	1.17	1.08	1.22	1.14	1.20	1.12	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
3-Ph line	Singer (SI-ED)	40%			LM-Pleasant V	1.66	1.28	NRWK345	1.53	1.26	1.43	1.20	1.66	1.28	1.39	1.19	1.63	1.28	1.36	1.18	1.21	1.12	1.25	1.12	1.41	1.19	1.42	1.16	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
3-Ph bus	Norwalk	40%			LM-Pleasant V	1.78	1.30	NRWK345	1.63	1.30	1.48	1.23	1.77	1.30	1.49	1.21	1.78	1.30	1.38	1.18	1.29	1.13	1.26	1.13	1.44	1.21	1.47	1.18	1.05	1.04	1.05	1.03	1.05	1.04	1.03	1.01	1.03	1.02
3-Ph bus	Plumtree	40%			LM-Pleasant V	1.59	1.26	NRWK345	1.50	1.24	1.50	1.21	1.59	1.26	1.44	1.14	1.59	1.25	1.30	1.13	1.23	1.11	1.21	1.09	1.46	1.19	1.31	1.14	1.05	1.04	1.05	1.04	1.05	1.04	1.04	1.02	1.03	1.02
3-Ph line	Plumtree (PT-LM)	50%				1.52	1.29	STONY115	1.52	1.26	1.35	1.20	1.39	1.21	1.25	1.17	1.41	1.22	1.33	1.18	1.18	1.13	1.18	1.11	1.46	1.29	1.32	1.18	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%				1.75	1.31	EDVN345	1.52	1.24	1.41	1.26	1.74	1.29	1.44	1.19	1.75	1.31	1.27	1.16	1.23	1.13	1.20	1.11	1.44	1.25	1.30	1.17	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%				1.36	1.09	BSCK345	1.25	1.06	1.15	1.05	1.32	1.06	1.14	1.05	1.36	1.06	1.16	1.09	1.15	1.06	1.13	1.03	1.17	1.04	1.14	1.03	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%				1.57	1.38	NRWK345	1.41	1.20	1.26	1.20	1.57	1.38	1.32	1.29	1.54	1.38	1.32	1.23	1.25	1.18	1.20	1.12	1.27	1.20	1.17	1.14	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	Singer (SI-ED)	50%				1.49	1.37	NRWK345	1.43	1.33	1.35	1.34	1.47	1.37	1.31	1.25	1.49	1.37	1.31	1.21	1.24	1.19	1.21	1.17	1.40	1.35	1.31	1.28	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph bus	Norwalk	50%				1.53	1.36	NRWK345	1.50	1.31	1.31	1.26	1.53	1.36	1.34	1.30	1.53	1.35	1.28	1.22	1.23	1.19	1.20	1.17	1.38	1.28	1.29	1.25	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph bus	Plumtree	50%				1.70	1.30	STONY115	1.61	1.24	1.52	1.25	1.49	1.23	1.35	1.17	1.53	1.22	1.43	1.17	1.20	1.13	1.25	1.13	1.70	1.30	1.51	1.24	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.52	1.17	NRWK345	1.49	1.15	1.38	1.12	1.50	1.17	1.31	1.11	1.52	1.17	1.28	1.11	1.29	1.06	1.19	1.04	1.34	1.10	1.26	1.06	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.21	1.08	BSCK345	1.19	1.03	1.12	1.02	1.19	1.04	1.08	1.02	1.18	1.04	1.21	1.08	1.13	1.04	1.08	1.01	1.11	1.02	1.09	1.01	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.50	1.35	EDVN345	1.30	1.18	1.26	1.16	1.50	1.35	1.32	1.24	1.50	1.35	1.32	1.20	1.24	1.15	1.13	1.07	1.26	1.19	1.19	1.13	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.50	1.30	EDVN345	1.45	1.29	1.40	1.25	1.50	1.30	1.34	1.21	1.47	1.30	1.29	1.18	1.21	1.15	1.18	1.10	1.41	1.28	1.32	1.20	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			Plum-LM	1.66	1.28	EDVN345	1.62	1.27	1.53	1.21	1.63	1.27	1.44	1.18	1.66	1.28	1.37	1.19	1.24	1.15	1.19	1.12	1.46	1.21	1.35	1.16	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			Plum-LM	1.52	1.27	STONY115	1.52	1.21	1.36	1.19	1.38	1.21	1.25	1.16	1.38	1.20	1.26	1.16	1.17	1.13	1.16	1.11	1.46	1.27	1.32	1.13	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	50%			East Devon-Besek	1.48	1.19	STONY115	1.44	1.18	1.33	1.19	1.45	1.17	1.25	1.10	1.48	1.17	1.29	1.13	1.13	1.07	1.14	1.06	1.36	1.19	1.24	1.11	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph line	Norwalk (NW-PT)	50%			East Devon-Besek	1.78	1.32	NRWK345	1.30	1.16	1.31	1.14	1.78	1.32	1.40	1.20	1.74	1.31	1.21	1.14	1.22	1.17	1.14	1.07	1.37	1.21	1.24	1.11	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph line	Singer (SI-ED)	50%			East Devon-Besek	1.62	1.30	EDVN345	1.43	1.24	1.34	1.25	1.50	1.29	1.31	1.18	1.62	1.30	1.20	1.13	1.15	1.13	1.16	1.11	1.37	1.25	1.27	1.18	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Norwalk	50%			East Devon-Besek	1.73	1.31	NRWK345	1.50	1.25	1.41	1.27	1.71	1.31	1.46	1.22	1.73	1.31	1.19	1.14	1.21	1.13	1.21	1.11	1.40	1.23	1.30	1.17	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Plumtree	50%			East Devon-Besek	1.73	1.27	STONY115	1.73	1.22	1.37	1.19	1.54	1.22	1.28	1.18	1.58	1.22	1.32	1.14	1.18	1.12	1.15	1.10	1.55	1.27	1.37	1.17	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph line	Plumtree (PT-LM)	50%			Norwalk H-Nport	1.42	1.19	STONY115	1.42	1.16	1.26	1.15	1.28	1.12	1.21	1.07	1.30	1.11	1.30	1.11	1.13	1.08	1.13	1.05	1.29	1.19	1.24	1.09	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.57	1.16	EDVN345	1.33	1.14	1.29	1.10	1.55	1.16	1.30	1.10	1.57	1.16	1.31	1.12	1.17	1.08	1.12	1.05	1.28	1.09	1.18	1.07	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
1-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.19	1.08	BSCK345	1.12	1.03	1.09	1.02	1.19	1.03	1.08	1.01	1.19	1.03	1.14	1.08	1.08	1.04	1.07	1.01	1.09	1.02	1.07	1.01	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Norwalk (NW-PT)	50%			Norwalk H-Nport	1.42	1.25	NRWK345	1.35	1.17	1.20	1.14	1.41	1.25	1.35	1.22	1.42	1.24	1.27	1.15	1.18	1.12	1.13	1.09	1.26	1.18	1.19	1.12	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Singer (SI-ED)	50%			Norwalk H-Nport	1.38	1.30	PLUM115	1.36	1.23	1.31	1.30	1.38	1.26	1.29	1.20	1.37	1.26	1.29	1.15	1.18	1.14	1.14	1.11	1.28	1.25	1.25	1.18	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph bus	Norwalk	50%			Norwalk H-Nport	1.50	1.24	NRWK345	1.40	1.21	1.26	1.23	1.47	1.24	1.39	1.21	1.50	1.23	1.28	1.16	1.19	1.12	1.14	1.10	1.28	1.23	1.21	1.18	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph bus	Plumtree	50%			Norwalk H-Nport	1.52	1.21	STONY115	1.43	1.16	1.31	1.21	1.44	1.17	1.31	1.12	1.46	1.17	1.34	1.17	1.17	1.10	1.17	1.10	1.52	1.21	1.39	1.12	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.46	1.27	STONY115	1.46	1.22	1.38	1.21	1.40	1.21	1.27	1.16	1.40	1.21	1.27	1.17	1.18	1.12	1.22	1.11	1.38	1.27	1.28	1.16	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.67	1.23	EDVN345	1.50	1.19	1.41	1.18	1.64	1.22	1.38	1.15	1.67	1.23	1.27	1.14	1.21	1.11	1.24	1.08	1.41	1.20	1.32	1.12	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.20	1.09	BSCK345	1.19	1.05	1.15	1.04	1.19	1.06	1.11	1.04	1.20	1.06	1.18	1.09	1.10	1.05	1.09	1.02	1.14	1.04	1.11	1.03	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.50	1.35	NRWK345	1.41	1.22	1.34	1.21	1.48	1.35	1.31	1.24	1.50	1.33	1.31	1.21	1.25	1.14	1.26	1.20	1.27	1.24	1.24	1.23	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.54	1.27	EDVN345	1.45	1.27	1.35	1.25	1.52	1.26	1.34	1.20	1.54	1.27	1.33	1.21	1.24	1.15	1.22	1.14	1.43	1.26	1.31	1.20	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.62	1.27	EDVN345	1.54	1.26	1.47	1.21	1.59	1.26	1.39	1.17	1.62	1.27	1.36	1.21	1.26	1.15	1.24	1.15	1.43	1.21	1.34	1.18	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.54	1.25	STONY115	1.54	1.23	1.34	1.19	1.39	1.22	1.26	1.16	1.41	1.21	1.32	1.18	1.18	1.14	1.20	1.10	1.51	1.25	1.35	1.17	1.07	1.06	1.07	1.05	1.07	1.07	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	70%				1.45	1.30	ROCK115	1.31	1.14	1.23	1.15	1.28	1.13	1.22	1.11	1.27	1.13	1.27	1.12	1.14	1.12	1.20	1.10	1.26	1.17	1.45	1.30	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph line	East Devon (ED-BK)	70%				1.46	1.19	ROCK115	1.35	1.13	1.30	1.14	1.41	1.16	1.31	1.15	1.43	1.16	1.23	1.11	1.15	1.10	1.21	1.13	1.28	1.13	1.46	1.19	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
1-Ph line	East Devon (ED-BK)	70%				1.18	1.08	FRBG115	1.14	1.04	1.12	1.05	1.16	1.04	1.08	1.04	1.18	1.04	1.14	1.07	1.13	1.07	1.16	1.08	1.15	1.05	1.14	1.07	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph line	Norwalk (NW-PT)	70%				1.41	1.32	ROCK115	1.32	1.12	1.22	1.11	1.38	1.28	1.33	1.26	1.39	1.27	1.27	1.14	1.20	1.16	1.23	1.14	1.25	1.21	1.41	1.32	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph line	Singer (SI-ED)	70%				1.58	1.32	ROCK115	1.35	1.22	1.36	1.23	1.35	1.22	1.26	1.20	1.39	1.22	1.23	1.13	1.17	1.13	1.21	1.18	1.39	1.29	1.58	1.32	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph bus	Norwalk	70%				1.59	1.29	STONY115	1.37	1.21	1.33	1.27	1.37	1.21	1.28	1.20	1.36	1.21	1.27	1.13	1.18	1.14	1.22	1.16	1.40	1.29	1.59	1.29	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph bus	Plumtree	70%				1.48	1.27	ROCK115	1.45	1.19	1.31	1.18	1.35	1.16	1.26	1.13	1.39	1.17	1.30	1.14	1.16	1.13	1.24	1.13	1.40	1.16	1.48	1.27	1.05	1.06	1.05	1.05	1.05	1.05	1.08	1.09	1.06	1.08
3-Ph line	East Devon (ED-BK)	70%			Plum-LM	1.31	1.06	BSCK345	1.31	1.06	1.22	1.04	1.29	1.05	1.19	1.03	1.28	1.06	1.20	1.06	1.16	1.04	1.18	1.06	1.20	1.05	1.30	1.06	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
1-Ph line	East Devon (ED-BK)	70%			Plum-LM	1.14	1.05	FRBG115	1.10	1.01	1.09	1.01	1.13	1.01	1.04	1.00	1.13	1.01	1.10	1.05	1.12	1.04	1.14	1.05	1.08	1.02	1.09	1.03	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	1.79	1.38	ROCK115	1.55	1.36	1.23	1.18	1.37	1.25	1.25	1.19	1.38	1.26	1.25	1.12	1.16	1.11	1.20	1.13	1.20	1.18	1.79	1.38	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
3-Ph line	Singer (SI-ED)	70%			Plum-LM	1.58	1.29	ROCK115	1.38	1.19	1.29	1.21	1.32	1.14	1.28	1.15	1.38	1.16	1.34	1.12	1.18	1.12	1.22	1.13	1.33	1.25	1.58	1.29	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
3-Ph bus	Norwalk	70%			Plum-LM	1.53	1.27	ROCK115	1.42	1.18	1.34	1.23	1.37	1.14	1.26	1.14	1.39	1.16	1.30	1.10	1.18	1.11	1.20	1.12	1.31	1.23	1.53	1.27	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
3-Ph bus	Plumtree	70%			Plum-LM	1.57	1.29	ROCK115	1.57	1.18	1.29	1.15	1.29	1.11	1.17	1.09	1.33	1.12	1.26	1.10	1.12	1.10	1.16	1.12	1.36	1.16	1.38	1.29	1.03	1.05	1.03	1.03	1.04	1.04	1.06	1.08	1.05	1.06
3-Ph line	Plumtree (PT-LM)	70%			East Devon-Besek	1.41	1.25	ROCK115	1.41	1.12	1.23	1.07	1.24	1.09	1.10	1.03	1.29	1.12	1.30	1.11	1.08	1.06	1.15	1.07	1.23	1.08	1.38	1.25	1.04	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.05	1.07
3-Ph line	Norwalk (NW-PT)	70%			East Devon-Besek	1.44	1.26	ROCK115	1.38	1.13	1.25	1.10	1.39	1.17	1.26	1.14	1.40	1.17	1.18	1.09	1.18	1.10	1.14	1.09	1.44	1.19	1.40	1.26	1.04	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.05	1.07
3-Ph line	Singer (SI-ED)	70%			East Devon-Besek	1.56	1.21	ROCK115	1.33	1.18	1.30	1.15	1.39	1.20	1.28	1.17	1.42	1.20	1.17	1.10	1.14	1.11	1.22	1.16	1.32	1.18	1.56	1.21	1.04	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.05	1.07
3-Ph bus	Norwalk	70%			East Devon-Besek	1.55	1.22	ROCK115	1.44	1.17	1.33	1.19	1.45	1.19	1.30	1.17	1.47	1.20	1.15	1.09	1.14	1.11	1.22	1.14	1.32	1.18	1.55	1.22	1.04	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.05	1.07
3-Ph bus	Plumtree	70%			East Devon-Besek	1.56	1.35	ROCK115	1.47	1.15	1.37	1.17	1.38	1.14	1.33	1.13	1.42	1.15	1.24	1.11	1.14	1.11	1.21	1.12	1.50	1.18	1.56	1.35	1.04	1.05	1.03	1.04	1.04	1.05	1.07	1.08	1.05	1.07
3-Ph line	Plumtree (PT-LM)	70%			Norwalk H-Nport	1.37	1.16	ROCK115	1.34	1.06	1.16	1.05	1.13	1.02	1.10	1.02	1.17	1.03	1.30	1.05	1.06	1.04	1.09	1.04	1.15	1.06	1.37	1.16	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	1.27	1.07	BSCK345	1.18	1.03	1.15	1.03	1.20	1.04	1.19	1.04	1.20	1.05	1.25	1.07	1.12	1.05	1.10	1.07	1.24	1.04	1.27	1.04	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
1-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	1.09	1.04	BSCK345	1.05	1.00	1.04	1.01	1.06	1.00	1.05	1.00	1.08	1.00	1.09	1.04	1.07	1.03	1.07	1.04	1.04	1.01	1.09	1.03	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Norwalk (NW-PT)	70%			Norwalk H-Nport	1.41	1.26	ROCK115	1.32	1.11	1.16	1.08	1.26	1.15	1.24	1.15	1.27	1.14	1.24	1.09	1.12	1.08	1.16	1.09	1.18	1.13	1.41	1.26	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Singer (SI-ED)	70%			Norwalk H-Nport	1.45	1.19	ROCK115	1.25	1.12	1.27	1.13	1.30	1.13	1.24	1.15	1.32	1.14	1.23	1.09	1.12	1.08	1.17	1.10	1.32	1.16	1.45	1.19	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph bus	Norwalk	70%			Norwalk H-Nport	1.41	1.20	ROCK115	1.27	1.12	1.26	1.15	1.25	1.13	1.22	1.14	1.27	1.13	1.27	1.11	1.12	1.08	1.16	1.10	1.24	1.17	1.41	1.20	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph bus	Plumtree	70%			Norwalk H-Nport	1.45	1.28	ROCK115	1.45	1.11	1.26	1.12	1.28	1.08	1.26	1.08	1.29	1.09	1.32	1.09	1.11	1.09	1.18	1.09	1.41	1.13	1.37	1.28	1.02	1.03	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	1.61	1.26	ROCK115	1.44	1.18	1.22	1.13	1.27	1.10	1.17	1.07	1.31	1.10	1.29	1.10	1.11	1.09	1.15	1.09	1.29	1.13	1.61	1.26	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
3-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	1.36	1.10	STONY115	1.29	1.08	1.19	1.07	1.29	1.07	1.20	1.05	1.31	1.08	1.25	1.07	1.17	1.07	1.16	1.08	1.19	1.10	1.36	1.08	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
1-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	1.14	1.05	FRBG115	1.12	1.02	1.10	1.03	1.12	1.02	1.08	1.01	1.14	1.02	1.14	1.05	1.09	1.04	1.10	1.05	1.08	1.03	1.13	1.04	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	1.50	1.30	ROCK115	1.37	1.19	1.23	1.11	1.36	1.20	1.27	1.15	1.40	1.20	1.25	1.11	1.15	1.11	1.24	1.12	1.31	1.18	1.50	1.30	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	1.46	1.24	ROCK115	1.32	1.13	1.28	1.14	1.36	1.13	1.25	1.12	1.40	1.12	1.35	1.09	1.16	1.09	1.21	1.11	1.26	1.19	1.46	1.24	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
3-Ph bus	Norwalk	70%			LM-Pleasant V	1.45	1.21	ROCK115	1.45	1.13	1.28	1.18	1.34	1.12	1.26	1.11	1.36	1.13	1.26	1.10	1.16	1.09	1.21	1.11	1.27	1.19	1.41	1.21	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06
3-Ph bus	Plumtree	70%			LM-Pleasant V	1.57	1.30	ROCK115	1.57	1.14	1.29	1.14	1.30	1.10	1.23	1.08	1.31	1.11	1.26	1.09	1.14	1.09	1.22	1.09	1.42	1.17	1.50	1.30	1.03	1.04	1.03	1.03	1.03	1.03	1.06	1.07	1.05	1.06

CASE #:	OLD CASE 5 SENSITIVITY TEST					DATE:	07-Dec-04
	NORWALK 1 & MILFORD 1 IN SERVICE						
DONE BY:	PB POWER						

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																		INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%				1.95	1.26	PLUM345	1.95	1.26	1.44	1.21	1.42	1.21	1.24	1.15	1.43	1.22	1.36	1.19	1.19	1.12	1.16	1.13	1.52	1.20	1.31	1.15	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%				1.61	1.34	EDVN345	1.50	1.28	1.35	1.28	1.60	1.31	1.34	1.20	1.61	1.34	1.33	1.14	1.17	1.13	1.16	1.13	1.38	1.26	1.30	1.20	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%				1.34	1.09	BSCK345	1.23	1.06	1.15	1.05	1.32	1.06	1.13	1.04	1.34	1.06	1.19	1.09	1.18	1.06	1.13	1.03	1.18	1.05	1.15	1.03	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%				1.55	1.41	NRWK345	1.40	1.18	1.24	1.20	1.55	1.41	1.33	1.29	1.55	1.39	1.35	1.25	1.23	1.18	1.14	1.12	1.38	1.17	1.23	1.14	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%				1.64	1.40	PLUM345	1.64	1.40	1.41	1.36	1.62	1.39	1.33	1.27	1.58	1.38	1.37	1.23	1.26	1.23	1.23	1.23	1.43	1.33	1.31	1.30	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph bus	Norwalk	50%				1.56	1.33	NRWK345	1.51	1.30	1.35	1.26	1.55	1.33	1.29	1.27	1.56	1.32	1.32	1.20	1.22	1.18	1.19	1.17	1.40	1.28	1.28	1.23	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph bus	Plumtree	50%				1.70	1.30	PLUM115	1.70	1.24	1.44	1.30	1.44	1.25	1.27	1.17	1.46	1.24	1.38	1.17	1.20	1.15	1.17	1.16	1.58	1.29	1.40	1.22	1.06	1.05	1.07	1.05	1.07	1.08	1.07	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.52	1.21	NRWK345	1.51	1.18	1.40	1.14	1.52	1.21	1.31	1.11	1.52	1.20	1.26	1.11	1.21	1.10	1.16	1.06	1.37	1.13	1.28	1.09	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
1-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.22	1.09	BSCK345	1.22	1.04	1.14	1.03	1.22	1.04	1.09	1.02	1.20	1.04	1.19	1.09	1.11	1.05	1.08	1.02	1.15	1.02	1.12	1.02	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.59	1.35	NRWK345	1.23	1.20	1.22	1.19	1.55	1.35	1.28	1.24	1.59	1.34	1.32	1.19	1.21	1.16	1.10	1.07	1.23	1.14	1.15	1.12	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.57	1.36	PLUM345	1.57	1.36	1.38	1.28	1.54	1.31	1.33	1.19	1.53	1.29	1.41	1.19	1.20	1.16	1.16	1.13	1.39	1.29	1.30	1.22	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
3-Ph bus	Norwalk	50%			Plum-LM	1.56	1.27	EDVN345	1.53	1.27	1.44	1.20	1.56	1.27	1.34	1.18	1.54	1.27	1.40	1.19	1.21	1.15	1.17	1.12	1.40	1.19	1.31	1.16	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
3-Ph bus	Plumtree	50%			Plum-LM	1.94	1.26	PLUM345	1.94	1.26	1.36	1.20	1.37	1.20	1.22	1.14	1.41	1.21	1.32	1.16	1.18	1.13	1.13	1.10	1.54	1.24	1.33	1.14	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.03
3-Ph line	Plumtree (PT-LM)	50%			East Devon-Besek	1.62	1.23	PLUM345	1.62	1.23	1.40	1.20	1.49	1.20	1.26	1.13	1.51	1.19	1.25	1.12	1.22	1.09	1.26	1.08	1.43	1.19	1.32	1.13	1.06	1.05	1.06	1.05	1.06	1.08	1.07	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			East Devon-Besek	1.71	1.33	NRWK345	1.28	1.16	1.19	1.17	1.71	1.33	1.37	1.22	1.65	1.32	1.19	1.15	1.22	1.17	1.15	1.10	1.35	1.19	1.21	1.15	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph line	Singer (SI-ED)	50%			East Devon-Besek	1.73	1.34	EDVN345	1.42	1.30	1.36	1.30	1.61	1.33	1.34	1.22	1.73	1.34	1.29	1.15	1.19	1.15	1.18	1.15	1.39	1.31	1.33	1.21	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Norwalk	50%			East Devon-Besek	1.67	1.32	NRWK345	1.52	1.28	1.38	1.26	1.67	1.32	1.38	1.27	1.67	1.31	1.21	1.15	1.17	1.12	1.16	1.12	1.43	1.28	1.29	1.21	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Plumtree	50%			East Devon-Besek	1.60	1.28	STONY115	1.60	1.20	1.38	1.24	1.49	1.24	1.28	1.14	1.56	1.24	1.28	1.16	1.15	1.12	1.15	1.10	1.54	1.28	1.38	1.21	1.05	1.05	1.05	1.04	1.05	1.08	1.06	1.03	1.04	1.03
3-Ph line	Plumtree (PT-LM)	50%			Norwalk H-Nport	1.59	1.20	STONY115	1.59	1.19	1.38	1.14	1.36	1.17	1.22	1.11	1.35	1.17	1.27	1.15	1.20	1.09	1.22	1.07	1.44	1.20	1.34	1.12	1.05	1.04	1.06	1.04	1.06	1.07	1.06	1.03	1.04	1.03
3-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.52	1.19	EDVN345	1.39	1.16	1.32	1.14	1.51	1.19	1.31	1.11	1.52	1.19	1.33	1.14	1.15	1.09	1.13	1.06	1.37	1.12	1.24	1.08	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
1-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.22	1.08	BSCK345	1.16	1.04	1.10	1.03	1.22	1.04	1.11	1.02	1.22	1.04	1.17	1.08	1.12	1.05	1.09	1.02	1.12	1.03	1.10	1.02	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
3-Ph line	Norwalk (NW-PT)	50%			Norwalk H-Nport	1.44	1.27	NRWK345	1.38	1.18	1.20	1.15	1.44	1.27	1.29	1.24	1.44	1.27	1.31	1.16	1.17	1.13	1.12	1.08	1.35	1.18	1.20	1.12	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
3-Ph line	Singer (SI-ED)	50%			Norwalk H-Nport	1.54	1.31	PLUM115	1.51	1.27	1.33	1.31	1.54	1.29	1.31	1.22	1.51	1.27	1.31	1.17	1.21	1.17	1.19	1.16	1.35	1.30	1.27	1.23	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
3-Ph bus	Norwalk	50%			Norwalk H-Nport	1.49	1.26	STONY115	1.43	1.22	1.26	1.25	1.48	1.25	1.30	1.24	1.49	1.24	1.28	1.17	1.17	1.14	1.15	1.10	1.34	1.26	1.20	1.20	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
3-Ph bus	Plumtree	50%			Norwalk H-Nport	1.47	1.23	STONY115	1.47	1.17	1.25	1.18	1.36	1.15	1.24	1.11	1.38	1.15	1.26	1.14	1.18	1.10	1.15	1.08	1.46	1.23	1.28	1.15	1.05	1.04	1.05	1.04	1.05	1.07	1.06	1.02	1.04	1.03
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.42	1.25	STONY115	1.42	1.21	1.34	1.20	1.40	1.22	1.25	1.16	1.41	1.21	1.24	1.16	1.18	1.13	1.22	1.12	1.37	1.25	1.28	1.17	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.60	1.23	EDVN345	1.45	1.21	1.36	1.19	1.60	1.23	1.33	1.16	1.60	1.23	1.35	1.14	1.22	1.11	1.22	1.09	1.34	1.22	1.30	1.13	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.22	1.09	BSCK345	1.21	1.06	1.16	1.04	1.22	1.06	1.12	1.04	1.22	1.06	1.19	1.09	1.12	1.06	1.11	1.03	1.16	1.04	1.13	1.03	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.52	1.37	NRWK345	1.35	1.23	1.33	1.24	1.52	1.37	1.32	1.25	1.50	1.35	1.35	1.21	1.22	1.14	1.24	1.19	1.31	1.23	1.25	1.22	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.54	1.29	NRWK345	1.49	1.29	1.34	1.27	1.54	1.29	1.32	1.21	1.51	1.29	1.35	1.22	1.21	1.17	1.22	1.15	1.36	1.25	1.27	1.22	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.50	1.27	EDVN345	1.48	1.27	1.37	1.21	1.46	1.27	1.30	1.17	1.50	1.27	1.36	1.20	1.23	1.16	1.21	1.15	1.34	1.20	1.30	1.17	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.46	1.24	STONY115	1.40	1.22	1.32	1.21	1.38	1.22	1.23	1.15	1.37	1.22	1.30	1.19	1.17	1.14	1.19	1.10	1.46	1.24	1.32	1.18	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CASE #:	OLD CASE 5 SENSITIVITY TEST 2					DATE:	08-Dec-04
	CAPACITOR DISPATCH INCREASED BY 50%						
DONE BY:	PB POWER						

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																		INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%				1.78	1.26	PLUM345	1.78	1.26	1.30	1.22	1.41	1.20	1.28	1.15	1.42	1.19	1.34	1.14	1.17	1.14	1.21	1.14	1.42	1.25	1.25	1.19	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%				1.57	1.30	EDVN345	1.51	1.24	1.35	1.20	1.56	1.28	1.33	1.18	1.57	1.30	1.35	1.13	1.21	1.16	1.17	1.11	1.46	1.24	1.34	1.17	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%				1.27	1.09	BSCK345	1.20	1.06	1.13	1.04	1.27	1.05	1.12	1.04	1.27	1.06	1.17	1.09	1.17	1.07	1.13	1.03	1.13	1.05	1.12	1.04	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%				1.55	1.39	NRWK345	1.47	1.22	1.24	1.19	1.55	1.39	1.36	1.26	1.54	1.38	1.33	1.21	1.26	1.20	1.12	1.12	1.26	1.19	1.21	1.18	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph line	Singer (SI-ED)	50%				1.55	1.34	STONY115	1.51	1.30	1.34	1.26	1.55	1.33	1.35	1.20	1.54	1.31	1.33	1.19	1.30	1.24	1.19	1.19	1.44	1.34	1.30	1.27	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph bus	Norwalk	50%				1.54	1.31	NRWK345	1.49	1.27	1.31	1.22	1.54	1.31	1.33	1.25	1.52	1.31	1.31	1.19	1.27	1.20	1.19	1.18	1.37	1.28	1.29	1.23	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph bus	Plumtree	50%				1.66	1.21	EDVN345	1.66	1.19	1.29	1.17	1.42	1.20	1.25	1.15	1.41	1.21	1.33	1.18	1.17	1.14	1.16	1.11	1.40	1.20	1.27	1.15	1.06	1.05	1.06	1.05	1.06	1.06	1.07	1.04	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.54	1.19	NRWK345	1.54	1.17	1.37	1.12	1.50	1.19	1.28	1.11	1.48	1.18	1.19	1.09	1.14	1.09	1.19	1.04	1.36	1.12	1.25	1.08	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
1-Ph line	East Devon (ED-BK)	50%			Plum-LM	1.18	1.07	BSCK345	1.18	1.04	1.13	1.02	1.17	1.04	1.08	1.02	1.16	1.04	1.15	1.07	1.08	1.05	1.08	1.02	1.13	1.02	1.10	1.02	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.49	1.29	NRWK345	1.26	1.22	1.23	1.21	1.49	1.29	1.29	1.23	1.48	1.27	1.29	1.17	1.18	1.17	1.11	1.07	1.15	1.17	1.18	1.11	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.54	1.30	EDVN345	1.54	1.26	1.36	1.21	1.49	1.28	1.29	1.19	1.48	1.30	1.35	1.18	1.23	1.15	1.17	1.12	1.39	1.26	1.30	1.19	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
3-Ph bus	Norwalk	50%			Plum-LM	1.56	1.27	PLUM345	1.50	1.27	1.39	1.20	1.56	1.26	1.35	1.20	1.53	1.26	1.41	1.17	1.22	1.15	1.18	1.11	1.39	1.23	1.32	1.18	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
3-Ph bus	Plumtree	50%			Plum-LM	1.74	1.25	PLUM345	1.74	1.25	1.26	1.21	1.38	1.19	1.26	1.14	1.37	1.19	1.29	1.13	1.17	1.13	1.13	1.10	1.40	1.24	1.26	1.17	1.05	1.04	1.05	1.04	1.06	1.06	1.06	1.03	1.05	1.03
3-Ph line	Plumtree (PT-LM)	50%			East Devon-Besek	1.61	1.19	PLUM345	1.61	1.19	1.31	1.14	1.42	1.17	1.22	1.10	1.53	1.19	1.25	1.11	1.13	1.08	1.12	1.07	1.46	1.14	1.25	1.08	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.03	1.04	1.03
3-Ph line	Norwalk (NW-PT)	50%			East Devon-Besek	1.70	1.32	EDVN345	1.23	1.17	1.24	1.16	1.65	1.31	1.36	1.19	1.70	1.32	1.16	1.12	1.21	1.13	1.15	1.09	1.30	1.21	1.20	1.16	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.03	1.04	1.03
3-Ph line	Singer (SI-ED)	50%			East Devon-Besek	1.59	1.29	NRWK345	1.41	1.25	1.28	1.21	1.56	1.29	1.29	1.18	1.59	1.28	1.32	1.14	1.18	1.14	1.15	1.14	1.37	1.21	1.27	1.18	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.03	1.04	1.03
3-Ph bus	Norwalk	50%			East Devon-Besek	1.64	1.29	NRWK345	1.54	1.24	1.39	1.19	1.61	1.29	1.38	1.20	1.64	1.28	1.24	1.11	1.18	1.14	1.16	1.11	1.40	1.27	1.28	1.20	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.03	1.04	1.03
3-Ph bus	Plumtree	50%			East Devon-Besek	1.59	1.23	NRWK345	1.51	1.22	1.31	1.20	1.48	1.23	1.30	1.16	1.59	1.22	1.30	1.12	1.19	1.12	1.17	1.09	1.38	1.21	1.28	1.15	1.05	1.04	1.05	1.04	1.05	1.06	1.06	1.03	1.04	1.03
3-Ph line	Plumtree (PT-LM)	50%			Norwalk H-Nport	1.42	1.16	STONY115	1.42	1.15	1.21	1.13	1.30	1.11	1.19	1.09	1.33	1.11	1.23	1.09	1.16	1.07	1.09	1.07	1.35	1.16	1.18	1.11	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.41	1.17	EDVN345	1.33	1.12	1.25	1.10	1.40	1.16	1.27	1.10	1.41	1.17	1.32	1.10	1.14	1.08	1.12	1.05	1.38	1.09	1.25	1.07	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
1-Ph line	East Devon (ED-BK)	50%			Norwalk H-Nport	1.15	1.07	BSCK345	1.10	1.03	1.09	1.02	1.15	1.02	1.10	1.01	1.13	1.03	1.14	1.07	1.09	1.04	1.08	1.01	1.09	1.02	1.07	1.01	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph line	Norwalk (NW-PT)	50%			Norwalk H-Nport	1.41	1.22	EDVN345	1.41	1.18	1.23	1.17	1.39	1.22	1.25	1.16	1.39	1.22	1.29	1.14	1.17	1.12	1.11	1.07	1.19	1.15	1.15	1.12	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph line	Singer (SI-ED)	50%			Norwalk H-Nport	1.45	1.21	NRWK345	1.39	1.19	1.25	1.17	1.45	1.21	1.31	1.16	1.44	1.21	1.28	1.16	1.20	1.12	1.13	1.12	1.33	1.20	1.21	1.17	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph bus	Norwalk	50%			Norwalk H-Nport	1.41	1.22	EDVN345	1.41	1.19	1.27	1.17	1.40	1.20	1.29	1.16	1.40	1.22	1.29	1.15	1.18	1.12	1.16	1.10	1.31	1.21	1.23	1.16	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph bus	Plumtree	50%			Norwalk H-Nport	1.50	1.18	STONY115	1.50	1.17	1.22	1.16	1.32	1.16	1.25	1.13	1.37	1.17	1.28	1.13	1.13	1.11	1.14	1.08	1.34	1.18	1.21	1.13	1.04	1.03	1.04	1.03	1.04	1.05	1.05	1.02	1.03	1.02
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.67	1.25	PLUM345	1.67	1.25	1.30	1.21	1.40	1.19	1.28	1.15	1.43	1.20	1.32	1.14	1.16	1.13	1.22	1.11	1.40	1.24	1.30	1.17	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.54	1.24	NRWK345	1.46	1.20	1.34	1.16	1.54	1.24	1.29	1.14	1.53	1.23	1.24	1.10	1.18	1.12	1.21	1.11	1.34	1.16	1.28	1.13	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	50%			LM-Pleasant V	1.19	1.07	BSCK345	1.19	1.05	1.17	1.04	1.18	1.05	1.11	1.03	1.18	1.05	1.16	1.07	1.12	1.05	1.12	1.02	1.17	1.04	1.11	1.03	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.47	1.28	NRWK345	1.40	1.22	1.28	1.19	1.44	1.28	1.29	1.20	1.47	1.27	1.35	1.21	1.22	1.16	1.18	1.14	1.25	1.16	1.20	1.15	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.45	1.27	STONY115	1.45	1.24	1.35	1.21	1.45	1.27	1.30	1.20	1.45	1.27	1.40	1.20	1.23	1.16	1.23	1.17	1.40	1.27	1.32	1.23	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.49	1.25	NRWK345	1.49	1.25	1.36	1.20	1.44	1.25	1.30	1.19	1.47	1.25	1.37	1.20	1.23	1.15	1.28	1.15	1.39	1.24	1.30	1.20	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.47	1.24	STONY115	1.47	1.23	1.33	1.22	1.41	1.20	1.27	1.15	1.39	1.20	1.31	1.15	1.18	1.13	1.23	1.13	1.41	1.24	1.31	1.18	1.06	1.05	1.06	1.04	1.06	1.06	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%				0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			Plum-LM	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			East Devon-Besek	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			Norwalk H-Nport	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1-Ph line	East Devon (ED-BK)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Norwalk	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-Ph bus	Plumtree	70%			LM-Pleasant V	0.00	0.00	PLUM345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CASE #	OLD CASE 5 + C FILTERS					DATE:	10-Dec-04
DONE BY:	PB POWER						

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																		INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%				1.53	1.23	STONY115	1.53	1.17	1.29	1.15	1.33	1.15	1.18	1.09	1.35	1.16	1.30	1.11	1.20	1.10	1.31	1.06	1.43	1.23	1.34	1.13	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	East Devon TP (ED-B OHL)	50%				1.60	1.27	EDVN345	1.45	1.19	1.33	1.20	1.58	1.26	1.33	1.13	1.60	1.27	1.25	1.13	1.22	1.09	1.13	1.06	1.39	1.18	1.23	1.12	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
1-Ph line	East Devon TP (ED-B OHL)	50%				1.35	1.08	BSCK345	1.23	1.06	1.14	1.05	1.33	1.06	1.11	1.05	1.35	1.06	1.16	1.08	1.15	1.06	1.13	1.03	1.15	1.05	1.13	1.03	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%				1.53	1.36	EDVN345	1.30	1.19	1.23	1.22	1.51	1.36	1.32	1.24	1.53	1.36	1.34	1.21	1.23	1.16	1.16	1.08	1.36	1.19	1.25	1.16	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	Singer (SI-ED)	50%				1.51	1.41	NRWK345	1.37	1.35	1.38	1.38	1.50	1.41	1.30	1.26	1.51	1.40	1.32	1.21	1.31	1.20	1.17	1.11	1.43	1.37	1.36	1.32	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph bus	Norwalk	50%				1.56	1.29	NRWK345	1.48	1.27	1.31	1.27	1.56	1.29	1.29	1.21	1.54	1.29	1.31	1.17	1.24	1.15	1.16	1.08	1.39	1.27	1.28	1.22	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph bus	Plumtree	50%				1.78	1.28	STONY115	1.78	1.19	1.40	1.27	1.40	1.22	1.25	1.14	1.48	1.22	1.33	1.14	1.19	1.12	1.21	1.07	1.64	1.28	1.38	1.18	1.06	1.06	1.07	1.06	1.07	1.08	1.07	1.04	1.05	1.04
3-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.45	1.13	EDVN345	1.43	1.11	1.34	1.09	1.44	1.12	1.26	1.06	1.45	1.13	1.21	1.10	1.30	1.06	1.12	1.03	1.32	1.06	1.23	1.05	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
1-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.20	1.08	BSCK345	1.17	1.03	1.11	1.02	1.16	1.03	1.08	1.02	1.17	1.04	1.20	1.08	1.15	1.05	1.10	1.02	1.12	1.02	1.10	1.01	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.48	1.34	NRWK345	1.20	1.16	1.18	1.14	1.46	1.34	1.27	1.20	1.48	1.33	1.31	1.17	1.26	1.14	1.13	1.05	1.27	1.19	1.22	1.16	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.47	1.28	PLUM345	1.41	1.28	1.34	1.27	1.45	1.27	1.29	1.16	1.47	1.27	1.29	1.14	1.21	1.11	1.13	1.06	1.39	1.28	1.29	1.21	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			Plum-LM	1.53	1.23	NRWK345	1.47	1.23	1.40	1.19	1.53	1.23	1.35	1.16	1.51	1.22	1.28	1.12	1.21	1.11	1.16	1.06	1.33	1.19	1.29	1.14	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			Plum-LM	1.49	1.22	STONY115	1.48	1.16	1.30	1.17	1.38	1.14	1.18	1.10	1.41	1.16	1.22	1.11	1.16	1.09	1.13	1.05	1.49	1.22	1.30	1.12	1.06	1.05	1.06	1.05	1.06	1.07	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	50%			East Dev-Besek OHL	1.46	1.14	PLUM115	1.46	1.14	1.32	1.14	1.37	1.12	1.22	1.07	1.41	1.11	1.18	1.10	1.16	1.08	1.27	1.03	1.29	1.11	1.29	1.07	1.05	1.05	1.04	1.06	1.08	1.06	1.03	1.04	1.03
3-Ph line	Norwalk (NW-PT)	50%			East Dev-Besek OHL	1.61	1.22	EDVN345	1.30	1.14	1.38	1.13	1.61	1.22	1.30	1.14	1.61	1.22	1.14	1.12	1.17	1.11	1.17	1.07	1.42	1.18	1.33	1.10	1.05	1.05	1.05	1.04	1.06	1.08	1.06	1.03	1.04	1.03
3-Ph line	Singer (SI-ED)	50%			East Dev-Besek OHL	1.52	1.28	EDVN345	1.43	1.23	1.34	1.22	1.50	1.28	1.28	1.16	1.52	1.28	1.16	1.11	1.17	1.12	1.13	1.06	1.33	1.21	1.23	1.14	1.05	1.05	1.05	1.04	1.06	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Norwalk	50%			East Dev-Besek OHL	1.58	1.26	NRWK345	1.40	1.21	1.30	1.22	1.56	1.26	1.36	1.19	1.58	1.26	1.16	1.11	1.17	1.11	1.13	1.06	1.33	1.19	1.22	1.16	1.05	1.05	1.05	1.04	1.06	1.08	1.06	1.03	1.04	1.03
3-Ph bus	Plumtree	50%			East Dev-Besek OHL	1.71	1.21	STONY115	1.71	1.17	1.38	1.18	1.44	1.19	1.24	1.10	1.51	1.20	1.28	1.11	1.15	1.09	1.16	1.06	1.57	1.21	1.39	1.12	1.05	1.05	1.05	1.04	1.06	1.08	1.06	1.03	1.04	1.03
3-Ph line	Plumtree (PT-LM)	50%			Norwk H-Nport	1.40	1.13	STONY115	1.40	1.11	1.22	1.13	1.24	1.07	1.15	1.04	1.24	1.08	1.23	1.07	1.16	1.05	1.17	1.01	1.24	1.13	1.24	1.06	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.47	1.13	NRWK345	1.28	1.08	1.27	1.09	1.47	1.13	1.24	1.07	1.44	1.11	1.20	1.09	1.18	1.07	1.10	1.02	1.32	1.06	1.18	1.04	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
1-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.19	1.07	BSCK345	1.10	1.02	1.08	1.02	1.18	1.02	1.07	1.01	1.19	1.03	1.15	1.07	1.08	1.04	1.08	1.01	1.09	1.02	1.10	1.01	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Norwalk (NW-PT)	50%			Norwk H-Nport	1.33	1.22	EDVN345	1.31	1.14	1.19	1.15	1.32	1.22	1.22	1.15	1.33	1.22	1.21	1.10	1.18	1.09	1.10	1.05	1.22	1.22	1.17	1.14	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Singer (SI-ED)	50%			Norwk H-Nport	1.42	1.31	PLUM115	1.31	1.23	1.32	1.31	1.41	1.26	1.26	1.17	1.42	1.25	1.23	1.13	1.22	1.12	1.13	1.05	1.35	1.26	1.25	1.22	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph bus	Norwalk	50%			Norwk H-Nport	1.41	1.23	PLUM115	1.28	1.18	1.23	1.23	1.36	1.21	1.21	1.16	1.41	1.20	1.21	1.11	1.20	1.10	1.14	1.04	1.27	1.22	1.23	1.15	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph bus	Plumtree	50%			Norwk H-Nport	1.51	1.20	PLUM115	1.40	1.14	1.30	1.20	1.30	1.14	1.19	1.11	1.33	1.14	1.29	1.10	1.19	1.07	1.11	1.04	1.51	1.19	1.43	1.11	1.04	1.04	1.05	1.03	1.05	1.06	1.05	1.02	1.04	1.02
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.48	1.20	STONY115	1.48	1.15	1.28	1.15	1.30	1.13	1.15	1.09	1.31	1.15	1.25	1.12	1.17	1.09	1.13	1.06	1.38	1.20	1.27	1.14	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.55	1.16	NRWK345	1.39	1.15	1.28	1.13	1.55	1.16	1.31	1.09	1.54	1.15	1.21	1.12	1.26	1.08	1.16	1.04	1.29	1.14	1.23	1.10	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
1-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.18	1.08	BSCK345	1.18	1.05	1.15	1.04	1.18	1.05	1.11	1.03	1.18	1.05	1.17	1.08	1.12	1.05	1.10	1.02	1.15	1.04	1.12	1.03	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.47	1.31	NRWK345	1.34	1.17	1.27	1.21	1.45	1.31	1.28	1.18	1.47	1.30	1.29	1.20	1.25	1.13	1.16	1.08	1.25	1.20	1.23	1.13	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.46	1.29	PLUM115	1.39	1.26	1.35	1.29	1.46	1.27	1.28	1.15	1.46	1.27	1.27	1.14	1.24	1.14	1.18	1.07	1.38	1.28	1.29	1.23	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.49	1.21	PLUM345	1.42	1.21	1.33	1.19	1.45	1.21	1.27	1.13	1.49	1.19	1.28	1.12	1.22	1.11	1.19	1.08	1.33	1.20	1.26	1.16	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.49	1.21	STONY115	1.49	1.15	1.35	1.17	1.41	1.14	1.24	1.09	1.44	1.16	1.32	1.12	1.21	1.10	1.23	1.06	1.44	1.21	1.37	1.13	1.07	1.06	1.07	1.05	1.07	1.08	1.06	1.03	1.05	1.04
3-Ph line	Plumtree (PT-LM)	70%				1.35	1.22	ROCK115	1.35	1.13	1.25	1.14	1.30	1.11	1.13	1.07	1.30	1.11	1.25	1.08	1.13	1.10	1.20	1.12	1.33	1.15	1.35	1.22	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph line	East Devon TP (ED-B OHL)	70%				1.46	1.16	PLUM115	1.35	1.11	1.36	1.16	1.40	1.13	1.16	1.10	1.41	1.14	1.18	1.09	1.19	1.11	1.22	1.12	1.33	1.13	1.46	1.16	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
1-Ph line	East Devon TP (ED-B OHL)	70%				1.25	1.08	FRBG115	1.18	1.04	1.17	1.05	1.20	1.04	1.09	1.04	1.20	1.04	1.13	1.06	1.13	1.07	1.23	1.08	1.18	1.05	1.25	1.07	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph line	Norwalk (NW-PT)	70%				1.51	1.37	ROCK115	1.27	1.13	1.24	1.13	1.38	1.24	1.18	1.15	1.35	1.26	1.24	1.14	1.23	1.17	1.24	1.15	1.28	1.16	1.51	1.37	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph line	Singer (SI-ED)	70%				1.63	1.39	ROCK115	1.32	1.21	1.38	1.33	1.35	1.22	1.16	1.15	1.33	1.21	1.21	1.12	1.20	1.17	1.25	1.13	1.44	1.38	1.63	1.39	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph bus	Norwalk	70%				1.46	1.36	STONY115	1.31	1.19	1.32	1.30	1.35	1.16	1.16	1.11	1.35	1.16	1.24	1.11	1.21	1.15	1.26	1.13	1.40	1.36	1.46	1.34	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph bus	Plumtree	70%				1.55	1.33	ROCK115	1.45	1.13	1.29	1.16	1.32	1.17	1.16	1.11	1.31	1.19	1.30	1.11	1.19	1.11	1.24	1.14	1.38	1.18	1.55	1.33	1.05	1.06	1.05	1.05	1.05	1.06	1.07	1.09	1.06	1.08
3-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.36	1.08	ROCK115	1.35	1.05	1.22	1.04	1.31	1.05	1.12	1.02	1.30	1.06	1.17	1.07	1.10	1.05	1.19	1.07	1.25	1.05	1.36	1.08	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
1-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.18	1.06	FRBG115	1.12	1.01	1.09	1.02	1.10	1.01	1.04	1.00	1.11	1.01	1.11	1.05	1.07	1.04	1.18	1.06	1.11	1.02	1.15	1.04	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	1.66	1.41	ROCK115	1.57	1.35	1.28	1.11	1.32	1.21	1.15	1.12	1.36	1.22	1.19	1.11	1.15	1.13	1.23	1.12	1.20	1.18	1.66	1.41	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
3-Ph line	Singer (SI-ED)	70%			Plum-LM	1.44	1.33	ROCK115	1.39	1.17	1.31	1.24	1.34	1.11	1.18	1.10	1.39	1.13	1.24	1.11	1.18	1.11	1.22	1.12	1.34	1.28	1.44	1.33	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
3-Ph bus	Norwalk	70%			Plum-LM	1.44	1.28	ROCK115	1.36	1.14	1.25	1.23	1.40	1.11	1.15	1.09	1.43	1.12	1.18	1.09	1.17	1.11	1.21	1.11	1.26	1.27	1.44	1.28	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
3-Ph bus	Plumtree	70%			Plum-LM	1.56	1.22	ROCK115	1.56	1.14	1.31	1.14	1.30	1.12	1.17	1.06	1.35	1.14	1.25	1.08	1.13	1.09	1.21	1.11	1.39	1.17	1.40	1.22	1.04	1.05	1.04	1.04	1.04	1.05	1.06	1.08	1.05	1.07
3-Ph line	Plumtree (PT-LM)	70%			East Dev-Besek OHL	1.41	1.22	ROCK115	1.41	1.09	1.19	1.07	1.24	1.09	1.11	1.03	1.29	1.10	1.21	1.06	1.09	1.06	1.15	1.08	1.19	1.11	1.30	1.22	1.04	1.05	1.04	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-Ph line	Norwalk (NW-PT)	70%			East Dev-Besek OHL	1.49	1.31	ROCK115	1.27	1.11	1.25	1.11	1.33	1.11	1.18	1.08	1.35	1.12	1.16	1.09	1.14	1.09	1.18	1.12	1.44	1.25	1.49	1.31	1.04	1.05	1.04	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-Ph line	Singer (SI-ED)	70%			East Dev-Besek OHL	1.52	1.23	ROCK115	1.30	1.15	1.34	1.17	1.36	1.16	1.17	1.13	1.44	1.16	1.14	1.08	1.17	1.10	1.19	1.12	1.34	1.19	1.52	1.23	1.04	1.05	1.04	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-Ph bus	Norwalk	70%			East Dev-Besek OHL	1.42	1.22	ROCK115	1.32	1.13	1.30	1.20	1.41	1.13	1.15	1.11	1.41	1.13	1.13	1.08	1.17	1.10	1.24	1.11	1.31	1.21	1.42	1.22	1.04	1.05	1.04	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-Ph bus	Plumtree	70%			East Dev-Besek OHL	1.72	1.36	ROCK115	1.50	1.12	1.41	1.17	1.36	1.15	1.16	1.08	1.41	1.16	1.26	1.09	1.17	1.11	1.24	1.14	1.63	1.17	1.72	1.36	1.04	1.05	1.04	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-Ph line	Plumtree (PT-LM)	70%			Norwk H-Nport	1.40	1.16	ROCK115	1.40	1.05	1.16	1.05	1.15	1.02	1.09	1.01	1.18	1.03	1.24	1.04	1.09	1.04	1.12	1.05	1.26	1.08	1.30	1.16	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.36	1.07	ROCK115	1.19	1.03	1.23	1.04	1.21	1.04	1.10	1.03	1.19	1.04	1.15	1.06	1.11	1.05	1.17	1.07	1.31	1.05	1.36	1.07	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
1-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.18	1.05	FRBG115	1.13	1.00	1.12	1.01	1.14	1.00	1.08	1.00	1.14	1.00	1.09	1.04	1.09	1.03	1.17	1.05	1.12	1.01	1.18	1.03	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Norwalk (NW-PT)	70%			Norwk H-Nport	1.54	1.32	ROCK115	1.24	1.08	1.14	1.11	1.23	1.10	1.15	1.06	1.22	1.10	1.19	1.07	1.15	1.08	1.20	1.11	1.17	1.16	1.54	1.32	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Singer (SI-ED)	70%			Norwk H-Nport	1.42	1.23	ROCK115	1.24	1.09	1.26	1.18	1.24	1.11	1.16	1.09	1.25	1.11	1.20	1.07	1.16	1.10	1.21	1.10	1.33	1.21	1.42	1.23	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph bus	Norwalk	70%			Norwk H-Nport	1.38	1.23	ROCK115	1.21	1.08	1.23	1.19	1.22	1.08	1.15	1.06	1.26	1.08	1.17	1.08	1.14	1.09	1.21	1.10	1.28	1.22	1.38	1.23	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph bus	Plumtree	70%			Norwk H-Nport	1.47	1.24	ROCK115	1.44	1.08	1.29	1.12	1.25	1.10	1.17	1.06	1.28	1.12	1.30	1.07	1.15	1.08	1.25	1.10	1.47	1.14	1.40	1.24	1.02	1.04	1.02	1.03	1.02	1.03	1.05	1.06	1.04	1.05
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	1.49	1.21	ROCK115	1.49	1.14	1.24	1.11	1.25	1.09	1.15	1.05	1.29	1.09	1.27	1.08	1.14	1.08	1.22	1.12	1.29	1.12	1.40	1.21	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
3-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.42	1.10	ROCK115	1.23	1.07	1.27	1.08	1.31	1.07	1.12	1.05	1.31	1.07	1.13	1.07	1.11	1.06	1.21	1.08	1.27	1.08	1.42	1.10	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
1-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.19	1.05	FRBG115	1.17	1.02	1.13	1.03	1.16	1.02	1.07	1.01	1.15	1.02	1.08	1.04	1.08	1.04	1.19	1.05	1.13	1.03	1.18	1.04	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	1.61	1.41	ROCK115	1.24	1.12	1.17	1.10	1.31	1.20	1.19	1.13	1.30	1.21	1.19	1.09	1.16	1.10	1.25	1.12	1.23	1.15	1.61	1.41	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	1.48	1.29	ROCK115	1.31	1.12	1.30	1.23	1.27	1.10	1.14	1.10	1.30	1.10	1.23	1.08	1.16	1.09	1.26	1.11	1.33	1.25	1.48	1.29	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
3-Ph bus	Norwalk	70%			LM-Pleasant V	1.45	1.25	ROCK115	1.32	1.11	1.23	1.20	1.30	1.10	1.15	1.08	1.29	1.10	1.20	1.08	1.16	1.10	1.24	1.10	1.26	1.25	1.45	1.25	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06
3-Ph bus	Plumtree	70%			LM-Pleasant V	1.49	1.24	ROCK115	1.49	1.11	1.35	1.13	1.26	1.08	1.17	1.06	1.36	1.10	1.32	1.08	1.16	1.09	1.28	1.11	1.49	1.13	1.46	1.24	1.04	1.05	1.03	1.03	1.03	1.04	1.05	1.07	1.05	1.06

CASE #: OLD CASE 5 - FULL TNA WITH ENERNEX LOAD MODEL DATE: 10-Dec-04

DONE BY: PB POWER

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																					INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115			PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C		345	115	345	115	345	345	115	115	115	115
3-ph line	East Devon (ED-BK)	40%	0	500		1.90	1.59	NRWK345	1.73	1.46	1.66	1.38	1.89	1.59	1.65	1.43	1.90	1.59	1.37	1.21	1.38	1.23	1.44	1.22	1.58	1.36	1.65	1.38	6	1.08	1.07	1.08	1.07	1.08	1.07	1.07	1.04	1.06	1.05
3-ph line	Norwalk (NW-PT)	40%	0	500		1.78	1.53	NRWK345	1.42	1.23	1.39	1.27	1.78	1.53	1.70	1.39	1.76	1.52	1.51	1.33	1.65	1.35	1.36	1.21	1.47	1.27	1.38	1.29	6	1.08	1.07	1.08	1.07	1.08	1.07	1.07	1.04	1.06	1.05
3-ph line	Singer (SI-ED)	40%	0	500		1.74	1.53	ROCK115	1.66	1.45	1.59	1.42	1.74	1.47	1.65	1.39	1.71	1.45	1.53	1.31	1.54	1.36	1.46	1.30	1.69	1.49	1.73	1.53	20	1.08	1.07	1.08	1.07	1.08	1.07	1.07	1.04	1.06	1.05
3-ph bus	Norwalk	40%	0	500		1.92	1.48	EDVN345	1.79	1.43	1.72	1.40	1.91	1.48	1.75	1.39	1.92	1.48	1.52	1.31	1.56	1.32	1.52	1.27	1.64	1.42	1.67	1.42	10	1.08	1.07	1.08	1.07	1.08	1.07	1.07	1.04	1.06	1.05
3-ph line	Norwalk (NW-PT)	40%	0	500	Plum-LM	1.88	1.46	EDVN345	1.65	1.27	1.62	1.27	1.88	1.45	1.70	1.35	1.87	1.46	1.54	1.26	1.64	1.35	1.45	1.24	1.46	1.24	1.55	1.31	10	1.08	1.07	1.09	1.07	1.09	1.07	1.06	1.04	1.06	1.05
3-ph bus	Norwalk	40%	0	500	Plum-LM	2.00	1.51	PLUM345	2.00	1.51	1.79	1.42	1.98	1.51	1.75	1.39	1.94	1.50	1.57	1.27	1.59	1.28	1.50	1.21	1.84	1.41	1.76	1.34	2	1.08	1.07	1.09	1.07	1.09	1.07	1.06	1.04	1.06	1.05
3-ph line	Norwalk (NW-PT)	40%	0	500	East Devon-Beseck	1.95	1.74	EDVN345	1.54	1.20	1.55	1.23	1.95	1.73	1.62	1.49	1.95	1.74	1.24	1.13	1.41	1.26	1.30	1.17	1.64	1.26	1.62	1.27	10	1.08	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-ph line	Singer (SI-ED)	40%	0	500	East Devon-Beseck	1.89	1.51	EDVN345	1.85	1.43	1.62	1.36	1.87	1.50	1.65	1.37	1.89	1.51	1.40	1.20	1.52	1.23	1.47	1.23	1.63	1.37	1.63	1.37	10	1.08	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-ph bus	Norwalk	40%	0	500	East Devon-Beseck	1.90	1.61	EDVN345	1.69	1.46	1.54	1.38	1.85	1.59	1.65	1.42	1.90	1.61	1.23	1.16	1.53	1.24	1.42	1.23	1.58	1.35	1.63	1.44	10	1.08	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-ph bus	Plumtree	40%	0	500	East Devon-Beseck	1.72	1.53	EDVN345	1.72	1.40	1.43	1.34	1.67	1.53	1.50	1.36	1.71	1.53	1.26	1.13	1.37	1.22	1.30	1.21	1.47	1.34	1.54	1.35	10	1.08	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-ph line	East Devon (ED-BK)	50%	262.2	690		1.59	1.31	EDVN345	1.55	1.27	1.53	1.22	1.58	1.30	1.43	1.26	1.59	1.31	1.32	1.11	1.47	1.20	1.38	1.14	1.55	1.29	1.50	1.23	10	1.05	1.05	1.06	1.05	1.06	1.06	1.06	1.04	1.05	1.04
3-ph line	Norwalk (NW-PT)	50%	262.2	690		1.73	1.42	NRWK345	1.42	1.20	1.34	1.19	1.69	1.42	1.51	1.34	1.73	1.41	1.45	1.23	1.53	1.24	1.35	1.23	1.38	1.18	1.45	1.20	6	1.05	1.05	1.06	1.05	1.06	1.06	1.06	1.04	1.05	1.04
3-ph line	Singer (SI-ED)	50%	262.2	690		1.78	1.38	STONY115	1.52	1.34	1.44	1.29	1.60	1.34	1.44	1.30	1.66	1.35	1.51	1.22	1.49	1.26	1.43	1.20	1.78	1.38	1.78	1.32	18	1.05	1.05	1.06	1.05	1.06	1.06	1.06	1.04	1.05	1.04
3-ph bus	Norwalk	50%	262.2	690		1.70	1.35	EDVN345	1.62	1.29	1.51	1.28	1.63	1.35	1.43	1.29	1.65	1.35	1.47	1.20	1.50	1.22	1.50	1.21	1.66	1.35	1.70	1.30	10	1.05	1.05	1.06	1.05	1.06	1.06	1.06	1.04	1.05	1.04
3-ph bus	Plumtree	50%	262.2	690		1.63	1.29	PLUM115	1.63	1.27	1.48	1.29	1.47	1.26	1.38	1.23	1.44	1.27	1.39	1.17	1.44	1.18	1.32	1.19	1.50	1.27	1.34	1.18	4	1.05	1.05	1.06	1.05	1.06	1.06	1.06	1.04	1.05	1.04
3-ph line	Norwalk (NW-PT)	50%	262.2	690	Plum-LM	1.68	1.36	NRWK345	1.52	1.18	1.48	1.16	1.68	1.36	1.54	1.29	1.66	1.35	1.44	1.20	1.56	1.19	1.29	1.18	1.47	1.22	1.53	1.24	6	1.05	1.04	1.05	1.04	1.05	1.05	1.05	1.03	1.04	1.03
3-ph line	Norwalk (NW-PT)	50%	262.2	690	East Devon-Beseck	1.71	1.42	EDVN345	1.27	1.12	1.29	1.21	1.69	1.40	1.43	1.29	1.71	1.42	1.15	1.08	1.22	1.14	1.21	1.17	1.38	1.21	1.34	1.20	10	1.05	1.04	1.05	1.04	1.05	1.06	1.05	1.04	1.04	1.03
3-ph line	Singer (SI-ED)	50%	262.2	690	East Devon-Beseck	1.70	1.37	NRWK345	1.57	1.30	1.52	1.25	1.64	1.37	1.45	1.30	1.70	1.37	1.31	1.11	1.45	1.21	1.35	1.16	1.69	1.31	1.66	1.26	6	1.05	1.04	1.05	1.04	1.05	1.06	1.05	1.04	1.04	1.03
3-ph bus	Norwalk	50%	262.2	690	East Devon-Beseck	1.68	1.37	STONY115	1.50	1.30	1.51	1.28	1.62	1.35	1.42	1.29	1.68	1.36	1.22	1.10	1.37	1.23	1.36	1.16	1.52	1.37	1.56	1.27	18	1.05	1.04	1.05	1.04	1.05	1.06	1.05	1.04	1.04	1.03
3-ph line	Norwalk (NW-PT)	50%	262.2	690	LM-Pleasant V	1.65	1.35	NRWK345	1.49	1.19	1.40	1.13	1.65	1.35	1.55	1.26	1.62	1.33	1.45	1.21	1.50	1.19	1.39	1.22	1.43	1.19	1.45	1.21	6	1.04	1.04	1.04	1.04	1.05	1.05	1.04	1.03	1.03	1.02
3-ph line	Plumtree (PT-LM)	70%	1142.6	900		1.49	1.26	ROCK115	1.39	1.13	1.28	1.14	1.22	1.11	1.19	1.09	1.23	1.11	1.26	1.13	1.18	1.12	1.24	1.14	1.42	1.21	1.49	1.26	20	1.05	1.06	1.05	1.05	1.05	1.06	1.08	1.09	1.06	1.08
3-ph line	Norwalk (NW-PT)	70%	1142.6	900		1.55	1.36	ROCK115	1.55	1.21	1.42	1.29	1.51	1.20	1.31	1.23	1.50	1.19	1.27	1.13	1.30	1.17	1.27	1.21	1.43	1.33	1.50	1.36	20	1.05	1.06	1.05	1.05	1.05	1.06	1.08	1.09	1.06	1.08
3-ph line	Singer (SI-ED)	70%	1142.6	900		1.73	1.35	ROCK115	1.33	1.16	1.36	1.17	1.39	1.19	1.35	1.21	1.45	1.18	1.29	1.14	1.31	1.16	1.31	1.21	1.58	1.24	1.73	1.35	20	1.05	1.06	1.05	1.05	1.05	1.06	1.08	1.09	1.06	1.08
3-ph bus	Norwalk	70%	1142.6	900		1.79	1.36	ROCK115	1.51	1.21	1.42	1.17	1.33	1.19	1.34	1.20	1.37	1.19	1.37	1.13	1.26	1.14	1.32	1.20	1.57	1.27	1.79	1.36	20	1.05	1.06	1.05	1.05	1.05	1.06	1.08	1.09	1.06	1.08
3-ph line	Norwalk (NW-PT)	70%	1142.6	900	Plum-LM	1.71	1.47	PLUM345	1.71	1.47	1.39	1.24	1.43	1.17	1.24	1.21	1.43	1.16	1.32	1.12	1.35	1.14	1.25	1.20	1.55	1.30	1.51	1.25	2	1.03	1.05	1.03	1.03	1.04	1.05	1.06	1.08	1.05	1.06
3-ph line	Singer (SI-ED)	70%	1142.6	900	Plum-LM	1.66	1.29	ROCK115	1.44	1.17	1.38	1.16	1.33	1.15	1.25	1.14	1.33	1.16	1.28	1.12	1.29	1.12	1.28	1.14	1.46	1.19	1.66	1.29	20	1.03	1.05	1.03	1.03	1.04	1.05	1.06	1.08	1.05	1.06
3-ph bus	Plumtree	70%	1142.6	900	Plum-LM	1.55	1.25	ROCK115	1.55	1.16	1.33	1.13	1.23	1.11	1.22	1.06	1.28	1.10	1.25	1.11	1.21	1.12	1.20	1.14	1.54	1.19	1.52	1.25	20	1.03	1.05	1.03	1.03	1.04	1.05	1.06	1.08	1.05	1.06
3-ph bus	Plumtree	70%	1142.6	900	East Devon-Beseck	1.50	1.32	ROCK115	1.37	1.12	1.30	1.10	1.24	1.11	1.20	1.11	1.27	1.13	1.32	1.12	1.22	1.11	1.30	1.15	1.37	1.18	1.50	1.32	20	1.04	1.05	1.03	1.04	1.04	1.06	1.07	1.08	1.05	1.07
3-ph line	Norwalk (NW-PT)	70%	1142.6	900	LM-Pleasant V	1.49	1.30	STONY115	1.47	1.21	1.40	1.24	1.37	1.17	1.21	1.19	1.38	1.16	1.26	1.12	1.39	1.17	1.34	1.20	1.49	1.30	1.49	1.24	18	1.03	1.04	1.03	1.03	1.03	1.04	1.05	1.07	1.04	1.05
3-ph bus	Plumtree	70%	1142.6	900	LM-Pleasant V	1.50	1.25	ROCK115	1.47	1.16	1.30	1.14	1.21	1.11	1.17	1.09	1.29	1.12	1.42	1.12	1.33	1.12	1.33	1.15	1.43	1.21	1.50	1.25	20	1.03	1.04	1.03	1.03	1.03	1.04	1.05	1.07	1.04	1.05

CASE #:	OLD CASE 5 + 10 MILE CABLES	DATE:	07-Dec-04
DONE BY:	PB POWER		

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																			
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115	
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C
3-Ph line	Plumtree (PT-LM)	50%				1.59	1.33	STONY115	1.59	1.19	1.40	1.18	1.29	1.16	1.20	1.14	1.27	1.16	1.27	1.15	1.19	1.12	1.14	1.10	1.42	1.33	1.31	1.20
3-Ph line	East Devon TP (ED-B OHL)	50%				1.46	1.15	BSCK345	1.30	1.10	1.21	1.14	1.46	1.12	1.19	1.13	1.46	1.13	1.39	1.15	1.27	1.11	1.15	1.09	1.24	1.12	1.20	1.08
1-Ph line	East Devon TP (ED-B OHL)	50%				1.31	1.10	BSCK345	1.16	1.09	1.13	1.07	1.29	1.10	1.21	1.07	1.31	1.10	1.17	1.10	1.14	1.08	1.13	1.05	1.17	1.07	1.15	1.06
3-Ph line	Norwalk (NW-PT)	50%				1.60	1.41	EDVN345	1.41	1.20	1.30	1.18	1.60	1.40	1.36	1.22	1.58	1.41	1.36	1.19	1.28	1.19	1.20	1.12	1.56	1.26	1.38	1.14
3-Ph line	Singer (SI-ED)	50%				1.81	1.48	EDVN345	1.62	1.35	1.44	1.27	1.81	1.46	1.50	1.31	1.79	1.48	1.50	1.26	1.33	1.19	1.28	1.16	1.63	1.26	1.45	1.23
3-Ph bus	Norwalk	50%				1.67	1.45	NRWK345	1.54	1.34	1.41	1.22	1.67	1.45	1.39	1.28	1.66	1.43	1.37	1.20	1.30	1.16	1.19	1.14	1.56	1.34	1.44	1.26
3-Ph bus	Plumtree	50%				1.65	1.40	STONY115	1.52	1.28	1.38	1.22	1.45	1.28	1.26	1.15	1.45	1.30	1.26	1.16	1.21	1.14	1.19	1.16	1.65	1.40	1.44	1.27
3-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.48	1.20	STONY115	1.44	1.18	1.40	1.18	1.35	1.16	1.23	1.11	1.35	1.17	1.27	1.13	1.30	1.15	1.15	1.07	1.48	1.20	1.37	1.14
1-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.28	1.11	EDVN345	1.28	1.09	1.23	1.07	1.24	1.10	1.19	1.07	1.26	1.11	1.19	1.09	1.22	1.07	1.15	1.04	1.25	1.07	1.24	1.06
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.69	1.38	NRWK345	1.27	1.20	1.26	1.20	1.69	1.38	1.32	1.22	1.63	1.36	1.33	1.17	1.24	1.14	1.17	1.10	1.32	1.20	1.30	1.16
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.75	1.42	EDVN345	1.67	1.38	1.50	1.27	1.75	1.41	1.40	1.23	1.69	1.42	1.37	1.19	1.29	1.17	1.21	1.12	1.51	1.29	1.33	1.23
3-Ph bus	Norwalk	50%			Plum-LM	1.60	1.26	NRWK345	1.54	1.21	1.40	1.22	1.60	1.26	1.28	1.15	1.57	1.23	1.43	1.16	1.24	1.13	1.20	1.12	1.37	1.26	1.33	1.15
3-Ph bus	Plumtree	50%			Plum-LM	1.74	1.32	STONY115	1.74	1.17	1.40	1.16	1.36	1.15	1.18	1.13	1.27	1.15	1.22	1.12	1.17	1.11	1.15	1.09	1.60	1.32	1.40	1.17
3-Ph line	Plumtree (PT-LM)	50%			East Dev-Besek OHL	1.71	1.27	STONY115	1.52	1.21	1.43	1.22	1.30	1.16	1.18	1.13	1.30	1.18	1.31	1.16	1.15	1.11	1.16	1.12	1.71	1.27	1.48	1.17
3-Ph line	Norwalk (NW-PT)	50%			East Dev-Besek OHL	1.61	1.25	STONY115	1.30	1.16	1.32	1.16	1.61	1.21	1.25	1.16	1.50	1.21	1.19	1.14	1.16	1.13	1.21	1.10	1.43	1.25	1.30	1.14
3-Ph line	Singer (SI-ED)	50%			East Dev-Besek OHL	1.69	1.28	EDVN345	1.45	1.17	1.33	1.16	1.53	1.23	1.27	1.12	1.69	1.28	1.28	1.15	1.21	1.11	1.22	1.10	1.48	1.16	1.35	1.14
3-Ph bus	Norwalk	50%			East Dev-Besek OHL	1.52	1.14	PLUM115	1.33	1.11	1.26	1.14	1.52	1.12	1.27	1.11	1.52	1.14	1.24	1.14	1.22	1.12	1.18	1.10	1.35	1.13	1.22	1.12
3-Ph bus	Plumtree	50%			East Dev-Besek OHL	1.67	1.25	STONY115	1.57	1.10	1.37	1.14	1.34	1.12	1.20	1.14	1.28	1.13	1.34	1.13	1.21	1.12	1.21	1.09	1.67	1.25	1.45	1.16
3-Ph line	Plumtree (PT-LM)	50%			Norwk H-Nport	1.46	1.22	STONY115	1.46	1.10	1.20	1.10	1.17	1.07	1.18	1.06	1.16	1.08	1.28	1.12	1.12	1.08	1.12	1.07	1.34	1.22	1.24	1.13
3-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.34	1.12	BSCK345	1.30	1.08	1.21	1.11	1.32	1.08	1.23	1.06	1.30	1.08	1.31	1.12	1.25	1.10	1.13	1.04	1.34	1.11	1.26	1.07
1-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.21	1.08	BSCK345	1.16	1.06	1.14	1.05	1.17	1.07	1.13	1.05	1.19	1.08	1.21	1.08	1.18	1.06	1.11	1.03	1.18	1.05	1.15	1.04
3-Ph line	Norwalk (NW-PT)	50%			Norwk H-Nport	1.46	1.16	PLUM345	1.33	1.16	1.19	1.12	1.46	1.15	1.26	1.12	1.41	1.14	1.20	1.10	1.19	1.12	1.14	1.07	1.23	1.15	1.14	1.08
3-Ph line	Singer (SI-ED)	50%			Norwk H-Nport	1.61	1.35	EDVN345	1.43	1.24	1.35	1.21	1.61	1.33	1.37	1.23	1.59	1.35	1.38	1.19	1.27	1.14	1.18	1.12	1.50	1.19	1.30	1.15
3-Ph bus	Norwalk	50%			Norwk H-Nport	1.47	1.23	EDVN345	1.37	1.13	1.24	1.12	1.44	1.21	1.29	1.15	1.47	1.23	1.25	1.12	1.22	1.12	1.15	1.08	1.42	1.20	1.28	1.14
3-Ph bus	Plumtree	50%			Norwk H-Nport	1.58	1.33	STONY115	1.43	1.16	1.27	1.14	1.29	1.13	1.19	1.10	1.28	1.15	1.28	1.12	1.17	1.11	1.14	1.09	1.58	1.33	1.38	1.21
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.65	1.33	STONY115	1.65	1.19	1.27	1.19	1.29	1.16	1.20	1.13	1.32	1.16	1.22	1.16	1.19	1.11	1.24	1.10	1.44	1.33	1.36	1.20
3-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.40	1.21	BSCK345	1.28	1.13	1.25	1.15	1.35	1.12	1.16	1.10	1.37	1.13	1.40	1.21	1.26	1.13	1.19	1.09	1.29	1.15	1.24	1.12
1-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.26	1.11	EDVN345	1.22	1.10	1.23	1.08	1.21	1.11	1.16	1.07	1.23	1.11	1.26	1.10	1.23	1.08	1.17	1.05	1.25	1.08	1.22	1.06
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.66	1.34	EDVN345	1.42	1.22	1.33	1.23	1.66	1.33	1.30	1.17	1.62	1.34	1.34	1.17	1.24	1.17	1.27	1.13	1.44	1.20	1.35	1.16
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.71	1.38	EDVN345	1.61	1.33	1.47	1.26	1.71	1.37	1.40	1.23	1.67	1.38	1.45	1.28	1.31	1.18	1.37	1.16	1.55	1.27	1.42	1.23
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.55	1.27	STONY115	1.48	1.24	1.38	1.24	1.53	1.26	1.31	1.17	1.55	1.26	1.32	1.18	1.23	1.14	1.32	1.14	1.42	1.27	1.36	1.19
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.55	1.34	STONY115	1.55	1.20	1.40	1.20	1.31	1.21	1.22	1.14	1.31	1.19	1.27	1.16	1.17	1.13	1.21	1.15	1.45	1.34	1.32	1.22
3-Ph line	Plumtree (PT-LM)	70%				1.48	1.24	ROCK115	1.48	1.12	1.33	1.12	1.18	1.08	1.15	1.08	1.16	1.08	1.24	1.10	1.14	1.11	1.19	1.15	1.30	1.17	1.34	1.24
3-Ph line	East Devon TP (ED-B OHL)	70%				1.40	1.17	ROCK115	1.26	1.10	1.20	1.10	1.40	1.07	1.16	1.08	1.32	1.07	1.38	1.12	1.27	1.11	1.27	1.12	1.21	1.14	1.35	1.17
1-Ph line	East Devon TP (ED-B OHL)	70%				1.19	1.10	FRBG115	1.11	1.07	1.11	1.08	1.15	1.07	1.09	1.07	1.16	1.08	1.18	1.08	1.19	1.09	1.17	1.10	1.12	1.08	1.12	1.09
3-Ph line	Norwalk (NW-PT)	70%				1.55	1.33	ROCK115	1.31	1.13	1.21	1.13	1.51	1.22	1.29	1.22	1.44	1.21	1.24	1.13	1.20	1.13	1.25	1.14	1.26	1.17	1.55	1.33
3-Ph line	Singer (SI-ED)	70%				1.49	1.27	ROCK115	1.45	1.21	1.29	1.24	1.49	1.26	1.34	1.26	1.47	1.24	1.35	1.16	1.21	1.13	1.26	1.16	1.32	1.25	1.39	1.27
3-Ph bus	Norwalk	70%				1.46	1.30	ROCK115	1.37	1.20	1.25	1.24	1.40	1.20	1.28	1.19	1.46	1.20	1.25	1.12	1.20	1.12	1.21	1.15	1.26	1.21	1.40	1.30
3-Ph bus	Plumtree	70%				1.49	1.26	ROCK115	1.38	1.17	1.31	1.21	1.32	1.15	1.22	1.12	1.29	1.13	1.27	1.13	1.17	1.14	1.22	1.13	1.37	1.24	1.49	1.26
3-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.33	1.12	STONY115	1.32	1.10	1.22	1.11	1.33	1.10	1.25	1.07	1.26	1.11	1.29	1.09	1.20	1.08	1.17	1.09	1.25	1.12	1.33	1.10
1-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.20	1.08	FRBG115	1.16	1.06	1.13	1.07	1.12	1.07	1.10	1.04	1.14	1.07	1.11	1.06	1.15	1.06	1.20	1.08	1.13	1.07	1.16	1.07
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	1.72	1.39	PLUM345	1.50	1.39	1.22	1.20	1.40	1.20	1.21	1.15	1.38	1.20	1.29	1.11	1.19	1.11	1.21	1.11	1.30	1.17	1.72	1.39
3-Ph line	Singer (SI-ED)	70%			Plum-LM	1.45	1.26	ROCK115	1.45	1.23	1.30	1.21	1.43	1.19	1.31	1.19	1.39	1.18	1.26	1.10	1.21	1.10	1.24	1.13	1.34	1.23	1.39	1.26
3-Ph bus	Norwalk	70%			Plum-LM	1.42	1.20	ROCK115	1.42	1.14	1.24	1.19	1.35	1.10	1.22	1.15	1.33	1.11	1.29	1.12	1.23	1.10	1.25	1.12	1.24	1.18	1.42	1.20
3-Ph bus	Plumtree	70%			Plum-LM	1.49	1.26	ROCK115	1.49	1.12	1.25	1.13	1.34	1.08	1.13	1.08	1.29	1.07	1.27	1.09	1.17	1.10	1.26	1.15	1.32	1.16	1.48	1.26
3-Ph line	Plumtree (PT-LM)	70%			East Dev-Besek OHL	1.41	1.20	ROCK115	1.41	1.16	1.28	1.12	1.24	1.13	1.18	1.09	1.25	1.12	1.35	1.11	1.15	1.09	1.19	1.13	1.25	1.15	1.34	1.20
3-Ph line	Norwalk (NW-PT)	70%			East Dev-Besek OHL	1.54	1.35	ROCK115	1.30	1.13	1.39	1.14	1.46	1.16	1.22	1.13	1.39	1.17	1.24	1.10	1.21	1.11	1.26	1.15	1.51	1.24	1.54	1.35
3-Ph line	Singer (SI-ED)	70%			East Dev-Besek OHL	1.66	1.16	NRWK115	1.39	1.10	1.41	1.09	1.49	1.14	1.28	1.16	1.58	1.13	1.24	1.10	1.29	1.11	1.27	1.14	1.47	1.14	1.66	1.16
3-Ph bus	Norwalk	70%			East Dev-Besek OHL	1.48	1.22	ROCK115	1.28	1.09	1.25	1.11	1.47	1.07	1.23	1.11	1.48	1.07	1.24	1.10	1.23	1.10	1.33	1.13	1.32	1.11	1.34	1.22
3-Ph bus	Plumtree	70%			East Dev-Besek OHL	1.52	1.25	ROCK115	1.45	1.16	1.27	1.12	1.28	1.07	1.17	1.08	1.33	1.07	1.39	1.13	1.22	1.11	1.30	1.15	1.36	1.16	1.52	1.25
3-Ph line	Plumtree (PT-LM)	70%			Norwk H-Nport	1.37	1.17	ROCK115	1.37	1.07	1.17	1.07	1.13	1.04	1.10	1.04	1.10	1.04	1.23	1.09	1.11	1.07	1.13	1.09	1.27	1.09	1.26	1.17
3-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.35	1.11	BSCK345	1.23	1.07	1.12	1.08	1.24	1.07	1.14	1.08	1.25	1.07	1.35	1.11	1.17	1.10	1.14	1.11	1.16	1.11	1.24	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.15	1.07	FRBG115	1.07	1.04	1.07	1.04	1.07	1.04	1.07	1.04	1.07	1.04	1.14	1.05	1.14	1.05	1.15	1.07	1.08	1.05	1.12	1.06
3-Ph line	Norwalk (NW-PT)	70%			Norwk H-Nport	1.50	1.26	ROCK115	1.37	1.12	1.21	1.07	1.27	1.06	1.18	1.10	1.20	1.06	1.21	1.09	1.18	1.10	1.23	1.12	1.21	1.17	1.50	1.26
3-Ph line	Singer (SI-ED)	70%			Norwk H-Nport	1.42	1.21	ROCK115	1.35	1.10	1.18	1.13	1.42	1.12	1.32	1.15	1.31	1.14	1.26	1.10	1.14	1.09	1.18	1.10	1.27	1.14	1.35	1.21
3-Ph bus	Norwalk	70%			Norwk H-Nport	1.31	1.20	ROCK115	1.22	1.09	1.15	1.10	1.31	1.08	1.20	1.13	1.27	1.07	1.22	1.10	1.16	1.09	1.19	1.10	1.19	1.10	1.28	1.20
3-Ph bus	Plumtree	70%			Norwk H-Nport	1.44	1.23	ROCK115	1.34	1.13	1.22	1.11	1.22	1.05	1.16	1.07	1.23	1.07	1.25	1.11	1.16	1.10	1.20	1.12	1.23	1.13	1.44	1.23
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	1.53	1.24	ROCK115	1.53	1.10	1.30	1.11	1.24	1.07	1.14	1.07	1.18	1.08	1.27	1.11	1.22	1.12	1.20	1.13	1.33	1.10	1.36	1.24
3-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.44	1.16	ROCK115	1.29	1.12	1.19	1.10	1.35	1.11	1.16	1.08	1.22	1.10	1.44	1.13	1.21	1.10	1.18	1.12	1.27	1.14	1.31	1.16
1-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.18	1.08	FRBG115	1.11	1.06	1.12	1.07	1.10	1.07	1.09	1.05	1.11	1.07	1.16	1.05	1.15	1.06	1.18	1.08	1.13	1.07	1.16	1.08
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	1.58	1.32	ROCK115	1.37	1.18	1.26	1.14	1.35	1.14	1.18	1.14	1.31	1.14	1.25	1.12	1.18	1.10	1.27	1.14	1.28	1.18	1.58	1.32
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	1.40	1.27	ROCK115	1.36	1.14	1.24	1.15	1.34	1.16	1.22	1.14	1.37	1.17	1.35	1.14	1.21	1.11	1.24	1.12	1.30	1.16	1.40	1.27
3-Ph bus	Norwalk	70%			LM-Pleasant V	1.40	1.23	ROCK115	1.26	1.10	1.20	1.14	1.29	1.10	1.17	1.11	1.36	1.10	1.33	1.11	1.21	1.10	1.19	1.12	1.26	1.13	1.40	1.23
3-Ph bus	Plumtree	70%			LM-Pleasant V	1.48	1.25	ROCK115	1.34	1.14	1.33	1.12	1.22	1.08	1.13	1.08	1.17	1.09	1.32	1.11	1.21	1.12	1.22	1.14	1.34	1.14	1.48	1.25

TYPE	LOCATION	LOAD LEVEL	LINE OUT	INITIAL CONDITIONS									
				PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
				345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph bus	Norwalk	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph bus	Plumtree	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Norwalk	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Plumtree	50%	Plum-LM	1.10	1.08	1.10	1.08	1.11	1.10	1.08	1.05	1.08	1.06
3-Ph line	Plumtree (PT-LM)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Norwalk (NW-PT)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Singer (SI-ED)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Norwalk	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Plumtree	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Plumtree (PT-LM)	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	East Devon TP (ED-B OHL)	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
1-Ph line	East Devon TP (ED-B OHL)	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph bus	Norwalk	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph bus	Plumtree	50%	Norwk H-Nport	1.07	1.06	1.08	1.07	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	East Devon TP (ED-B OHL)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
1-Ph line	East Devon TP (ED-B OHL)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Norwalk (NW-PT)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Singer (SI-ED)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Norwalk	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Plumtree	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Plumtree (PT-LM)	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph line	East Devon TP (ED-B OHL)	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
1-Ph line	East Devon TP (ED-B OHL)	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph line	Norwalk (NW-PT)	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph line	Singer (SI-ED)	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph bus	Norwalk	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph bus	Plumtree	70%		1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.10
3-Ph line	East Devon TP (ED-B OHL)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.06	1.08	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	East Devon TP (ED-B OHL)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
1-Ph line	East Devon TP (ED-B OHL)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Norwalk (NW-PT)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Singer (SI-ED)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph bus	Norwalk	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph bus	Plumtree	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Plumtree (PT-LM)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	East Devon TP (ED-B OHL)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09

CASE #: OLD CASE 5 + 20 MILE CABLES DATE: 08-Dec-04

DONE BY: PB POWER

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																				INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%				1.58	1.25	STONY115	1.43	1.17	1.37	1.19	1.23	1.13	1.16	1.13	1.22	1.13	1.25	1.13	1.19	1.14	1.16	1.09	1.58	1.25	1.42	1.20	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%				1.66	1.17	BSCK345	1.27	1.12	1.22	1.11	1.41	1.13	1.24	1.12	1.42	1.13	1.66	1.17	1.37	1.13	1.24	1.09	1.26	1.13	1.18	1.10	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%				1.41	1.10	EDVN345	1.30	1.09	1.24	1.08	1.37	1.09	1.30	1.07	1.41	1.10	1.27	1.10	1.24	1.08	1.20	1.05	1.23	1.07	1.23	1.06	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph line	Norwalk (NW-PT)	50%				1.48	1.24	STONY115	1.33	1.18	1.24	1.17	1.48	1.15	1.30	1.14	1.46	1.15	1.32	1.17	1.28	1.17	1.22	1.12	1.31	1.24	1.25	1.14	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph line	Singer (SI-ED)	50%				1.55	1.25	EDVN345	1.41	1.18	1.29	1.17	1.55	1.21	1.28	1.11	1.53	1.25	1.34	1.16	1.24	1.15	1.20	1.11	1.41	1.22	1.29	1.16	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph bus	Norwalk	50%				1.50	1.18	STONY115	1.35	1.11	1.24	1.12	1.46	1.13	1.33	1.14	1.50	1.12	1.28	1.14	1.25	1.15	1.19	1.12	1.27	1.18	1.23	1.14	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph bus	Plumtree	50%				1.81	1.22	STONY115	1.45	1.15	1.32	1.17	1.29	1.11	1.19	1.12	1.21	1.11	1.33	1.14	1.23	1.13	1.20	1.13	1.81	1.22	1.46	1.14	1.09	1.08	1.09	1.08	1.10	1.10	1.09	1.05	1.07	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.59	1.19	ESHR115	1.59	1.17	1.33	1.13	1.45	1.17	1.28	1.11	1.44	1.18	1.30	1.16	1.30	1.19	1.19	1.10	1.43	1.15	1.32	1.10	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.35	1.11	EDVN345	1.32	1.09	1.28	1.07	1.32	1.10	1.22	1.07	1.35	1.11	1.21	1.10	1.23	1.07	1.14	1.04	1.29	1.07	1.22	1.05	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.46	1.17	PLUM345	1.33	1.17	1.31	1.17	1.41	1.14	1.27	1.10	1.46	1.12	1.32	1.14	1.23	1.13	1.18	1.09	1.30	1.12	1.26	1.12	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.42	1.16	STONY115	1.42	1.14	1.31	1.15	1.42	1.14	1.25	1.12	1.40	1.13	1.24	1.13	1.25	1.13	1.18	1.09	1.38	1.16	1.29	1.14	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Norwalk	50%			Plum-LM	1.50	1.15	PLUM115	1.50	1.14	1.39	1.15	1.39	1.12	1.38	1.12	1.43	1.12	1.31	1.13	1.22	1.13	1.18	1.09	1.41	1.12	1.32	1.10	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Plumtree	50%			Plum-LM	1.64	1.25	STONY115	1.50	1.16	1.37	1.20	1.28	1.12	1.19	1.14	1.22	1.13	1.25	1.12	1.21	1.13	1.20	1.08	1.64	1.25	1.41	1.17	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Plumtree (PT-LM)	50%			East Dev-Besek OHL	1.66	1.27	PLUM345	1.66	1.27	1.39	1.18	1.42	1.20	1.26	1.13	1.44	1.18	1.38	1.16	1.19	1.11	1.16	1.10	1.65	1.21	1.42	1.12	1.08	1.07	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Norwalk (NW-PT)	50%			East Dev-Besek OHL	1.69	1.34	EDVN345	1.28	1.20	1.30	1.20	1.69	1.34	1.42	1.21	1.61	1.34	1.22	1.15	1.20	1.16	1.19	1.10	1.41	1.31	1.30	1.17	1.08	1.07	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Singer (SI-ED)	50%			East Dev-Besek OHL	1.64	1.14	EDVN345	1.54	1.12	1.42	1.12	1.58	1.14	1.50	1.12	1.64	1.14	1.47	1.13	1.41	1.12	1.29	1.09	1.40	1.12	1.37	1.11	1.08	1.07	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Norwalk	50%			East Dev-Besek OHL	1.52	1.15	PLUM115	1.34	1.12	1.33	1.15	1.50	1.13	1.29	1.11	1.52	1.13	1.26	1.12	1.25	1.11	1.24	1.09	1.29	1.14	1.22	1.12	1.08	1.07	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Plumtree	50%			East Dev-Besek OHL	1.74	1.20	STONY115	1.54	1.15	1.51	1.16	1.45	1.12	1.27	1.14	1.39	1.15	1.36	1.13	1.33	1.11	1.22	1.08	1.74	1.20	1.53	1.15	1.08	1.07	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Plumtree (PT-LM)	50%			Norwk H-Nport	1.42	1.21	STONY115	1.34	1.16	1.25	1.11	1.19	1.10	1.19	1.09	1.16	1.09	1.27	1.10	1.14	1.09	1.13	1.06	1.42	1.21	1.31	1.14	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.43	1.17	BSCK345	1.24	1.09	1.17	1.11	1.30	1.11	1.21	1.07	1.29	1.11	1.43	1.17	1.31	1.13	1.18	1.06	1.21	1.10	1.16	1.08	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
1-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.33	1.09	BSCK345	1.25	1.06	1.26	1.05	1.31	1.07	1.22	1.05	1.33	1.07	1.26	1.09	1.23	1.06	1.15	1.03	1.25	1.05	1.21	1.03	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	50%			Norwk H-Nport	1.42	1.20	PLUM345	1.36	1.20	1.29	1.11	1.42	1.10	1.35	1.10	1.36	1.10	1.28	1.13	1.21	1.11	1.13	1.07	1.27	1.19	1.16	1.08	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	50%			Norwk H-Nport	1.39	1.13	BSCK345	1.28	1.11	1.24	1.11	1.36	1.10	1.20	1.09	1.39	1.10	1.29	1.13	1.20	1.11	1.14	1.08	1.26	1.10	1.22	1.09	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph bus	Norwalk	50%			Norwk H-Nport	1.39	1.12	STONY115	1.31	1.09	1.23	1.11	1.36	1.08	1.32	1.10	1.39	1.08	1.24	1.11	1.21	1.11	1.18	1.08	1.32	1.12	1.25	1.11	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph bus	Plumtree	50%			Norwk H-Nport	1.63	1.17	STONY115	1.44	1.09	1.27	1.13	1.32	1.09	1.17	1.11	1.25	1.09	1.26	1.11	1.18	1.11	1.17	1.08	1.63	1.17	1.37	1.11	1.07	1.06	1.08	1.06	1.09	1.08	1.07	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.54	1.23	STONY115	1.40	1.17	1.31	1.16	1.23	1.11	1.16	1.12	1.23	1.12	1.23	1.15	1.17	1.12	1.19	1.12	1.54	1.23	1.35	1.17	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.36	1.23	ESHR115	1.35	1.18	1.29	1.15	1.36	1.18	1.23	1.12	1.36	1.19	1.31	1.17	1.30	1.23	1.23	1.11	1.32	1.18	1.27	1.13	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
1-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.36	1.11	EDVN345	1.34	1.10	1.32	1.08	1.34	1.10	1.24	1.07	1.36	1.11	1.31	1.11	1.26	1.08	1.21	1.05	1.33	1.08	1.28	1.06	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.45	1.20	PLUM345	1.38	1.20	1.31	1.20	1.43	1.15	1.36	1.11	1.45	1.13	1.32	1.16	1.23	1.14	1.32	1.13	1.40	1.16	1.33	1.14	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.48	1.17	STONY115	1.39	1.15	1.32	1.16	1.43	1.15	1.31	1.10	1.46	1.14	1.33	1.15	1.22	1.13	1.24	1.10	1.48	1.17	1.38	1.15	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.43	1.16	STONY115	1.42	1.14	1.35	1.15	1.38	1.12	1.33	1.10	1.42	1.11	1.43	1.14	1.24	1.12	1.29	1.10	1.32	1.16	1.25	1.12	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.70	1.23	STONY115	1.44	1.16	1.45	1.17	1.25	1.12	1.22	1.12	1.24	1.13	1.37	1.15	1.20	1.12	1.21	1.10	1.70	1.23	1.47	1.16	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Plumtree (PT-LM)	70%				1.50	1.26	ROCK115	1.36	1.12	1.18	1.13	1.17	1.08	1.10	1.07	1.17	1.09	1.26	1.10	1.14	1.12	1.20	1.17	1.27	1.15	1.50	1.26	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph line	East Devon TP (ED-B OHL)	70%				1.68	1.18	ROCK115	1.24	1.12	1.20	1.12	1.37	1.12	1.18	1.10	1.43	1.11	1.68	1.14	1.29	1.11	1.26	1.13	1.29	1.15	1.33	1.18	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%				1.26	1.10	FRBG115	1.22	1.07	1.20	1.08	1.26	1.07	1.18	1.07	1.26	1.08	1.21	1.07	1.25	1.09	1.25	1.10	1.21	1.08	1.23	1.09	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%				1.54	1.32	ROCK115	1.38	1.16	1.23	1.12	1.34	1.08	1.25	1.09	1.32	1.08	1.24	1.12	1.23	1.13	1.29	1.14	1.28	1.16	1.54	1.32	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph line	Singer (SI-ED)	70%				1.45	1.26	ROCK115	1.33	1.11	1.22	1.14	1.43	1.15	1.22	1.14	1.45	1.13	1.34	1.13	1.18	1.12	1.24	1.14	1.25	1.16	1.26	1.26	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph bus	Norwalk	70%				1.43	1.24	ROCK115	1.33	1.12	1.20	1.14	1.39	1.10	1.17	1.11	1.43	1.07	1.22	1.12	1.20	1.12	1.22	1.15	1.24	1.14	1.30	1.24	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph bus	Plumtree	70%				1.60	1.30	ROCK115	1.41	1.12	1.34	1.15	1.21	1.07	1.13	1.08	1.26	1.07	1.21	1.10	1.21	1.13	1.26	1.15	1.50	1.20	1.60	1.30	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.11	1.08	1.09
3-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.51	1.12	ROCK115	1.51	1.11	1.29	1.10	1.39	1.12	1.21	1.07	1.34	1.11	1.30	1.08	1.24	1.08	1.20	1.09	1.32	1.10	1.46	1.12	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.23	1.08	FRBG115	1.19	1.07	1.18	1.07	1.22	1.07	1.15	1.04	1.23	1.07	1.14	1.06	1.15	1.06	1.20	1.08	1.18	1.07	1.18	1.07	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	1.74	1.41	PLUM345	1.51	1.41	1.21	1.19	1.35	1.05	1.19	1.08	1.34	1.07	1.28	1.11	1.24	1.11	1.24	1.12	1.34	1.23	1.74	1.38	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%			Plum-LM	1.38	1.24	ROCK115	1.38	1.08	1.25	1.11	1.37	1.07	1.21	1.09	1.38	1.07	1.21	1.10	1.24	1.10	1.27	1.12	1.24	1.12	1.37	1.24	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%			Plum-LM	1.44	1.23	ROCK115	1.44	1.10	1.20	1.13	1.31	1.06	1.19	1.09	1.31	1.06	1.30	1.11	1.26	1.11	1.30	1.11	1.31	1.12	1.41	1.23	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%			Plum-LM	1.69	1.29	ROCK115	1.68	1.13	1.28	1.10	1.20	1.07	1.15	1.07	1.21	1.08	1.28	1.10	1.21	1.11	1.30	1.18	1.41	1.15	1.69	1.29	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%			East Dev-Besek OHL	1.57	1.22	ROCK115	1.57	1.16	1.27	1.13	1.41	1.14	1.23	1.09	1.34	1.14	1.36	1.10	1.18	1.09	1.18	1.12	1.47	1.15	1.45	1.22	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%			East Dev-Besek OHL	1.53	1.35	ROCK115	1.28	1.17	1.29	1.19	1.46	1.23	1.29	1.16	1.41	1.24	1.22	1.10	1.18	1.12	1.22	1.20	1.42	1.30	1.53	1.35	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%			East Dev-Besek OHL	1.72	1.18	ROCK115	1.37	1.09	1.30	1.10	1.38	1.09	1.34	1.09	1.47	1.10	1.27	1.11	1.37	1.10	1.36	1.12	1.35	1.11	1.72	1.18	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph bus	Norwalk	70%			East Dev-Besek OHL	1.58	1.25	ROCK115	1.41	1.13	1.38	1.12	1.43	1.10	1.39	1.13	1.39	1.11	1.27	1.09	1.29	1.11	1.36	1.12	1.58	1.17	1.35	1.25	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph bus	Plumtree	70%			East Dev-Besek OHL	1.84	1.25	ROCK115	1.64	1.17	1.35	1.15	1.37	1.10	1.31	1.09	1.39	1.12	1.28	1.11	1.25	1.11	1.32	1.18	1.57	1.19	1.84	1.25	1.07	1.08	1.07	1.07	1.08	1.06	1.09	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%			Norwk H-Nport	1.41	1.21	ROCK115	1.41	1.08	1.15	1.08	1.16	1.06	1.10	1.05	1.13	1.06	1.28	1.09	1.13	1.08	1.14	1.10	1.27	1.10	1.37	1.21	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.39	1.10	BSCK345	1.31	1.07	1.23	1.07	1.27	1.09	1.27	1.06	1.29	1.09	1.39	1.10	1.30	1.09	1.24	1.10	1.32	1.08	1.35	1.09	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
1-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.19	1.07	FRBG115	1.16	1.04	1.11	1.04	1.15	1.04	1.13	1.04	1.16	1.05	1.18	1.05	1.17	1.05	1.19	1.07	1.14	1.05	1.17	1.06	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Norwalk (NW-PT)	70%			Norwk H-Nport	1.52	1.26	ROCK115	1.43	1.13	1.24	1.09	1.25	1.10	1.19	1.08	1.22	1.09	1.30	1.11	1.22	1.11	1.24	1.12	1.24	1.19	1.52	1.26	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Singer (SI-ED)	70%			Norwk H-Nport	1.36	1.21	ROCK115	1.28	1.07	1.13	1.08	1.36	1.05	1.25	1.06	1.34	1.06	1.23	1.11	1.18	1.09	1.23	1.10	1.16	1.11	1.28	1.21	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph bus	Norwalk	70%			Norwk H-Nport	1.31	1.21	ROCK115	1.29	1.08	1.19	1.08	1.26	1.06	1.16	1.07	1.27	1.05	1.28	1.12	1.20	1.10	1.25	1.10	1.26	1.13	1.31	1.21	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph bus	Plumtree	70%			Norwk H-Nport	1.69	1.24	ROCK115	1.38	1.15	1.24	1.12	1.15	1.06	1.15	1.06	1.18	1.07	1.24	1.08	1.19	1.10	1.23	1.14	1.32	1.14	1.69	1.24	1.05	1.06	1.05	1.06	1.06	1.05	1.07	1.09	1.06	1.07
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	1.61	1.28	ROCK115	1.61	1.16	1.25	1.14	1.23	1.10	1.17	1.08	1.25	1.10	1.31	1.11	1.25	1.13	1.22	1.15	1.32	1.13	1.50	1.28	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.42	1.16	ROCK115	1.42	1.13	1.23	1.12	1.33	1.12	1.19	1.07	1.27	1.12	1.38	1.12	1.26	1.09	1.17	1.11	1.31	1.14	1.28	1.16	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.21	1.08	FRBG115	1.17	1.06	1.16	1.07	1.16	1.06	1.13	1.05	1.17	1.07	1.14	1.06	1.17	1.06	1.21	1.08	1.18	1.07	1.20	1.08	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	1.63	1.31	ROCK115	1.39	1.17	1.29	1.13	1.31	1.09	1.15	1.08	1.30	1.10	1.27	1.13	1.24	1.12	1.28	1.15	1.31	1.19	1.63	1.31	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	1.30	1.28	ROCK115	1.29	1.12	1.19	1.11	1.29	1.08	1.15	1.09	1.30	1.08	1.24	1.10	1.24	1.10	1.21	1.12	1.28	1.12	1.29	1.28	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%			LM-Pleasant V	1.35	1.24	ROCK115	1.24	1.12	1.21	1.11	1.25	1.08	1.16	1.09	1.29	1.08	1.28	1.11	1.25	1.12	1.23	1.13	1.26	1.16	1.35	1.24	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%			LM-Pleasant V	1.64	1.27	ROCK115	1.51	1.14	1.29	1.15	1.21	1.11	1.17	1.09	1.21	1.10	1.38	1.12	1.24	1.13	1.26	1.16	1.32	1.15	1.64	1.27	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09

CASE #: OLD CASE 5 + 20 MILE CABLES + C FILTERS   DATE: 09-Dec-04

DONE BY: PB POWER

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																			
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115	
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C
3-Ph line	Plumtree (PT-LM)	50%				1.53	1.21	STONY115	1.49	1.17	1.26	1.18	1.22	1.12	1.17	1.13	1.21	1.12	1.21	1.11	1.21	1.12	1.23	1.08	1.53	1.21	1.38	1.15
3-Ph line	East Devon TP (ED-B OHL)	50%				1.54	1.15	ESHR115	1.41	1.10	1.26	1.12	1.49	1.12	1.43	1.10	1.54	1.13	1.28	1.14	1.27	1.15	1.20	1.09	1.32	1.13	1.28	1.12
1-Ph line	East Devon TP (ED-B OHL)	50%				1.37	1.10	EDVN345	1.27	1.08	1.22	1.08	1.34	1.09	1.24	1.07	1.37	1.10	1.28	1.09	1.27	1.08	1.22	1.05	1.24	1.07	1.25	1.06
3-Ph line	Norwalk (NW-PT)	50%				1.45	1.19	STONY115	1.33	1.18	1.24	1.16	1.45	1.13	1.23	1.16	1.42	1.14	1.30	1.13	1.22	1.14	1.22	1.10	1.36	1.19	1.34	1.15
3-Ph line	Singer (SI-ED)	50%				1.54	1.27	NRWK345	1.31	1.18	1.27	1.15	1.54	1.27	1.24	1.13	1.52	1.27	1.27	1.14	1.22	1.14	1.23	1.09	1.26	1.17	1.23	1.15
3-Ph bus	Norwalk	50%				1.48	1.20	STONY115	1.27	1.13	1.22	1.12	1.45	1.18	1.23	1.10	1.48	1.18	1.19	1.11	1.18	1.13	1.22	1.10	1.24	1.20	1.20	1.13
3-Ph bus	Plumtree	50%				1.86	1.21	STONY115	1.42	1.13	1.37	1.16	1.29	1.14	1.18	1.11	1.21	1.11	1.21	1.12	1.18	1.12	1.23	1.09	1.86	1.21	1.55	1.14
3-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.49	1.19	ESHR115	1.43	1.18	1.33	1.17	1.49	1.18	1.29	1.12	1.42	1.19	1.27	1.13	1.34	1.19	1.16	1.06	1.41	1.17	1.34	1.13
1-Ph line	East Devon TP (ED-B OHL)	50%			Plum-LM	1.35	1.11	EDVN345	1.32	1.09	1.29	1.08	1.33	1.10	1.24	1.07	1.35	1.11	1.18	1.09	1.23	1.07	1.15	1.04	1.29	1.07	1.24	1.05
3-Ph line	Norwalk (NW-PT)	50%			Plum-LM	1.43	1.16	STONY115	1.33	1.16	1.32	1.15	1.43	1.11	1.22	1.11	1.43	1.11	1.26	1.12	1.20	1.12	1.18	1.08	1.25	1.16	1.24	1.13
3-Ph line	Singer (SI-ED)	50%			Plum-LM	1.42	1.16	EDVN345	1.33	1.13	1.26	1.15	1.42	1.16	1.20	1.11	1.39	1.16	1.21	1.11	1.18	1.12	1.21	1.08	1.34	1.12	1.32	1.11
3-Ph bus	Norwalk	50%			Plum-LM	1.51	1.16	PLUM115	1.51	1.14	1.37	1.16	1.37	1.12	1.28	1.11	1.40	1.11	1.26	1.12	1.17	1.12	1.19	1.10	1.36	1.12	1.27	1.11
3-Ph bus	Plumtree	50%			Plum-LM	1.57	1.21	STONY115	1.43	1.15	1.30	1.19	1.23	1.11	1.23	1.13	1.25	1.11	1.17	1.11	1.19	1.12	1.20	1.08	1.57	1.21	1.39	1.15
3-Ph line	Plumtree (PT-LM)	50%			East Dev-Besek OHL	1.63	1.26	PLUM345	1.63	1.26	1.35	1.17	1.42	1.21	1.28	1.12	1.44	1.19	1.20	1.11	1.19	1.10	1.20	1.08	1.63	1.21	1.41	1.14
3-Ph line	Norwalk (NW-PT)	50%			East Dev-Besek OHL	1.57	1.34	EDVN345	1.29	1.18	1.36	1.18	1.57	1.32	1.32	1.23	1.57	1.34	1.19	1.12	1.22	1.15	1.15	1.09	1.50	1.22	1.34	1.15
3-Ph line	Singer (SI-ED)	50%			East Dev-Besek OHL	1.55	1.15	EDVN345	1.39	1.10	1.39	1.11	1.50	1.13	1.45	1.10	1.55	1.15	1.29	1.11	1.33	1.12	1.35	1.08	1.47	1.10	1.44	1.10
3-Ph bus	Norwalk	50%			East Dev-Besek OHL	1.58	1.16	STONY115	1.48	1.11	1.41	1.14	1.58	1.13	1.40	1.10	1.57	1.14	1.19	1.11	1.30	1.11	1.22	1.09	1.54	1.16	1.45	1.15
3-Ph bus	Plumtree	50%			East Dev-Besek OHL	1.82	1.19	STONY115	1.51	1.13	1.41	1.16	1.37	1.11	1.38	1.12	1.37	1.14	1.33	1.12	1.30	1.11	1.28	1.09	1.82	1.19	1.61	1.15
3-Ph line	Plumtree (PT-LM)	50%			Norwk H-Nport	1.39	1.20	STONY115	1.39	1.13	1.20	1.11	1.17	1.11	1.18	1.08	1.18	1.10	1.20	1.11	1.17	1.09	1.15	1.05	1.38	1.20	1.25	1.11
3-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.46	1.14	ESHR115	1.36	1.09	1.36	1.09	1.42	1.12	1.37	1.08	1.46	1.13	1.28	1.11	1.32	1.14	1.20	1.06	1.32	1.11	1.30	1.09
1-Ph line	East Devon TP (ED-B OHL)	50%			Norwk H-Nport	1.29	1.08	BSCK345	1.24	1.06	1.23	1.05	1.28	1.07	1.25	1.05	1.29	1.08	1.22	1.08	1.24	1.06	1.19	1.03	1.24	1.05	1.23	1.04
3-Ph line	Norwalk (NW-PT)	50%			Norwk H-Nport	1.39	1.16	PLUM345	1.33	1.16	1.26	1.13	1.39	1.10	1.27	1.11	1.36	1.10	1.32	1.11	1.21	1.11	1.16	1.07	1.30	1.15	1.25	1.10
3-Ph line	Singer (SI-ED)	50%			Norwk H-Nport	1.42	1.15	EDVN345	1.25	1.08	1.20	1.10	1.40	1.14	1.22	1.09	1.42	1.15	1.16	1.09	1.13	1.09	1.17	1.06	1.23	1.10	1.19	1.10
3-Ph bus	Norwalk	50%			Norwk H-Nport	1.38	1.10	PLUM115	1.23	1.09	1.14	1.10	1.34	1.07	1.23	1.08	1.38	1.09	1.22	1.10	1.15	1.10	1.15	1.06	1.22	1.09	1.18	1.09
3-Ph bus	Plumtree	50%			Norwk H-Nport	1.55	1.19	STONY115	1.42	1.09	1.26	1.15	1.29	1.08	1.16	1.09	1.22	1.08	1.22	1.12	1.15	1.11	1.15	1.07	1.55	1.19	1.47	1.11
3-Ph line	Plumtree (PT-LM)	50%			LM-Pleasant V	1.43	1.22	STONY115	1.39	1.15	1.22	1.15	1.23	1.12	1.13	1.11	1.21	1.11	1.20	1.12	1.17	1.11	1.15	1.09	1.43	1.22	1.30	1.16
3-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.35	1.24	ESHR115	1.29	1.19	1.25	1.19	1.33	1.20	1.22	1.15	1.35	1.21	1.32	1.14	1.33	1.24	1.21	1.10	1.29	1.18	1.35	1.16
1-Ph line	East Devon TP (ED-B OHL)	50%			LM-Pleasant V	1.33	1.11	EDVN345	1.29	1.10	1.30	1.09	1.31	1.11	1.24	1.07	1.33	1.11	1.23	1.09	1.26	1.08	1.23	1.05	1.30	1.08	1.27	1.07
3-Ph line	Norwalk (NW-PT)	50%			LM-Pleasant V	1.45	1.21	PLUM115	1.36	1.20	1.32	1.21	1.41	1.12	1.24	1.12	1.45	1.12	1.27	1.12	1.22	1.13	1.22	1.11	1.33	1.19	1.28	1.13
3-Ph line	Singer (SI-ED)	50%			LM-Pleasant V	1.42	1.18	EDVN345	1.34	1.15	1.29	1.15	1.42	1.17	1.19	1.09	1.42	1.18	1.22	1.12	1.21	1.11	1.20	1.09	1.30	1.16	1.26	1.13
3-Ph bus	Norwalk	50%			LM-Pleasant V	1.41	1.14	PLUM115	1.33	1.13	1.31	1.14	1.39	1.11	1.23	1.09	1.41	1.11	1.27	1.12	1.19	1.14	1.20	1.10	1.34	1.13	1.31	1.14
3-Ph bus	Plumtree	50%			LM-Pleasant V	1.64	1.21	STONY115	1.42	1.14	1.40	1.15	1.22	1.11	1.21	1.11	1.22	1.12	1.32	1.12	1.21	1.13	1.26	1.09	1.64	1.21	1.43	1.14
3-Ph line	Plumtree (PT-LM)	70%				1.56	1.41	ROCK115	1.39	1.17	1.18	1.16	1.21	1.11	1.17	1.10	1.21	1.11	1.23	1.11	1.18	1.13	1.25	1.16	1.31	1.20	1.56	1.41
3-Ph line	East Devon TP (ED-B OHL)	70%				1.37	1.17	ESHR115	1.23	1.12	1.18	1.11	1.27	1.13	1.23	1.10	1.26	1.14	1.35	1.10	1.24	1.17	1.32	1.16	1.22	1.13	1.37	1.15
1-Ph line	East Devon TP (ED-B OHL)	70%				1.31	1.10	FRBG115	1.16	1.07	1.17	1.08	1.19	1.07	1.18	1.07	1.19	1.08	1.15	1.07	1.19	1.09	1.31	1.10	1.20	1.08	1.29	1.09
3-Ph line	Norwalk (NW-PT)	70%				1.64	1.44	ROCK115	1.31	1.14	1.21	1.14	1.34	1.13	1.28	1.10	1.33	1.12	1.24	1.11	1.19	1.13	1.31	1.19	1.26	1.21	1.64	1.44
3-Ph line	Singer (SI-ED)	70%				1.47	1.30	ROCK115	1.29	1.15	1.25	1.22	1.46	1.19	1.16	1.12	1.41	1.17	1.20	1.12	1.18	1.14	1.30	1.16	1.27	1.27	1.47	1.30
3-Ph bus	Norwalk	70%				1.41	1.31	ROCK115	1.28	1.14	1.23	1.20	1.35	1.14	1.18	1.09	1.41	1.13	1.18	1.12	1.16	1.13	1.30	1.16	1.34	1.20	1.38	1.31
3-Ph bus	Plumtree	70%				1.75	1.35	ROCK115	1.37	1.19	1.33	1.20	1.20	1.14	1.18	1.10	1.29	1.13	1.29	1.11	1.21	1.13	1.31	1.17	1.57	1.27	1.75	1.35
3-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.46	1.13	ESHR115	1.46	1.11	1.27	1.08	1.40	1.12	1.28	1.07	1.37	1.11	1.25	1.08	1.20	1.13	1.25	1.09	1.39	1.08	1.41	1.10
1-Ph line	East Devon TP (ED-B OHL)	70%			Plum-LM	1.22	1.08	FRBG115	1.18	1.07	1.19	1.07	1.21	1.07	1.15	1.05	1.22	1.07	1.10	1.06	1.10	1.06	1.16	1.08	1.22	1.07	1.22	1.07
3-Ph line	Norwalk (NW-PT)	70%			Plum-LM	1.77	1.44	ROCK115	1.57	1.40	1.29	1.16	1.31	1.09	1.23	1.08	1.33	1.10	1.18	1.11	1.16	1.11	1.28	1.14	1.28	1.18	1.77	1.44
3-Ph line	Singer (SI-ED)	70%			Plum-LM	1.38	1.27	ROCK115	1.32	1.15	1.29	1.22	1.30	1.13	1.18	1.10	1.28	1.13	1.19	1.10	1.20	1.11	1.29	1.14	1.32	1.23	1.38	1.27
3-Ph bus	Norwalk	70%			Plum-LM	1.48	1.30	ROCK115	1.38	1.14	1.38	1.16	1.27	1.10	1.24	1.10	1.31	1.10	1.21	1.13	1.18	1.13	1.28	1.15	1.37	1.19	1.48	1.30
3-Ph bus	Plumtree	70%			Plum-LM	1.54	1.41	ROCK115	1.44	1.16	1.19	1.16	1.18	1.10	1.13	1.09	1.19	1.10	1.21	1.10	1.15	1.13	1.24	1.15	1.40	1.16	1.54	1.41
3-Ph line	Plumtree (PT-LM)	70%			East Dev-Besek OHL	1.52	1.37	ROCK115	1.52	1.13	1.33	1.13	1.41	1.14	1.26	1.08	1.38	1.14	1.24	1.06	1.16	1.09	1.23	1.12	1.50	1.18	1.48	1.37
3-Ph line	Norwalk (NW-PT)	70%			East Dev-Besek OHL	1.67	1.41	ROCK115	1.30	1.22	1.28	1.19	1.39	1.23	1.27	1.16	1.40	1.24	1.14	1.10	1.18	1.12	1.22	1.15	1.49	1.37	1.67	1.41
3-Ph line	Singer (SI-ED)	70%			East Dev-Besek OHL	1.64	1.23	ROCK115	1.29	1.11	1.28	1.12	1.50	1.12	1.19	1.11	1.43	1.14	1.19	1.11	1.21	1.12	1.38	1.15	1.33	1.14	1.64	1.23
3-Ph bus	Norwalk	70%			East Dev-Besek OHL	1.49	1.31	ROCK115	1.37	1.14	1.37	1.12	1.43	1.13	1.39	1.11	1.39	1.15	1.20	1.11	1.22	1.12	1.31	1.16	1.49	1.17	1.45	1.31
3-Ph bus	Plumtree	70%			East Dev-Besek OHL	1.79	1.35	ROCK115	1.59	1.15	1.36	1.16	1.38	1.12	1.30	1.10	1.39	1.14	1.24	1.10	1.23	1.12	1.32	1.16	1.54	1.22	1.79	1.35
3-Ph line	Plumtree (PT-LM)	70%			Norwk H-Nport	1.41	1.35	ROCK115	1.39	1.11	1.17	1.11	1.21	1.06	1.16	1.06	1.17	1.07	1.19	1.06	1.13	1.08	1.19	1.10	1.32	1.10	1.41	1.35
3-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.29	1.10	ESHR115	1.24	1.06	1.16	1.06	1.25	1.09	1.19	1.07	1.22	1.09	1.27	1.07	1.16	1.10	1.22	1.09	1.18	1.07	1.29	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%			Norwk H-Nport	1.23	1.07	FRBG115	1.10	1.03	1.12	1.04	1.12	1.04	1.13	1.04	1.14	1.05	1.10	1.05	1.11	1.05	1.23	1.07	1.15	1.05	1.20	1.06
3-Ph line	Norwalk (NW-PT)	70%			Norwk H-Nport	1.64	1.40	ROCK115	1.28	1.10	1.21	1.11	1.19	1.10	1.24	1.12	1.21	1.10	1.16	1.10	1.15	1.10	1.27	1.14	1.23	1.19	1.64	1.40
3-Ph line	Singer (SI-ED)	70%			Norwk H-Nport	1.40	1.24	ROCK115	1.17	1.10	1.18	1.13	1.32	1.12	1.12	1.09	1.29	1.12	1.16	1.09	1.15	1.11	1.28	1.13	1.26	1.13	1.40	1.24
3-Ph bus	Norwalk	70%			Norwk H-Nport	1.35	1.30	ROCK115	1.17	1.09	1.15	1.11	1.24	1.08	1.20	1.09	1.27	1.10	1.14	1.09	1.13	1.09	1.27	1.14	1.20	1.12	1.35	1.30
3-Ph bus	Plumtree	70%			Norwk H-Nport	1.61	1.33	ROCK115	1.28	1.15	1.31	1.18	1.13	1.10	1.14	1.08	1.15	1.08	1.26	1.09	1.18	1.10	1.25	1.13	1.53	1.16	1.61	1.33
3-Ph line	Plumtree (PT-LM)	70%			LM-Pleasant V	1.55	1.44	ROCK115	1.46	1.15	1.20	1.15	1.23	1.12	1.21	1.09	1.23	1.12	1.22	1.11	1.19	1.13	1.26	1.16	1.40	1.18	1.55	1.44
3-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.40	1.14	ROCK115	1.33	1.11	1.21	1.09	1.33	1.12	1.23	1.07	1.33	1.12	1.25	1.07	1.21	1.12	1.24	1.11	1.28	1.12	1.40	1.14
1-Ph line	East Devon TP (ED-B OHL)	70%			LM-Pleasant V	1.25	1.08	FRBG115	1.14	1.06	1.14	1.07	1.15	1.06	1.11	1.05	1.17	1.07	1.11	1.05	1.12	1.06	1.25	1.08	1.18	1.07	1.24	1.08
3-Ph line	Norwalk (NW-PT)	70%			LM-Pleasant V	1.84	1.51	ROCK115	1.41	1.18	1.33	1.17	1.23	1.11	1.19	1.11	1.24	1.10	1.15	1.12	1.14	1.12	1.30	1.16	1.42	1.21	1.84	1.51
3-Ph line	Singer (SI-ED)	70%			LM-Pleasant V	1.45	1.34	ROCK115	1.21	1.14	1.21	1.18	1.30	1.14	1.14	1.10	1.27	1.14	1.19	1.10	1.20	1.12	1.32	1.15	1.30	1.18	1.45	1.34
3-Ph bus	Norwalk	70%			LM-Pleasant V	1.46	1.33	ROCK115	1.19	1.12	1.23	1.17	1.21	1.11	1.17	1.11	1.28	1.10	1.17	1.12	1.16	1.11	1.29	1.15	1.35	1.19	1.46	1.33
3-Ph bus	Plumtree	70%			LM-Pleasant V	1.61	1.41	ROCK115	1.39	1.15	1.40	1.20	1.17	1.11	1.17	1.09	1.18	1.12	1.32	1.11	1.19	1.12	1.31	1.16	1.40	1.21	1.61	1.41

TYPE	LOCATION	LOAD LEVEL	LINE OUT	INITIAL CONDITIONS									
				PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
				345	115	345	115	345	345	115	115	115	115
3-Ph line	Plumtree (PT-LM)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph bus	Norwalk	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph bus	Plumtree	50%		1.09	1.08	1.10	1.08	1.10	1.10	1.09	1.05	1.08	1.06
3-Ph line	East Devon TP (ED-B OHL)	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
1-Ph line	East Devon TP (ED-B OHL)	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Norwalk	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph bus	Plumtree	50%	Plum-LM	1.09	1.08	1.10	1.08	1.10	1.10	1.08	1.05	1.08	1.06
3-Ph line	Plumtree (PT-LM)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Norwalk (NW-PT)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Singer (SI-ED)	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Norwalk	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph bus	Plumtree	50%	East Dev-Besek OHL	1.08	1.08	1.09	1.07	1.10	1.09	1.08	1.05	1.07	1.06
3-Ph line	Plumtree (PT-LM)	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	East Devon TP (ED-B OHL)	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
1-Ph line	East Devon TP (ED-B OHL)	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph bus	Norwalk	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph bus	Plumtree	50%	Norwk H-Nport	1.07	1.06	1.08	1.06	1.09	1.09	1.07	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	East Devon TP (ED-B OHL)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
1-Ph line	East Devon TP (ED-B OHL)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Norwalk (NW-PT)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Singer (SI-ED)	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Norwalk	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph bus	Plumtree	50%	LM-Pleasant V	1.10	1.09	1.11	1.08	1.11	1.10	1.09	1.06	1.09	1.07
3-Ph line	Plumtree (PT-LM)	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph line	East Devon TP (ED-B OHL)	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
1-Ph line	East Devon TP (ED-B OHL)	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph line	Norwalk (NW-PT)	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph line	Singer (SI-ED)	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph bus	Norwalk	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph bus	Plumtree	70%		1.07	1.08	1.07	1.07	1.08	1.08	1.09	1.11	1.08	1.10
3-Ph line	East Devon TP (ED-B OHL)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	Plum-LM	1.07	1.08	1.07	1.06	1.08	1.07	1.08	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	East Dev-Besek OHL	1.07	1.08	1.07	1.07	1.08	1.07	1.09	1.10	1.08	1.09
3-Ph line	Plumtree (PT-LM)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph line	East Devon TP (ED-B OHL)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
1-Ph line	East Devon TP (ED-B OHL)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph line	Norwalk (NW-PT)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph line	Singer (SI-ED)	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph bus	Norwalk	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph bus	Plumtree	70%	Norwk H-Nport	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.09	1.06	1.08
3-Ph line	Plumtree (PT-LM)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	East Devon TP (ED-B OHL)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
1-Ph line	East Devon TP (ED-B OHL)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Norwalk (NW-PT)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph line	Singer (SI-ED)	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Norwalk	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09
3-Ph bus	Plumtree	70%	LM-Pleasant V	1.07	1.08	1.07	1.06	1.07	1.06	1.08	1.10	1.08	1.09

CASE #	OLD CASE 5					DATE:	16-Dec-04
DONE BY:	PB POWER						

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																				INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
OLD CASE 5																																						
3-Ph line	Plumtree (PT-LM)	30%				1.65	1.40	STONY115	1.65	1.36	1.45	1.36	1.60	1.34	1.47	1.24	1.59	1.34	1.35	1.20	1.30	1.19	1.29	1.13	1.49	1.40	1.46	1.36	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	East Devon (ED-BK)	30%				2.00	1.52	EDVN345	1.76	1.42	1.67	1.35	1.95	1.52	1.73	1.37	2.00	1.52	1.37	1.19	1.43	1.23	1.39	1.20	1.70	1.34	1.74	1.29	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
1-Ph line	East Devon (ED-BK)	30%				1.32	1.09	EDVN345	1.22	1.07	1.22	1.06	1.32	1.09	1.24	1.06	1.32	1.09	1.15	1.05	1.13	1.05	1.15	1.03	1.25	1.06	1.25	1.04	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	Norwalk (NW-PT)	30%				1.83	1.53	NRWK345	1.61	1.21	1.42	1.22	1.83	1.53	1.66	1.40	1.81	1.52	1.54	1.31	1.42	1.32	1.34	1.24	1.47	1.22	1.55	1.34	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	Singer (SI-ED)	30%				1.73	1.50	NRWK345	1.73	1.45	1.67	1.36	1.72	1.50	1.68	1.41	1.68	1.50	1.46	1.34	1.49	1.34	1.50	1.32	1.66	1.41	1.67	1.42	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph bus	Norwalk	30%				1.89	1.47	NRWK345	1.82	1.40	1.68	1.34	1.89	1.47	1.68	1.36	1.89	1.46	1.51	1.30	1.42	1.29	1.43	1.25	1.70	1.34	1.69	1.35	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph bus	Plumtree	30%				1.69	1.36	NRWK345	1.63	1.30	1.57	1.30	1.66	1.36	1.55	1.27	1.69	1.35	1.44	1.23	1.38	1.23	1.35	1.19	1.67	1.31	1.69	1.31	1.05	1.04	1.06	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.92	1.61	EDVN345	1.85	1.55	1.82	1.46	1.91	1.59	1.71	1.40	1.92	1.61	1.33	1.10	1.33	1.17	1.31	1.15	1.82	1.48	1.71	1.41	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
1-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.36	1.10	EDVN345	1.36	1.09	1.35	1.07	1.36	1.10	1.28	1.07	1.35	1.10	1.14	1.05	1.16	1.05	1.16	1.02	1.35	1.07	1.28	1.05	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
3-Ph line	Norwalk (NW-PT)	30%			Plum-LM	1.78	1.34	NRWK345	1.78	1.34	1.73	1.34	1.95	1.48	1.73	1.34	1.97	1.45	1.56	1.26	1.60	1.28	1.54	1.14	1.71	1.31	1.72	1.35	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
3-Ph line	Singer (SI-ED)	30%			Plum-LM	2.15	1.44	NRWK345	2.11	1.44	1.92	1.35	2.15	1.44	1.82	1.32	2.08	1.42	1.66	1.26	1.61	1.22	1.50	1.19	1.92	1.30	1.92	1.31	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
3-Ph bus	Norwalk	30%			Plum-LM	2.11	1.48	NRWK345	2.10	1.46	1.86	1.38	2.11	1.48	1.80	1.33	2.05	1.46	1.57	1.24	1.55	1.22	1.46	1.17	1.90	1.38	1.87	1.33	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
3-Ph bus	Plumtree	30%			Plum-LM	1.64	1.37	STONY115	1.64	1.35	1.47	1.33	1.59	1.33	1.47	1.25	1.56	1.32	1.29	1.15	1.27	1.19	1.24	1.12	1.47	1.37	1.42	1.33	1.07	1.06	1.07	1.05	1.07	1.04	1.04	1.02	1.05	1.03
3-Ph line	Plumtree (PT-LM)	30%			East Devon-Besek	1.80	1.52	NRWK345	1.78	1.52	1.67	1.37	1.79	1.52	1.55	1.33	1.80	1.52	1.28	1.12	1.27	1.15	1.31	1.13	1.78	1.38	1.70	1.34	1.05	1.05	1.06	1.05	1.07	1.03	1.04	1.02	1.04	1.03
3-Ph line	Norwalk (NW-PT)	30%			East Devon-Besek	1.99	1.67	EDVN345	1.38	1.16	1.41	1.20	1.98	1.66	1.61	1.43	1.99	1.67	1.24	1.12	1.34	1.24	1.33	1.18	1.43	1.21	1.46	1.29	1.05	1.05	1.06	1.05	1.07	1.03	1.04	1.02	1.04	1.03
3-Ph line	Singer (SI-ED)	30%			East Devon-Besek	1.95	1.50	EDVN345	1.77	1.39	1.76	1.32	1.91	1.49	1.72	1.34	1.95	1.50	1.31	1.21	1.51	1.23	1.37	1.21	1.77	1.30	1.78	1.26	1.05	1.05	1.06	1.05	1.07	1.03	1.04	1.02	1.04	1.03
3-Ph bus	Norwalk	30%			East Devon-Besek	1.94	1.55	NRWK345	1.74	1.45	1.75	1.39	1.92	1.55	1.64	1.39	1.94	1.55	1.24	1.13	1.43	1.24	1.41	1.21	1.79	1.40	1.75	1.35	1.05	1.05	1.06	1.05	1.07	1.03	1.04	1.02	1.04	1.03
3-Ph bus	Plumtree	30%			East Devon-Besek	1.70	1.49	EDVN345	1.67	1.37	1.46	1.34	1.69	1.48	1.55	1.32	1.70	1.49	1.34	1.19	1.35	1.16	1.34	1.18	1.57	1.34	1.58	1.33	1.05	1.05	1.06	1.05	1.07	1.03	1.04	1.02	1.04	1.03
3-Ph line	Plumtree (PT-LM)	30%			Norwalk H-Nport	1.59	1.39	PLUM345	1.59	1.39	1.48	1.31	1.57	1.39	1.55	1.31	1.52	1.37	1.32	1.18	1.22	1.18	1.25	1.12	1.47	1.29	1.41	1.28	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.70	1.53	NRWK115	1.61	1.28	1.53	1.25	1.68	1.39	1.64	1.53	1.70	1.42	1.34	1.14	1.37	1.14	1.39	1.16	1.54	1.27	1.65	1.27	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
1-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.25	1.07	EDVN345	1.15	1.05	1.15	1.05	1.19	1.06	1.25	1.06	1.22	1.07	1.13	1.04	1.12	1.04	1.11	1.02	1.17	1.04	1.18	1.03	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	Norwalk (NW-PT)	30%			Norwalk H-Nport	1.82	1.49	NRWK345	1.53	1.15	1.44	1.21	1.82	1.49	1.66	1.42	1.78	1.48	1.43	1.26	1.39	1.23	1.31	1.19	1.49	1.21	1.50	1.30	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	Singer (SI-ED)	30%			Norwalk H-Nport	1.87	1.43	EDVN345	1.82	1.37	1.74	1.32	1.87	1.42	1.84	1.36	1.85	1.43	1.53	1.23	1.47	1.22	1.44	1.21	1.71	1.30	1.78	1.28	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph bus	Norwalk	30%			Norwalk H-Nport	1.85	1.44	EDVN345	1.73	1.40	1.65	1.34	1.84	1.44	1.79	1.40	1.85	1.44	1.49	1.24	1.47	1.23	1.42	1.21	1.64	1.37	1.67	1.37	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph bus	Plumtree	30%			Norwalk H-Nport	1.58	1.37	EDVN345	1.52	1.30	1.43	1.29	1.58	1.37	1.53	1.30	1.56	1.37	1.36	1.20	1.23	1.20	1.29	1.17	1.41	1.31	1.52	1.29	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.02	1.04	1.03
3-Ph line	Plumtree (PT-LM)	30%			LM-Pleasant V	1.69	1.41	STONY115	1.68	1.35	1.52	1.35	1.69	1.35	1.57	1.25	1.66	1.34	1.45	1.19	1.36	1.20	1.31	1.15	1.58	1.41	1.56	1.40	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.84	1.58	EDVN345	1.75	1.49	1.70	1.41	1.82	1.58	1.64	1.42	1.84	1.58	1.38	1.16	1.37	1.24	1.47	1.26	1.67	1.43	1.65	1.40	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.29	1.08	EDVN345	1.26	1.07	1.27	1.06	1.27	1.07	1.22	1.05	1.29	1.08	1.24	1.04	1.19	1.05	1.19	1.02	1.26	1.06	1.27	1.05	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	30%			LM-Pleasant V	2.15	1.44	NRWK345	1.76	1.28	1.68	1.27	2.15	1.44	1.77	1.35	2.07	1.43	1.62	1.26	1.63	1.26	1.64	1.23	1.58	1.29	1.75	1.34	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	30%			LM-Pleasant V	2.06	1.39	NRWK345	1.94	1.36	1.83	1.31	2.06	1.39	1.75	1.28	2.05	1.38	1.68	1.27	1.54	1.23	1.68	1.25	1.86	1.30	1.85	1.30	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph bus	Norwalk	30%			LM-Pleasant V	2.11	1.44	EDVN345	2.06	1.43	1.92	1.32	2.11	1.42	1.78	1.31	2.05	1.44	1.64	1.26	1.54	1.24	1.88	1.23	1.88	1.33	1.96	1.32	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph bus	Plumtree	30%			LM-Pleasant V	1.66	1.36	STONY115	1.66	1.30	1.47	1.32	1.64	1.33	1.57	1.24	1.60	1.33	1.42	1.21	1.28	1.20	1.35	1.18	1.49	1.36	1.52	1.35	1.06	1.05	1.07	1.05	1.07	1.05	1.05	1.03	1.05	1.04

CASE #:	OLD CASE 5 + 5 MILES					DATE:		16-Dec-04
DONE BY:	PB POWER							

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																		INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
OLD CASE 5 + 5 MILES																																						
3-Ph line	Plumtree (PT-LM)	30%				1.70	1.48	ROCK115	1.70	1.27	1.43	1.39	1.42	1.33	1.41	1.32	1.40	1.35	1.43	1.17	1.24	1.18	1.25	1.16	1.47	1.48	1.46	1.48	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph line	East Devon (ED-BK)	30%				1.57	1.36	EDVN345	1.47	1.24	1.44	1.27	1.57	1.31	1.52	1.33	1.54	1.36	1.37	1.17	1.22	1.16	1.25	1.13	1.44	1.21	1.48	1.27	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
1-Ph line	East Devon (ED-BK)	30%				1.36	1.09	NRWK345	1.23	1.08	1.29	1.07	1.30	1.09	1.28	1.07	1.33	1.08	1.19	1.06	1.16	1.06	1.17	1.04	1.36	1.06	1.34	1.05	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph line	Norwalk (NW-PT)	30%				1.91	1.67	NRWK345	1.60	1.29	1.52	1.34	1.90	1.67	1.62	1.49	1.91	1.65	1.38	1.28	1.38	1.26	1.39	1.22	1.53	1.33	1.61	1.47	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph line	Singer (SI-ED)	30%				1.98	1.52	NRWK345	1.82	1.42	1.76	1.36	1.97	1.52	1.77	1.36	1.98	1.50	1.60	1.32	1.50	1.27	1.51	1.24	1.76	1.42	1.75	1.41	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph bus	Norwalk	30%				1.93	1.65	NRWK345	1.69	1.53	1.64	1.43	1.93	1.65	1.69	1.42	1.92	1.65	1.46	1.31	1.54	1.27	1.46	1.25	1.66	1.45	1.64	1.42	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph bus	Plumtree	30%				1.63	1.43	EDVN345	1.58	1.37	1.37	1.32	1.59	1.41	1.59	1.38	1.63	1.43	1.33	1.23	1.32	1.20	1.32	1.19	1.49	1.36	1.48	1.39	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.83	1.51	STONY115	1.80	1.37	1.72	1.44	1.81	1.37	1.50	1.32	1.83	1.39	1.35	1.17	1.42	1.34	1.36	1.18	1.70	1.51	1.62	1.44	1.08	1.07	1.08	1.06	1.08	1.05	1.06	1.03	1.06	1.05
1-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.45	1.12	NRWK345	1.41	1.11	1.42	1.09	1.43	1.12	1.33	1.08	1.45	1.12	1.15	1.06	1.20	1.06	1.21	1.04	1.40	1.08	1.38	1.07	1.08	1.07	1.08	1.06	1.08	1.05	1.06	1.03	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%			Plum-LM	1.91	1.66	NRWK345	1.65	1.30	1.51	1.34	1.87	1.66	1.63	1.49	1.91	1.64	1.39	1.28	1.39	1.26	1.40	1.22	1.54	1.34	1.60	1.46	1.07	1.06	1.08	1.06	1.08	1.05	1.05	1.04	1.06	1.04
3-Ph line	Singer (SI-ED)	30%			Plum-LM	1.87	1.59	PLUM345	1.80	1.59	1.73	1.52	1.87	1.59	1.65	1.43	1.81	1.57	1.51	1.29	1.41	1.25	1.32	1.19	1.74	1.56	1.71	1.47	1.08	1.07	1.08	1.06	1.08	1.05	1.06	1.03	1.06	1.05
3-Ph bus	Norwalk	30%			Plum-LM	1.68	1.57	EDVN345	1.64	1.51	1.52	1.42	1.68	1.54	1.52	1.46	1.68	1.57	1.44	1.20	1.39	1.20	1.27	1.24	1.57	1.41	1.61	1.34	1.08	1.07	1.08	1.06	1.08	1.05	1.06	1.03	1.06	1.05
3-Ph bus	Plumtree	30%			Plum-LM	1.63	1.46	STONY115	1.63	1.26	1.42	1.35	1.40	1.31	1.37	1.28	1.36	1.30	1.25	1.10	1.32	1.19	1.21	1.11	1.51	1.46	1.53	1.45	1.08	1.07	1.08	1.06	1.08	1.05	1.06	1.03	1.06	1.05
3-Ph line	Plumtree (PT-LM)	30%			East Devon-Besek	1.71	1.46	STONY115	1.71	1.35	1.66	1.34	1.67	1.33	1.45	1.30	1.66	1.41	1.33	1.18	1.29	1.24	1.30	1.18	1.69	1.46	1.69	1.43	1.08	1.07	1.09	1.07	1.09	1.04	1.05	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%			East Devon-Besek	1.71	1.37	ROCK115	1.43	1.18	1.51	1.23	1.71	1.37	1.48	1.27	1.71	1.35	1.25	1.12	1.31	1.17	1.32	1.24	1.60	1.30	1.49	1.37	1.08	1.07	1.09	1.07	1.09	1.04	1.05	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	30%			East Devon-Besek	1.98	1.75	EDVN345	1.81	1.57	1.62	1.46	1.98	1.74	1.64	1.50	1.96	1.75	1.38	1.15	1.53	1.23	1.45	1.22	1.63	1.41	1.71	1.39	1.08	1.07	1.09	1.07	1.09	1.04	1.05	1.04	1.06	1.05
3-Ph bus	Norwalk	30%			East Devon-Besek	1.66	1.42	EDVN345	1.47	1.26	1.42	1.30	1.66	1.37	1.47	1.34	1.63	1.42	1.33	1.14	1.32	1.14	1.26	1.20	1.45	1.28	1.42	1.31	1.08	1.07	1.09	1.07	1.09	1.04	1.05	1.04	1.06	1.05
3-Ph bus	Plumtree	30%			East Devon-Besek	1.55	1.35	ROCK115	1.49	1.16	1.50	1.29	1.53	1.27	1.42	1.31	1.55	1.32	1.44	1.21	1.40	1.13	1.35	1.10	1.47	1.30	1.43	1.35	1.08	1.07	1.09	1.07	1.09	1.04	1.05	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	30%			Norwalk H-Nport	1.60	1.32	ROCK115	1.57	1.24	1.47	1.28	1.49	1.22	1.42	1.26	1.47	1.23	1.36	1.14	1.25	1.22	1.26	1.13	1.55	1.31	1.60	1.32	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.68	1.30	NRWK115	1.45	1.21	1.41	1.22	1.50	1.24	1.45	1.30	1.49	1.22	1.41	1.13	1.30	1.19	1.30	1.13	1.54	1.23	1.68	1.22	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
1-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.42	1.10	EDVN345	1.27	1.09	1.23	1.07	1.29	1.09	1.42	1.08	1.29	1.10	1.20	1.05	1.17	1.06	1.17	1.04	1.25	1.07	1.24	1.05	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%			Norwalk H-Nport	1.63	1.48	NRWK115	1.63	1.15	1.54	1.22	1.57	1.31	1.54	1.48	1.57	1.30	1.33	1.15	1.33	1.18	1.33	1.20	1.56	1.31	1.61	1.35	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	30%			Norwalk H-Nport	1.90	1.72	NRWK115	1.64	1.46	1.59	1.39	1.70	1.50	1.90	1.72	1.72	1.50	1.45	1.23	1.34	1.23	1.36	1.22	1.63	1.42	1.74	1.40	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph bus	Norwalk	30%			Norwalk H-Nport	1.70	1.69	NRWK115	1.56	1.28	1.54	1.35	1.70	1.37	1.70	1.69	1.69	1.36	1.40	1.18	1.43	1.19	1.42	1.21	1.55	1.36	1.66	1.35	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph bus	Plumtree	30%			Norwalk H-Nport	1.54	1.44	NRWK115	1.54	1.20	1.36	1.24	1.38	1.24	1.54	1.44	1.42	1.23	1.28	1.14	1.30	1.17	1.27	1.14	1.47	1.32	1.50	1.36	1.07	1.07	1.08	1.07	1.08	1.05	1.06	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	30%			LM-Pleasant V	1.69	1.45	STONY115	1.69	1.28	1.46	1.34	1.49	1.28	1.36	1.25	1.46	1.30	1.31	1.15	1.28	1.21	1.26	1.16	1.48	1.45	1.49	1.44	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.67	1.30	NRWK115	1.65	1.24	1.54	1.25	1.67	1.29	1.50	1.30	1.62	1.27	1.34	1.16	1.37	1.27	1.43	1.15	1.56	1.26	1.59	1.27	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
1-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.38	1.09	EDVN345	1.34	1.08	1.32	1.07	1.36	1.09	1.29	1.06	1.38	1.09	1.25	1.05	1.24	1.05	1.26	1.03	1.33	1.06	1.35	1.05	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	Norwalk (NW-PT)	30%			LM-Pleasant V	1.82	1.60	NRWK345	1.49	1.23	1.48	1.24	1.81	1.60	1.58	1.42	1.82	1.59	1.48	1.27	1.45	1.25	1.48	1.22	1.44	1.27	1.64	1.37	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph line	Singer (SI-ED)	30%			LM-Pleasant V	2.01	1.49	NRWK345	1.95	1.46	1.85	1.38	2.01	1.49	1.73	1.35	1.97	1.48	1.71	1.25	1.50	1.24	1.75	1.27	1.80	1.41	1.83	1.41	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph bus	Norwalk	30%			LM-Pleasant V	1.71	1.51	NRWK345	1.62	1.44	1.54	1.42	1.63	1.51	1.47	1.41	1.65	1.51	1.46	1.27	1.41	1.23	1.36	1.25	1.58	1.44	1.71	1.43	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04
3-Ph bus	Plumtree	30%			LM-Pleasant V	1.75	1.37	STONY115	1.58	1.32	1.38	1.31	1.50	1.34	1.40	1.31	1.45	1.36	1.38	1.18	1.37	1.18	1.32	1.20	1.61	1.37	1.75	1.35	1.07	1.06	1.07	1.06	1.07	1.05	1.05	1.03	1.05	1.04

CASE #: OLD CASE 5 + 10 MILES DATE: 16-Dec-04

DONE BY: PB POWER

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																				INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
OLD CASE 5 + 10 MILES																																						
3-Ph line	Plumtree (PT-LM)	30%				1.55	1.56	STONY115	1.55	1.29	1.45	1.47	1.41	1.25	1.31	1.27	1.40	1.21	1.34	1.17	1.30	1.20	1.27	1.18	1.55	1.56	1.50	1.51	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%				1.63	1.33	NRWK115	1.49	1.22	1.40	1.22	1.63	1.22	1.42	1.33	1.58	1.23	1.59	1.20	1.35	1.19	1.31	1.20	1.46	1.22	1.51	1.23	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
1-Ph line	East Devon (ED-BK)	30%				1.46	1.12	EDVN345	1.37	1.09	1.40	1.09	1.42	1.11	1.41	1.09	1.46	1.12	1.21	1.05	1.19	1.07	1.24	1.05	1.46	1.09	1.44	1.07	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%				1.62	1.37	ROCK115	1.55	1.14	1.45	1.16	1.62	1.19	1.37	1.26	1.56	1.18	1.28	1.16	1.45	1.15	1.38	1.16	1.55	1.25	1.51	1.37	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	30%				1.71	1.70	NRWK115	1.54	1.43	1.53	1.48	1.64	1.52	1.71	1.70	1.66	1.58	1.45	1.20	1.48	1.19	1.32	1.30	1.59	1.57	1.67	1.56	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Norwalk	30%				1.59	1.39	NRWK115	1.44	1.19	1.43	1.33	1.55	1.24	1.51	1.39	1.59	1.29	1.45	1.14	1.43	1.16	1.40	1.19	1.46	1.29	1.49	1.32	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Plumtree	30%				1.67	1.34	NRWK115	1.59	1.14	1.35	1.33	1.42	1.14	1.41	1.34	1.34	1.13	1.30	1.12	1.37	1.15	1.24	1.15	1.53	1.31	1.67	1.31	1.07	1.07	1.09	1.07	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.91	1.60	ROCK115	1.89	1.43	1.87	1.51	1.85	1.41	1.80	1.50	1.86	1.39	1.35	1.26	1.62	1.47	1.47	1.33	1.89	1.58	1.91	1.60	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
1-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.60	1.18	EDVN345	1.54	1.18	1.55	1.16	1.53	1.17	1.42	1.13	1.56	1.18	1.12	1.05	1.25	1.08	1.23	1.06	1.60	1.15	1.58	1.11	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
3-Ph line	Norwalk (NW-PT)	30%			Plum-LM	1.75	1.64	ROCK115	1.62	1.39	1.59	1.39	1.68	1.23	1.52	1.22	1.59	1.21	1.41	1.15	1.43	1.18	1.49	1.15	1.63	1.51	1.75	1.64	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
3-Ph line	Singer (SI-ED)	30%			Plum-LM	1.61	1.46	NRWK115	1.58	1.35	1.49	1.32	1.61	1.32	1.48	1.46	1.58	1.33	1.35	1.20	1.43	1.18	1.37	1.21	1.50	1.38	1.56	1.46	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
3-Ph bus	Norwalk	30%			Plum-LM	1.90	1.33	ROCK115	1.77	1.31	1.75	1.32	1.67	1.29	1.62	1.33	1.68	1.30	1.41	1.20	1.42	1.21	1.40	1.20	1.90	1.30	1.86	1.33	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
3-Ph bus	Plumtree	30%			Plum-LM	1.73	1.52	STONY115	1.61	1.32	1.60	1.39	1.47	1.23	1.29	1.23	1.46	1.20	1.32	1.17	1.40	1.19	1.30	1.16	1.73	1.52	1.70	1.48	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.04	1.08	1.06
3-Ph line	Plumtree (PT-LM)	30%			East Devon-Besek	1.98	1.74	ROCK115	1.80	1.43	1.80	1.72	1.76	1.36	1.68	1.52	1.81	1.40	1.36	1.18	1.39	1.26	1.39	1.29	1.98	1.72	1.94	1.74	1.09	1.08	1.11	1.08	1.12	1.04	1.06	1.04	1.07	1.06
3-Ph line	Norwalk (NW-PT)	30%			East Devon-Besek	2.10	1.68	ROCK115	1.47	1.31	1.51	1.47	2.06	1.60	1.62	1.47	2.10	1.62	1.28	1.17	1.40	1.28	1.48	1.45	1.59	1.58	1.73	1.68	1.09	1.08	1.11	1.08	1.12	1.04	1.06	1.04	1.07	1.06
3-Ph line	Singer (SI-ED)	30%			East Devon-Besek	1.70	1.40	NRWK115	1.51	1.16	1.55	1.23	1.68	1.19	1.63	1.40	1.70	1.23	1.34	1.21	1.60	1.19	1.45	1.17	1.55	1.20	1.55	1.27	1.09	1.08	1.11	1.08	1.12	1.04	1.06	1.04	1.07	1.06
3-Ph bus	Norwalk	30%			East Devon-Besek	1.78	1.27	ROCK115	1.56	1.19	1.44	1.21	1.75	1.24	1.47	1.25	1.78	1.26	1.36	1.16	1.53	1.19	1.37	1.17	1.43	1.26	1.44	1.27	1.09	1.08	1.11	1.08	1.12	1.04	1.06	1.04	1.07	1.06
3-Ph bus	Plumtree	30%			East Devon-Besek	1.90	1.38	STONY115	1.50	1.24	1.53	1.35	1.53	1.22	1.33	1.28	1.59	1.23	1.40	1.17	1.33	1.16	1.38	1.18	1.76	1.38	1.90	1.33	1.09	1.08	1.11	1.08	1.12	1.04	1.06	1.04	1.07	1.06
3-Ph line	Plumtree (PT-LM)	30%			Norwalk H-Nport	1.67	1.65	STONY115	1.56	1.39	1.50	1.47	1.48	1.32	1.50	1.36	1.46	1.29	1.41	1.22	1.34	1.23	1.25	1.21	1.67	1.65	1.66	1.65	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.66	1.41	ESHR115	1.57	1.25	1.48	1.33	1.63	1.26	1.57	1.38	1.66	1.29	1.52	1.16	1.48	1.41	1.34	1.21	1.44	1.30	1.50	1.29	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
1-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.54	1.13	EDVN345	1.36	1.10	1.32	1.09	1.44	1.12	1.54	1.10	1.46	1.13	1.19	1.05	1.27	1.08	1.26	1.05	1.34	1.08	1.35	1.07	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph line	Norwalk (NW-PT)	30%			Norwalk H-Nport	1.61	1.33	NRWK345	1.47	1.15	1.53	1.26	1.54	1.33	1.50	1.31	1.54	1.32	1.37	1.21	1.43	1.21	1.30	1.18	1.61	1.25	1.58	1.33	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph line	Singer (SI-ED)	30%			Norwalk H-Nport	1.54	1.41	NRWK115	1.46	1.20	1.37	1.30	1.54	1.22	1.53	1.41	1.50	1.18	1.44	1.20	1.38	1.20	1.36	1.17	1.44	1.38	1.48	1.38	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph bus	Norwalk	30%			Norwalk H-Nport	1.65	1.31	ROCK115	1.47	1.20	1.55	1.25	1.52	1.20	1.65	1.27	1.49	1.20	1.46	1.18	1.40	1.19	1.39	1.18	1.52	1.30	1.54	1.31	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph bus	Plumtree	30%			Norwalk H-Nport	1.69	1.36	ROCK115	1.45	1.18	1.40	1.28	1.39	1.18	1.39	1.22	1.41	1.18	1.40	1.16	1.34	1.17	1.33	1.15	1.63	1.33	1.69	1.36	1.08	1.07	1.09	1.08	1.09	1.06	1.06	1.04	1.07	1.05
3-Ph line	Plumtree (PT-LM)	30%			LM-Pleasant V	1.62	1.60	STONY115	1.61	1.40	1.54	1.47	1.53	1.32	1.39	1.36	1.53	1.31	1.34	1.17	1.31	1.26	1.33	1.18	1.62	1.60	1.59	1.57	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
3-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.81	1.66	ROCK115	1.67	1.46	1.61	1.44	1.74	1.46	1.63	1.52	1.76	1.56	1.38	1.32	1.54	1.38	1.49	1.36	1.61	1.60	1.81	1.66	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
1-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.52	1.16	EDVN345	1.43	1.14	1.45	1.12	1.48	1.15	1.39	1.11	1.52	1.16	1.24	1.06	1.34	1.09	1.32	1.07	1.47	1.11	1.49	1.09	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
3-Ph line	Norwalk (NW-PT)	30%			LM-Pleasant V	1.85	1.46	ROCK115	1.77	1.22	1.76	1.25	1.74	1.29	1.49	1.27	1.66	1.28	1.49	1.21	1.57	1.29	1.46	1.24	1.85	1.32	1.72	1.46	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
3-Ph line	Singer (SI-ED)	30%			LM-Pleasant V	1.63	1.48	STONY115	1.59	1.37	1.56	1.44	1.61	1.38	1.48	1.46	1.60	1.41	1.52	1.26	1.46	1.26	1.47	1.22	1.59	1.48	1.63	1.42	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
3-Ph bus	Norwalk	30%			LM-Pleasant V	1.78	1.36	PLUM115	1.71	1.33	1.77	1.36	1.72	1.34	1.59	1.34	1.69	1.35	1.52	1.23	1.46	1.26	1.62	1.24	1.72	1.32	1.78	1.30	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07
3-Ph bus	Plumtree	30%			LM-Pleasant V	1.74	1.47	STONY115	1.53	1.29	1.48	1.41	1.48	1.29	1.35	1.34	1.47	1.30	1.43	1.19	1.37	1.22	1.36	1.21	1.66	1.47	1.74	1.42	1.10	1.09	1.11	1.08	1.11	1.07	1.07	1.05	1.08	1.07

CASE #: OLD CASE 5 + 20 MILES DATE: 16-Dec-04

DONE BY: PB POWER

SWITCHING EVENT		SYSTEM CONDITIONS				MAXIMUM TOV			TOV																		INITIAL CONDITIONS									
		LOAD		SHUNT	LINE				PLUM345		PLUM115		NRWK345		NRWK115		EDVN345		BSCK345		ESHR115		FRBG115		STONY115		ROCK115		PT	PT	NW	NW	ED	BK	ES	FB	ST	RR
TYPE	LOCATION	LEVEL	CAPS	REACS	OUT	2C	6C	LOCATION (6C)	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	2C	6C	345	115	345	115	345	345	115	115	115	115
OLD CASE 5 + 20 MILES																																						
3-Ph line	Plumtree (PT-LM)	30%				1.56	1.44	STONY115	1.56	1.30	1.48	1.34	1.44	1.25	1.36	1.22	1.47	1.23	1.37	1.18	1.32	1.18	1.26	1.14	1.47	1.44	1.53	1.44	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%				1.70	1.32	ESHR115	1.50	1.21	1.43	1.26	1.67	1.26	1.46	1.27	1.70	1.29	1.46	1.18	1.47	1.32	1.35	1.23	1.44	1.23	1.56	1.25	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
1-Ph line	East Devon (ED-BK)	30%				1.61	1.13	EDVN345	1.44	1.10	1.44	1.08	1.55	1.12	1.50	1.09	1.61	1.13	1.23	1.05	1.28	1.07	1.28	1.05	1.43	1.08	1.36	1.06	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%				1.71	1.35	ROCK115	1.69	1.16	1.64	1.17	1.62	1.22	1.45	1.18	1.58	1.21	1.40	1.16	1.56	1.22	1.30	1.14	1.71	1.21	1.67	1.35	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	30%				1.54	1.41	ROCK115	1.43	1.15	1.41	1.26	1.53	1.13	1.47	1.31	1.54	1.16	1.39	1.15	1.40	1.14	1.39	1.15	1.44	1.36	1.46	1.41	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Norwalk	30%				1.68	1.27	ROCK115	1.52	1.14	1.55	1.18	1.50	1.13	1.52	1.21	1.50	1.14	1.41	1.14	1.43	1.14	1.38	1.15	1.64	1.26	1.68	1.27	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Plumtree	30%				1.78	1.31	STONY115	1.52	1.13	1.36	1.26	1.36	1.13	1.30	1.14	1.41	1.12	1.36	1.13	1.33	1.13	1.34	1.12	1.60	1.31	1.78	1.31	1.07	1.06	1.08	1.06	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%			Plum-LM	2.25	1.38	STONY115	1.89	1.34	2.05	1.30	1.86	1.33	1.84	1.27	1.92	1.36	1.43	1.20	1.90	1.20	1.51	1.23	2.08	1.38	2.25	1.36	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
1-Ph line	East Devon (ED-BK)	30%			Plum-LM	1.59	1.19	PLUM345	1.57	1.19	1.53	1.17	1.59	1.18	1.45	1.13	1.59	1.19	1.14	1.06	1.23	1.08	1.22	1.06	1.58	1.15	1.49	1.11	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
3-Ph line	Norwalk (NW-PT)	30%			Plum-LM	1.65	1.51	ROCK115	1.61	1.42	1.59	1.40	1.65	1.23	1.47	1.18	1.61	1.22	1.44	1.16	1.39	1.21	1.37	1.16	1.57	1.42	1.59	1.51	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
3-Ph line	Singer (SI-ED)	30%			Plum-LM	1.86	1.34	ROCK115	1.86	1.29	1.70	1.29	1.74	1.27	1.62	1.33	1.64	1.27	1.42	1.17	1.41	1.19	1.42	1.17	1.74	1.33	1.74	1.34	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
3-Ph bus	Norwalk	30%			Plum-LM	1.85	1.32	NRWK115	1.77	1.29	1.69	1.25	1.64	1.28	1.58	1.32	1.62	1.29	1.47	1.21	1.43	1.21	1.38	1.18	1.79	1.24	1.85	1.23	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
3-Ph bus	Plumtree	30%			Plum-LM	1.83	1.43	STONY115	1.66	1.32	1.66	1.34	1.50	1.27	1.36	1.21	1.55	1.24	1.33	1.16	1.36	1.18	1.29	1.15	1.80	1.43	1.83	1.41	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.04	1.08	1.06
3-Ph line	Plumtree (PT-LM)	30%			East Devon-Besek	1.98	1.43	ROCK115	1.86	1.39	1.91	1.35	1.75	1.36	1.69	1.26	1.82	1.34	1.31	1.17	1.51	1.17	1.42	1.14	1.98	1.41	1.86	1.43	1.09	1.08	1.11	1.08	1.11	1.04	1.06	1.04	1.07	1.06
3-Ph line	Norwalk (NW-PT)	30%			East Devon-Besek	2.06	1.60	ROCK115	1.50	1.30	1.66	1.41	2.04	1.47	1.84	1.49	2.06	1.49	1.27	1.19	1.36	1.25	1.42	1.32	1.79	1.53	1.73	1.60	1.09	1.08	1.11	1.08	1.11	1.04	1.06	1.04	1.07	1.06
3-Ph line	Singer (SI-ED)	30%			East Devon-Besek	1.88	1.30	EDVN345	1.64	1.24	1.62	1.27	1.81	1.28	1.52	1.23	1.88	1.30	1.50	1.15	1.52	1.18	1.45	1.21	1.66	1.24	1.63	1.23	1.09	1.08	1.11	1.08	1.11	1.04	1.06	1.04	1.07	1.06
3-Ph bus	Norwalk	30%			East Devon-Besek	1.87	1.33	EDVN345	1.69	1.23	1.65	1.28	1.87	1.29	1.85	1.32	1.85	1.33	1.26	1.13	1.36	1.20	1.42	1.22	1.72	1.27	1.65	1.26	1.09	1.08	1.11	1.08	1.11	1.04	1.06	1.04	1.07	1.06
3-Ph bus	Plumtree	30%			East Devon-Besek	1.82	1.42	STONY115	1.69	1.26	1.60	1.37	1.66	1.30	1.44	1.27	1.72	1.30	1.36	1.13	1.32	1.17	1.33	1.22	1.80	1.42	1.82	1.37	1.09	1.08	1.11	1.08	1.11	1.04	1.06	1.04	1.07	1.06
3-Ph line	Plumtree (PT-LM)	30%			Norwalk H-Nport	1.74	1.58	ROCK115	1.74	1.40	1.58	1.40	1.49	1.36	1.54	1.33	1.49	1.32	1.39	1.23	1.36	1.23	1.27	1.20	1.68	1.55	1.73	1.58	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.70	1.46	ROCK115	1.56	1.34	1.49	1.33	1.65	1.39	1.66	1.36	1.70	1.41	1.40	1.21	1.61	1.37	1.38	1.21	1.63	1.41	1.66	1.46	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
1-Ph line	East Devon (ED-BK)	30%			Norwalk H-Nport	1.58	1.13	EDVN345	1.45	1.10	1.41	1.09	1.53	1.12	1.54	1.11	1.58	1.13	1.16	1.05	1.30	1.07	1.27	1.05	1.39	1.08	1.38	1.07	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Norwalk (NW-PT)	30%			Norwalk H-Nport	1.74	1.31	NRWK345	1.65	1.18	1.67	1.26	1.67	1.31	1.54	1.27	1.61	1.31	1.46	1.19	1.54	1.26	1.40	1.15	1.74	1.24	1.72	1.31	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Singer (SI-ED)	30%			Norwalk H-Nport	1.62	1.30	ROCK115	1.43	1.17	1.41	1.21	1.59	1.18	1.52	1.24	1.59	1.19	1.62	1.19	1.41	1.17	1.51	1.17	1.52	1.27	1.61	1.30	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Norwalk	30%			Norwalk H-Nport	1.65	1.31	STONY115	1.53	1.17	1.50	1.28	1.55	1.21	1.65	1.25	1.60	1.21	1.36	1.17	1.36	1.18	1.35	1.17	1.50	1.31	1.57	1.27	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph bus	Plumtree	30%			Norwalk H-Nport	1.92	1.37	STONY115	1.60	1.18	1.56	1.33	1.46	1.19	1.42	1.22	1.49	1.18	1.41	1.15	1.41	1.17	1.34	1.13	1.80	1.37	1.92	1.36	1.07	1.07	1.08	1.08	1.09	1.06	1.06	1.04	1.06	1.05
3-Ph line	Plumtree (PT-LM)	30%			LM-Pleasant V	1.68	1.39	STONY115	1.68	1.36	1.58	1.39	1.47	1.28	1.44	1.37	1.47	1.25	1.32	1.19	1.34	1.19	1.28	1.21	1.59	1.39	1.54	1.38	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
3-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.87	1.52	ROCK115	1.69	1.37	1.65	1.42	1.86	1.35	1.74	1.47	1.71	1.35	1.48	1.22	1.85	1.41	1.56	1.31	1.81	1.46	1.87	1.52	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
1-Ph line	East Devon (ED-BK)	30%			LM-Pleasant V	1.60	1.16	EDVN345	1.53	1.14	1.48	1.11	1.56	1.15	1.43	1.11	1.60	1.16	1.20	1.07	1.33	1.08	1.34	1.07	1.52	1.11	1.49	1.09	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
3-Ph line	Norwalk (NW-PT)	30%			LM-Pleasant V	1.69	1.38	ROCK115	1.69	1.22	1.68	1.26	1.68	1.30	1.48	1.26	1.61	1.30	1.46	1.20	1.43	1.35	1.53	1.20	1.64	1.25	1.62	1.38	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
3-Ph line	Singer (SI-ED)	30%			LM-Pleasant V	1.59	1.36	NRWK115	1.54	1.28	1.55	1.30	1.57	1.30	1.44	1.36	1.59	1.31	1.46	1.24	1.49	1.22	1.50	1.26	1.54	1.34	1.57	1.31	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
3-Ph bus	Norwalk	30%			LM-Pleasant V	1.87	1.50	STONY115	1.68	1.35	1.59	1.46	1.66	1.31	1.51	1.41	1.61	1.27	1.47	1.20	1.46	1.23	1.51	1.27	1.71	1.50	1.87	1.44	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06
3-Ph bus	Plumtree	30%			LM-Pleasant V	1.85	1.55	STONY115	1.67	1.30	1.54	1.43	1.50	1.25	1.43	1.35	1.52	1.27	1.48	1.18	1.38	1.20	1.38	1.23	1.71	1.55	1.85	1.47	1.10	1.08	1.10	1.08	1.10	1.07	1.07	1.05	1.08	1.06

APPENDIX D - TRANSMISSION NETWORK ATP / EMTP MODEL

D-1. INTRODUCTION

D-2. ATP / EMTP MODEL DATA

APPENDIX D1 – ASPEN FILES

APPENDIX D2 – CAD DRAWINGS

APPENDIX D3 – ATP DRAW DIAGRAM

APPENDIX D4 – GENERATION DATA

APPENDIX D5 – TRANSMISSION LINES/CABLE DATA

APPENDIX D6 – TRANSFORMER DATA

APPENDIX D7 – SURGE ARRESTER DATA

APPENDIX D8 – CAPACITOR DATA

APPENDIX D9 – LOAD DATA

APPENDIX D10 – REACTOR DATA

D-1. INTRODUCTION

This appendix presents the power systems database and associated ATP/EMTP[5] model.

The modelling data presented in this document relates to the so-called Old Case 5 network configuration including the variants with 5, 10 and 20 miles of additional 345kV underground cable between East Devon and Beseck.

D-2. ATP/EMTP MODEL DATA

Network Configuration

The ATP/EMTP model has been generated using Aspen One Liner data[6] alongside CAD drawings[7] of the system as a basis. The Aspen files and CAD drawings are included within this report as Appendix D1 and Appendix D2 respectively. Where there have been differences between the Aspen and CAD drawing information the Aspen data has been taken to provide the most up-to-date information.

The model represents the system down to 115kV and includes equivalents for any circuits at voltages lower than this. The ATP Draw network diagram for the Old Case 5 configuration is shown in Appendix D3.

Generation

In general to represent the worst case system short circuit strength level no generation was included within the boundaries of the South West Connecticut network consistent with generation in the area being dispatched low in the merit order. All generation was considered to be outside the boundaries of the system consistent with the equivalent sources and associated transformer/impedance network defined in the Aspen data file provided. It should be noted, that this data represents a maximum generation dispatch at the boundaries to the modelled network.

Sensitivity studies were however undertaken in which generation at Milford 1 and Norwalk 1 was modelled. In addition the Resco Trash Burner generation was included. The data for this generation is shown in Appendix D4.

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[5] European EMTP User Group.

[6] For the initial development of the Old Case 5 model the Aspen files “phase1gevers2.rep” and “gephse1data.out” were employed.

[7] Diagram 4, “Existing System One Line Diagram” and Diagram 5 “Southwestern Connecticut Electric Reliability Project” extracted from the “Southwestern Connecticut Electric Reliability Study”, Volume 1, Final Power-Flow, Voltage and Short-Circuit Report, Presented by the ISO-NE Southwestern Connecticut Working Group, December 2002.

A sub-transient representation of equivalent sources was considered to be adequate for the low frequency issues to be addressed within these studies[8]. The equivalent source models at the boundary to the network are also shown in Appendix D4.

Transmission Lines/Cables

Transmission lines and cables were modelled using the ATP/EMTP distributed parameter transposed Clarke model. This was considered to be the most appropriate line model given the information provided by the Aspen One Liner file and GE report for the 345kV and 115kV and transmission circuits. The 345kV and 115kV circuit data is included in Appendix D5.

Transmission circuits shorter than approximately 1 mile were not modelled as distributed parameter elements due to their relatively short time constants and the demands this places on the maximum simulation time step and dimensional limitations of the ATP/EMTP program. For these circuits a pi-representation was employed. The data for these circuits is also included in Appendix D5.

Transformers

The transformer model is constructed using a three-winding saturable transformer component and a hysteretic inductance. The three windings are suitably interconnected to obtain the required winding configuration, i.e. star-auto with delta tertiary. Details of this model can be seen in Appendix D6.

Surge Arresters

In the absence of any specific data for equipment currently in use on the network, surge arresters have been modelled using typical characteristics. In the analyses undertaken by PB Power that include surge arresters, these have been considered only at the 345kV voltage level and have been assumed to be of metal oxide type. The surge arrester characteristics are shown in Appendix D7.

Capacitor Banks

During the initial development of the ATP/EMTP model the data for the shunt capacitor banks was taken from a report produced by GE[9]. However the models for the Old Case 5 system configuration were subsequently modified in accordance with revised information provided by NU[10]. The initial and revised shunt capacitor data is shown in Appendix D8.

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[8] Studies undertaken by GE (described in the report "Connecticut Cable Transient and Harmonic Study for Phase 2", November 2003) have suggested transient issues associated with 2nd to 3rd order harmonic resonances on the network to be the most prolific. It is therefore considered adequate to utilise a relatively simple equivalent source representation.

[9] Report prepared by GE Power Systems Energy Consulting for Northeast Utilities, "Connecticut Cable Transient and Harmonic Study for Phase 2", Final Report, November 2003.

[10] Capacitor and reactor dispatch schedules issued by NU (via email) on 2 December 2004.

The C-Type filter data used to prepare the network model is also shown in Appendix D8[11].

Loads

The loads on the system have been modelled as equivalents based on a PSS/E saved case supplied by ISO-NE[12]. Two load models were employed; the Series R-L model and the Complex model. Detailed load data is shown in Appendix D9.

Note that 100 % load corresponds to a total load level in the model of 4571MW.

Shunt Reactors

The shunt reactor data used to prepare the Old Case 5 models is shown in Appendix D10. This data is based on information provided by NU[10].

[11] Data for the C-Type filters was taken from the report "Harmonic Impedance Study for Southwest Connecticut Phase II Alternatives", produced by KEMA Inc. for the Connecticut Siting Council, 18 October 2004. Note that for the analysis of certain load conditions in line with the capacitor and reactor dispatch schedule stipulated by NU it was necessary for PB Power to modify this data.

[12] The PSS/E saved case file "phase2-alt2-091503-2.SAV" was used to determine equivalent system P-Q loads for the 100% system load level. The required load levels of 30%, 40%, 50% and 70% were calculated pro-rata from the 100% load data.

APPENDIX D1 – ASPEN FILES

PHASE1GEVERS2.REP

-- ASPEN OneLiner --

BASE MVA = 100.0
THIS FILE HAS: 368 BUSES
54 GENERATORS
0 LOADS
8 SHUNTS
230 LINES
127 2-WINDING TRANSFORMERS
52 3-WINDING TRANSFORMERS
14 PHASE SHIFTERS
30 MUTUAL COUPLING GROUPS

FILE COMMENTS:
NETWORK EQUIVALENT COMPUTED BY ASPEN ONELINER(Tm)

-- BUS DATA --

BUS 0 11U-SS 0.48KV AREA=7 ZONE=1
BUS 0 12U-SS 0.48KV AREA=7 ZONE=1
BUS 0 13U-SS 0.48KV AREA=7 ZONE=1
BUS 0 14U-SS 0.48KV AREA=7 ZONE=1
BUS 0 1977tap 115.KV AREA=6 ZONE=1
BUS 0 1X Bus 13.8KV AREA=9 ZONE=1
BUS 0 21S Sta serv 4.16KV AREA=1 ZONE=1
BUS 0 2X Bus 13.8KV AREA=9 ZONE=1
BUS 0 6J-21S 4.16KV AREA=1 ZONE=1
BUS 0 ALLINGS 88 115.KV AREA=10 ZONE=1
BUS 0 ALLINGS 89 115.KV AREA=10 ZONE=1
BUS 266 ANSONIA 115.KV AREA=10 ZONE=1
BUS 263 ANSONIA TAP 115.KV AREA=8 ZONE=1
BUS 0 Archers Lane 345.KV AREA=6 ZONE=1
BUS 146 ASHCREEK 115.KV AREA=666 ZONE=1
BUS 2151 BAIRD 13.8KV AREA=12 ZONE=1
BUS 151 BAIRD 88 115.KV AREA=666 ZONE=1
BUS 152 BAIRD 89 115.KV AREA=666 ZONE=1
BUS 262 BALDWIN 57 115.KV AREA=13 ZONE=1
BUS 256 BALDWIN 99 115.KV AREA=13 ZONE=1
BUS 2256 BALDWIN A2 13.8KV AREA=7 ZONE=1
BUS 2262 BALDWIN A3 13.8KV AREA=7 ZONE=1
BUS 286 BALDWIN JCTA 115.KV AREA=8 ZONE=1
BUS 277 BALDWIN JCTB 115.KV AREA=8 ZONE=1
BUS 7256 BALDWIN TER2 1.KV AREA=8 ZONE=1
BUS 7262 BALDWIN TER3 1.KV AREA=8 ZONE=1
BUS 2157 BARNUM 13.8KV AREA=12 ZONE=1
BUS 0 Barnum 71 115.KV AREA=8 ZONE=1
BUS 0 Barnum 73 115.KV AREA=8 ZONE=1
BUS 157 BARNUM 88 115.KV AREA=10 ZONE=1
BUS 156 BARNUM 89 115.KV AREA=10 ZONE=1
BUS 2202 BATES RCK A1 13.8KV AREA=7 ZONE=1
BUS 3202 BATES RCK A2 13.8KV AREA=7 ZONE=1
BUS 202 BATES ROCK 115.KV AREA=25 ZONE=1
BUS 2259 BEACON A1 13.8KV AREA=7 ZONE=1
BUS 3259 BEACON A2 13.8KV AREA=7 ZONE=1
BUS 259 BEACON FALLS 115.KV AREA=666 ZONE=1
BUS 221 BERLIN 115.KV AREA=14 ZONE=1
GENERATOR: On-Line 0.00RefAng Regulate V= 1.00p.u. at bus: 221 BERLIN 115.KV
Unit 1 On-Line 100.00MVA 0.01135R 0.10649X 0.02396R0 0.09252X0 0.01169R2 0.10666X2
BUS 282 BLACK RKTRNU 14.4KV AREA=15 ZONE=1
BUS 287 BLACK ROCK 69.KV AREA=14 ZONE=1
BUS 2279 BLACKRK A1A2 14.4KV AREA=16 ZONE=1
BUS 279 BLACKROCK 67 115.KV AREA=14 ZONE=1
SHUNT: Unit 1 On-Line 0.00000G 0.00000B 0.00000G0 -0.92740B0
BUS 281 BLACKROCK 82 115.KV AREA=14 ZONE=1
BUS 280 BLACKROCK 83 115.KV AREA=14 ZONE=1
BUS 3279 BLACKROCK A1 4.8KV AREA=16 ZONE=1
BUS 2280 BLACKROCK A2 4.8KV AREA=16 ZONE=1
BUS 2281 BLACKROCK A3 14.4KV AREA=16 ZONE=1
BUS 7281 BLK RCK TER3 1.KV AREA=15 ZONE=1
BUS 8281 BLK RCK TER4 7.2KV AREA=15 ZONE=1
BUS 272 BRANFORD 115.KV AREA=551 ZONE=1
BUS 2272 BRANFORD R1 23.KV AREA=4 ZONE=1
BUS 3272 BRANFORD R2 23.KV AREA=4 ZONE=1
BUS 225 BRANFORD RR 115.KV AREA=6 ZONE=1
BUS 0 brdgphbr 2 18.4KV AREA=1 ZONE=1
GENERATOR: On-Line 0.00RefAng Regulate V= 1.00p.u. at bus: 0 brdgphbr 2 18.4KV
Unit 2 On-Line 100.00MVA 0.00291R 0.10150X 0.00291R0 0.10150X0 0.00291R2 0.10150X2
BUS 0 brdgphbr 3 20.2KV AREA=1 ZONE=1
GENERATOR: On-Line 0.00RefAng Regulate V= 1.00p.u. at bus: 0 brdgphbr 3 20.2KV
Unit 3 On-Line 100.00MVA 0.00068R 0.05550X 0.00068R0 0.05550X0 0.00068R2 0.05550X2
BUS 0 brdgphbr jet 13.68KV AREA=1 ZONE=1
GENERATOR: On-Line 0.00RefAng Regulate V= 1.00p.u. at bus: 0 brdgphbr jet 13.68KV
Unit jt On-Line 100.00MVA 0.00800R 0.44161X 0.00800R0 0.44161X0 0.00800R2 0.44161X2
BUS 0 BRGPRT ENERG 115.KV AREA=24 ZONE=1
BUS 248 BRISTOL 115.KV AREA=14 ZONE=1
BUS 4248 BRISTOL A1 4.8KV AREA=16 ZONE=1
BUS 2248 BRISTOL A1 13.8KV AREA=16 ZONE=1
BUS 5248 BRISTOL A2 4.8KV AREA=16 ZONE=1
BUS 3248 BRISTOL A2 13.8KV AREA=16 ZONE=1
BUS 0 BROADWAY 115.KV AREA=24 ZONE=1
BUS 3213 BULLS BRIDGE 4.8KV AREA=7 ZONE=1
BUS 2213 BULLS BRIDGE 27.6KV AREA=7 ZONE=1
GENERATOR: On-Line 0.00RefAng Regulate V= 1.00p.u. at bus: 2213 BULLS BRIDGE 27.6KV
Unit 1 On-Line 100.00MVA 0.00000R 2.07039X 0.01651R0 0.14447X0 0.00000R2 2.07039X2
SHUNT: Unit 1 On-Line 0.00000G 0.00000B 0.00000G0 -0.46730B0
BUS 213 BULLS BRIDGE 115.KV AREA=6 ZONE=1

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BUS   230 BUNKERHILL57  115.KV  AREA=55  ZONE=1
BUS   232 BUNKERHILL58  115.KV  AREA=55  ZONE=1
BUS   231 BUNKERHILL66  115.KV  AREA=55  ZONE=1
BUS  2232 BUNKERHILLA3  13.8KV  AREA=7  ZONE=1
BUS  2230 BUNKERHILLA4  13.8KV  AREA=7  ZONE=1
BUS   288 BURRITT        69.KV  AREA=14  ZONE=1
BUS     0 BUS 1X        115.KV  AREA=6  ZONE=1
BUS     0 BUS2X         115.KV  AREA=6  ZONE=1
BUS   407 CAMPVILLE     115.KV  AREA=13  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   407 CAMPVILLE     115.KV
              Unit  1   On-Line   100.00MVA   0.03700R   0.24144X   0.05694R0   0.22116X0   0.03700R2   0.24145X2
BUS  2240 CANAL          23.KV  AREA=16  ZONE=1
BUS   240 CANAL         115.KV  AREA=14  ZONE=1
BUS   471 CARD          345.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   471 CARD          345.KV
              Unit  1   On-Line   100.00MVA   0.00165R   0.02370X   0.00647R0   0.03389X0   0.00224R2   0.02394X2
BUS  2218 CARMEL HILL    23.KV  AREA=7  ZONE=1
BUS   218 CARMEL HILL   115.KV  AREA=13  ZONE=1
BUS     0 CEDAR HTS 75  115.KV  AREA=6  ZONE=1
BUS   113 CEDAR HTS 79  115.KV  AREA=6  ZONE=1
BUS  2113 CEDAR HTS A2  13.2KV  AREA=7  ZONE=1
BUS  2112 CEDAR HTS A3  13.2KV  AREA=7  ZONE=1
BUS  7113 CEDAR HTS T2    1.KV  AREA=8  ZONE=1
BUS  7112 CEDAR HTS T3    1.KV  AREA=8  ZONE=1
BUS     0 CedHtsFdr     13.2KV  AREA=7  ZONE=1
BUS   249 CHIPPEN HILL  115.KV  AREA=14  ZONE=1
BUS   247 CHIPPEN TAP   115.KV  AREA=15  ZONE=1
BUS  2249 CHIPPENHL A1  13.8KV  AREA=16  ZONE=1
BUS  3249 CHIPPENHL A2  13.8KV  AREA=16  ZONE=1
BUS  7249 CHIPPENHL T1    1.KV  AREA=15  ZONE=1
BUS  8249 CHIPPENHL T2    1.KV  AREA=15  ZONE=1
BUS   301 COLONY        115.KV  AREA=14  ZONE=1
BUS     0 COMPO         115.KV  AREA=10  ZONE=1
BUS  2181 CONGRESS      13.8KV  AREA=12  ZONE=1
BUS   181 CONGRESS 88   115.KV  AREA=10  ZONE=1
BUS   182 CONGRESS 89   115.KV  AREA=10  ZONE=1
BUS   100 COS COB       115.KV  AREA=6  ZONE=1
BUS  2100 COS COB A1    27.6KV  AREA=7  ZONE=1
BUS  3100 COS COB A2A3  27.6KV  AREA=7  ZONE=1
BUS     0 COSCOBGEN     13.8KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 COSCOBGEN     13.8KV
              Unit  3   On-Line    25.00MVA   0.00270R   0.12000X   0.00270R0   0.06000X0   0.00270R2   0.13000X2
              Unit  2   On-Line    25.00MVA   0.00270R   0.12000X   0.00270R0   0.06000X0   0.00270R2   0.13000X2
              Unit  1   On-Line    25.00MVA   0.00270R   0.12000X   0.00270R0   0.06000X0   0.00270R2   0.13000X2
BUS     0 CRS SOUN CBL  345.KV  AREA=10  ZONE=1
BUS   115 DARIEN        115.KV  AREA=6  ZONE=1
BUS  2115 DARIEN A1     13.2KV  AREA=7  ZONE=1
BUS  3115 DARIEN A2     13.2KV  AREA=7  ZONE=1
BUS  7115 DARIEN TERT1 12.47KV  AREA=8  ZONE=1
BUS  8115 DARIEN TERT2 12.47KV  AREA=8  ZONE=1
BUS   264 DERBY TAP     115.KV  AREA=8  ZONE=1
BUS     0 DEVON 11U     13.8KV  AREA=7  ZONE=1
    GENERATOR:          On-Line   30.00RefAng Regulate V=   1.00p.u. at bus:     0 DEVON 11U     13.8KV
              Unit  1   On-Line   100.00MVA   0.00280R   0.22500X   0.00280R0 99999.00000X0   0.00280R2   0.22500X2
BUS     0 DEVON 12U     13.8KV  AREA=7  ZONE=1
    GENERATOR:          On-Line   30.00RefAng Regulate V=   1.00p.u. at bus:     0 DEVON 12U     13.8KV
              Unit  1   On-Line   100.00MVA   0.00280R   0.22500X   0.00280R0 99999.00000X0   0.00280R2   0.22500X2
BUS     0 DEVON 13U     13.8KV  AREA=7  ZONE=1
    GENERATOR:          On-Line   30.00RefAng Regulate V=   1.00p.u. at bus:     0 DEVON 13U     13.8KV
              Unit  1   On-Line   100.00MVA   0.00280R   0.22500X   0.00280R0 99999.00000X0   0.00280R2   0.22500X2
BUS     0 DEVON 14U     13.8KV  AREA=7  ZONE=1
    GENERATOR:          On-Line   30.00RefAng Regulate V=   1.00p.u. at bus:     0 DEVON 14U     13.8KV
              Unit  1   On-Line   100.00MVA   0.00280R   0.22500X   0.00280R0 99999.00000X0   0.00280R2   0.22500X2
BUS     0 Devon Ring 1  115.KV  AREA=551  ZONE=1
BUS     0 Devon Ring 2  115.KV  AREA=551  ZONE=1
BUS     0 Devon RR      115.KV  AREA=1  ZONE=1
BUS   170 DEVON TIE 88  115.KV  AREA=666  ZONE=1
BUS   171 DEVON TIE 89  115.KV  AREA=666  ZONE=1
BUS   290 E. MERIDEN    115.KV  AREA=14  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   290 E. MERIDEN    115.KV
              Unit  1   On-Line   100.00MVA   0.04458R   0.54017X   0.10999R0   0.40108X0   0.04431R2   0.53998X2
BUS   190 E.MAINTAP 88  115.KV  AREA=10  ZONE=1
BUS   191 E.MAINTAP 89  115.KV  AREA=10  ZONE=1
BUS   292 EAST SHORE    115.KV  AREA=10  ZONE=1
BUS   291 EAST SHORE    345.KV  AREA=10  ZONE=1
BUS  2176 ELMWEST       13.8KV  AREA=12  ZONE=1
BUS   176 ELMWEST 88    115.KV  AREA=10  ZONE=1
BUS   177 ELMWEST 89    115.KV  AREA=10  ZONE=1
BUS   160 ELY AVE       115.KV  AREA=8  ZONE=1
BUS     0 ely jct       115.KV  AREA=8  ZONE=1
BUS     0 ely jct2      115.KV  AREA=8  ZONE=1
BUS  2480 ENFIELD        23.KV  AREA=4  ZONE=1
BUS     0 English      13.68KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 English      13.68KV
              Unit  8   On-Line   100.00MVA   0.00237R   0.18979X   0.00237R0   0.18979X0   0.00237R2   0.18979X2
              Unit  7   On-Line   100.00MVA   0.00294R   0.23049X   0.00294R0   0.23049X0   0.00294R2   0.23049X2
BUS     0 ESHOREGEN     13.8KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 ESHOREGEN     13.8KV
              Unit  1   On-Line   100.00MVA   0.00051R   0.03599X   0.00000R0 99999.00000X0   0.00051R2   0.03599X2
BUS   134 FLAX HILL     115.KV  AREA=6  ZONE=1
BUS  2134 FLAX HILL A2  13.8KV  AREA=7  ZONE=1
BUS  3134 FLAX HILL A3  13.8KV  AREA=7  ZONE=1
BUS  2246 FORESTVIL A1  13.8KV  AREA=16  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:  2246 FORESTVIL A1  13.8KV
              Unit  1   On-Line   100.00MVA   0.21100R   1.31660X  11.60210R0   3.20630X0   0.21100R2   1.31660X2
BUS  3246 FORESTVIL A3  13.8KV  AREA=16  ZONE=1
BUS  7246 FORESTVIL T1    1.KV  AREA=15  ZONE=1
BUS  8246 FORESTVIL T2    1.KV  AREA=15  ZONE=1
BUS  9246 FORESTVIL T3 12.47KV  AREA=15  ZONE=1
BUS   246 FORESTVILLE   115.KV  AREA=14  ZONE=1
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BUS   233 FREIGHT       115.KV  AREA=13  ZONE=1
BUS  2233 FREIGHT A1    13.8KV  AREA=7  ZONE=1
BUS  3233 FREIGHT A3    13.8KV  AREA=7  ZONE=1
BUS  7233 FREIGHT TER1    1.KV  AREA=8  ZONE=1
BUS  8233 FREIGHT TER2    1.KV  AREA=8  ZONE=1
BUS  9233 FREIGHT TER3    1.KV  AREA=8  ZONE=1
BUS  7228 FROST BRIDGE  34.5KV  AREA=8  ZONE=1
BUS     0 Frost bridge  115.KV  AREA=25  ZONE=1
BUS   228 FROST BRIDGE  345.KV  AREA=25  ZONE=1
BUS   229 frst brdg tp  115.KV  AREA=13  ZONE=1
BUS     0 G1/G2         13.8KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 G1/G2         13.8KV
              Unit  1   On-Line    71.18MVA   0.00064R   0.07200X   0.00064R0   0.04750X0   0.00064R2   0.08800X2
BUS     0 G3/G4         13.8KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 G3/G4         13.8KV
              Unit  1   On-Line    71.18MVA   0.00064R   0.07200X   0.00064R0   0.04750X0   0.00064R2   0.08800X2
BUS     0 G5            13.8KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 G5            13.8KV
              Unit  1   On-Line    71.18MVA   0.00127R   0.14400X   0.00127R0   0.09500X0   0.00127R2   0.17600X2
BUS     0 Glenbrook     13.2KV  AREA=7  ZONE=1
BUS   110 GLENBROOK     115.KV  AREA=6  ZONE=1
BUS     0 Glenbrook 3X  7.26KV  AREA=551  ZONE=1
BUS  2110 Glenbrook 3X  13.2KV  AREA=7  ZONE=1
BUS  7110 GLENBROOK T1  7.26KV  AREA=8  ZONE=1
BUS  8110 GLENBROOK T2  7.26KV  AREA=8  ZONE=1
BUS   273 GLENLAKE JCT  115.KV  AREA=8  ZONE=1
BUS   187 GRAND AVE.    115.KV  AREA=10  ZONE=1
BUS   293 GREEN HILL    115.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   293 GREEN HILL    115.KV
              Unit  1   On-Line   100.00MVA   0.02185R   0.44733X   0.17880R0   0.69233X0   0.02156R2   0.44712X2
BUS     0 GT1 (11)       16.KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 GT1 (11)       16.KV
              Unit  1   On-Line   100.00MVA   0.00078R   0.06250X   0.00078R0   0.06250X0   0.00078R2   0.06250X2
BUS     0 GT2 (12)       16.KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 GT2 (12)       16.KV
              Unit  1   On-Line   100.00MVA   0.00078R   0.06250X   0.00078R0   0.06250X0   0.00078R2   0.06250X2
BUS    12 HADDAM NECK   345.KV  AREA=551  ZONE=1
BUS  4298 HANOVER        4.8KV  AREA=16  ZONE=1
BUS     0 HANOVER 23A    23.KV  AREA=1  ZONE=1
BUS   299 HANOVER 60     115.KV  AREA=55  ZONE=1
BUS   298 HANOVER 63     115.KV  AREA=55  ZONE=1
BUS  3299 HANOVER A2     13.8KV  AREA=16  ZONE=1
BUS  3298 HANOVER A3     13.8KV  AREA=16  ZONE=1
BUS  8299 HANOVER TER2    1.KV  AREA=15  ZONE=1
BUS  7298 HANOVER TER3    1.KV  AREA=15  ZONE=1
BUS     0 HANOVER TER5   13.2KV  AREA=1  ZONE=1
BUS   140 HAWTHORNE      115.KV  AREA=666  ZONE=1
BUS   265 INDIAN WELL    115.KV  AREA=10  ZONE=1
    SHUNT:      Unit  1  On-Line   0.00000G   0.00000B   0.20580G0  -4.84570B0
BUS   269 JUNE ST        115.KV  AREA=666  ZONE=1
BUS   239 LONG MTN       345.KV  AREA=25  ZONE=1
BUS     0 low side       13.8KV  AREA=1  ZONE=1
BUS   251 LUCCINI J251   115.KV  AREA=15  ZONE=1
BUS   300 LUCCINI J300   115.KV  AREA=15  ZONE=1
BUS   470 MANCHSTER      345.KV  AREA=551  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   470 MANCHSTER     345.KV
              Unit  1   On-Line   100.00MVA   0.00095R   0.02169X   0.00408R0   0.02202X0   0.00096R2   0.02170X2
BUS     0 MERIDEN GEN    345.KV  AREA=1  ZONE=1
BUS     0 MERIDEN TAP    345.KV  AREA=777  ZONE=1
BUS   205 MIDDLE RIVER   115.KV  AREA=6  ZONE=1
BUS  2205 MIDDLE RVRA2   13.8KV  AREA=7  ZONE=1
BUS  3205 MIDDLE RVRA3   13.8KV  AREA=7  ZONE=1
BUS    15 MIDDLETOWN     345.KV  AREA=2  ZONE=1
BUS     0 Middletown 4    22.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Middletown 4   22.KV
              Unit  1   On-Line   461.00MVA   0.00460R   0.15500X   0.00460R0   0.12000X0   0.02300R2   0.15500X2
BUS     0 Milford        115.KV  AREA=551  ZONE=1
BUS     0 Milford 1      20.9KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Milford 1     20.9KV
              Unit  1   On-Line   340.00MVA   0.00220R   0.14000X   0.00080R0   0.05900X0   0.01400R2   0.15000X2
BUS     0 Milford 2      20.9KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Milford 2     20.9KV
              Unit  1   On-Line   340.00MVA   0.00220R   0.14000X   0.00080R0   0.05900X0   0.01400R2   0.15000X2
BUS     0 MILL RIVER     115.KV  AREA=24  ZONE=1
BUS    26 MILLS U2 RSS   345.KV  AREA=17  ZONE=1
    SHUNT:      Unit  1  On-Line   0.00000G   0.00000B   0.07198G0  -1.46120B0
BUS    27 MILLS U3 RSS   345.KV  AREA=17  ZONE=1
    SHUNT:      Unit  1  On-Line   0.00000G   0.00000B   0.29260G0  -4.82630B0
BUS    29 MILLSTONE      345.KV  AREA=551  ZONE=1
BUS    22 MILLSTONE U2   22.8KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:    22 MILLSTONE U2  22.8KV
              Unit  1   On-Line   100.00MVA   0.00048R   0.02540X   0.00048R0 9999.00000X0   0.00048R2   0.02540X2
BUS    23 MILLSTONE U3   22.8KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:    23 MILLSTONE U3  22.8KV
              Unit  1   On-Line   100.00MVA   0.00037R   0.02370X   0.00037R0 9999.00000X0   0.00037R2   0.02370X2
BUS  2172 MILVON         13.8KV  AREA=12  ZONE=1
BUS   172 MILVON 88      115.KV  AREA=10  ZONE=1
BUS   173 MILVON 89      115.KV  AREA=10  ZONE=1
BUS   296 MIX AVE        115.KV  AREA=10  ZONE=1
BUS    24 MONTVILLE      345.KV  AREA=55  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:    24 MONTVILLE     345.KV
              Unit  1   On-Line   100.00MVA   0.00099R   0.04890X   0.00088R0   0.02529X0   0.00079R2   0.04885X2
BUS  2260 NEWTOWN        13.8KV  AREA=7  ZONE=1
BUS   260 NEWTOWN        115.KV  AREA=6  ZONE=1
BUS   274 NO. HAVEN      115.KV  AREA=10  ZONE=1
BUS  3234 NOERA           4.8KV  AREA=7  ZONE=1
BUS  2234 NOERA A1       13.8KV  AREA=7  ZONE=1
BUS  2235 NOERA A2       13.8KV  AREA=7  ZONE=1
BUS   236 NOERA TAP 16   115.KV  AREA=8  ZONE=1
BUS   237 NOERA TAP 55   115.KV  AREA=8  ZONE=1
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BUS   234 NOERA116      115.KV  AREA=13  ZONE=1
BUS   235 NOERA155      115.KV  AREA=13  ZONE=1
BUS   123 NORPORT CA    138.KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   123 NORPORT CA    138.KV
              Unit  1  On-Line   100.00MVA   0.00072R   0.02376X   0.00081R0   0.02126X0   0.00094R2   0.02376X2
BUS  5135 NORWALK        4.8KV  AREA=7  ZONE=1
BUS  2135 NORWALK       27.6KV  AREA=7  ZONE=1
    GENERATOR:         Off-Line    0.00RefAng Regulate V=   1.00p.u. at bus:  2135 NORWALK       27.6KV
              Unit  1 Off-Line   100.00MVA   0.00000R   9.91080X   0.00000R0 9999.00000X0   0.00000R2   9.91080X2
BUS   135 NORWALK       115.KV  AREA=55  ZONE=33
BUS     0 Norwalk       345.KV  AREA=6  ZONE=1
BUS  3135 NORWALK A5    13.8KV  AREA=7  ZONE=1
BUS  4135 NORWALK A6    13.8KV  AREA=7  ZONE=1
BUS   121 NORWALK HARB  115.KV  AREA=551  ZONE=1
BUS     0 Norwalk Jct   345.KV  AREA=6  ZONE=1
    SHUNT:     Unit  2  On-Line   0.00275G  -1.50000B   0.00275G0  -1.50000B0
    SHUNT:     Unit  1  On-Line   0.00275G  -1.50000B   0.00275G0  -1.50000B0
BUS  7135 NORWALK T3     4.8KV  AREA=8  ZONE=1
BUS   136 NORWALK TRNU  27.6KV  AREA=8  ZONE=1
BUS  5053 NRTHPT P EQ   138.KV  AREA=3  ZONE=11
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:  5053 NRTHPT P EQ   138.KV
              Unit  1   On-Line   100.00MVA   0.00064R   0.02369X   0.00071R0   0.02116X0   0.00085R2   0.02369X2
BUS   252 NWALLINGFORD  115.KV  AREA=14  ZONE=1
BUS     0 NWHARBOR      138.KV  AREA=6  ZONE=1
BUS   142 OLD TOWN      115.KV  AREA=666  ZONE=1
BUS     0 one            21.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 one            21.KV
              Unit  1   On-Line   234.00MVA   0.00375R   0.15000X   0.00375R0   0.15000X0   0.00375R2   0.15000X2
BUS     0 PEACABLE B1   13.8KV  AREA=6  ZONE=1
BUS   138 PEACEABLE 47  115.KV  AREA=6  ZONE=1
BUS   137 PEACEABLE 56  115.KV  AREA=6  ZONE=1
BUS  2138 PEACEABLE B2  13.8KV  AREA=7  ZONE=1
BUS   145 PEQUONOCK     115.KV  AREA=55  ZONE=1
BUS     0 PLEASANT VAL  345.KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 PLEASANT VAL  345.KV
              Unit  1   On-Line   100.00MVA   0.00035R   0.00509X   0.00376R0   0.01297X0   0.00035R2   0.00509X2
BUS   206 PLUMTREE      115.KV  AREA=25  ZONE=1
BUS   207 PLUMTREE      345.KV  AREA=25  ZONE=1
    SHUNT:     Unit  1  On-Line   0.00275G  -1.50000B   0.00275G0  -1.50000B0
BUS  7207 PLUMTREE T1   34.5KV  AREA=8  ZONE=1
BUS  8207 PLUMTREE T2   34.5KV  AREA=8  ZONE=1
BUS   297 QUINNIPIAC    115.KV  AREA=10  ZONE=1
BUS     0 Railroad225  47.63KV  AREA=1  ZONE=1
BUS     0 Railroad55     55.KV  AREA=1  ZONE=1
BUS   130 RDGFLDTAP47   115.KV  AREA=8  ZONE=1
BUS   131 RDGFLDTAP56   115.KV  AREA=8  ZONE=1
BUS   148 RESCO         115.KV  AREA=666  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   148 RESCO         115.KV
              Unit  1   On-Line   100.00MVA   0.00645R   0.41050X 99999.00000R0 9999.00000X0   0.00645R2   0.41050X2
    SHUNT:     Unit  1  On-Line   0.00000G   0.00000B   0.14050G0  -5.58620B0
BUS   147 RESCO TAP     115.KV  AREA=11  ZONE=1
BUS   278 RESEV RD JCT  115.KV  AREA=15  ZONE=1
BUS   132 RIDGEFIELD47  115.KV  AREA=6  ZONE=1
BUS   133 RIDGEFIELD56  115.KV  AREA=6  ZONE=1
BUS  2133 RIDGEFIELDA2  13.8KV  AREA=7  ZONE=1
BUS  2132 RIDGEFIELDA3  13.8KV  AREA=7  ZONE=1
BUS   212 ROCKY RIVER   115.KV  AREA=25  ZONE=1
BUS   208 ROCKY RVR U1  13.8KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   208 ROCKY RVR U1  13.8KV
              Unit  1   On-Line   100.00MVA   0.00000R   3.79750X   0.00000R0 9999.00000X0   0.00000R2   3.79750X2
BUS   209 ROCKY RVR U2  13.8KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   209 ROCKY RVR U2  13.8KV
              Unit  1   On-Line   100.00MVA   0.00000R   3.79750X   0.00000R0 9999.00000X0   0.00000R2   3.79750X2
BUS   210 ROCKY RVR U3  13.8KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   210 ROCKY RVR U3  13.8KV
              Unit  1   On-Line   100.00MVA   0.00000R   1.00000X   0.00000R0 9999.00000X0   0.00000R2   1.00000X2
BUS  2212 ROCKYRVR 23   13.8KV  AREA=25  ZONE=1
BUS   120 ROWAYTNJCT86  115.KV  AREA=8  ZONE=1
BUS   119 ROWAYTNJCT88  115.KV  AREA=8  ZONE=1
BUS     0 RR 1ph model  23.9KV  AREA=1  ZONE=1
BUS     0 RR 3ph model  27.6KV  AREA=1  ZONE=1
BUS     0 Rt58/Hoyte    345.KV  AREA=6  ZONE=1
BUS   258 S. NAUG 80    115.KV  AREA=13  ZONE=1
BUS   257 S. NAUG 85    115.KV  AREA=13  ZONE=1
BUS  7258 S. NAUG TER1   4.8KV  AREA=8  ZONE=1
BUS  7257 S. NAUG TER2   4.8KV  AREA=8  ZONE=1
BUS  2257 S. NAUGATUCK  13.8KV  AREA=7  ZONE=1
BUS   189 SACK PH SHFT  115.KV  AREA=10  ZONE=1
BUS   295 SACKETT       115.KV  AREA=10  ZONE=1
BUS  2217 SANDY HOOK     23.KV  AREA=7  ZONE=1
BUS   217 SANDY HOOK    115.KV  AREA=6  ZONE=1
BUS   126 SASCO CREEK   115.KV  AREA=6  ZONE=1
BUS    13 SCOVILL RCK   345.KV  AREA=551  ZONE=1
BUS  3242 SGTN A         4.8KV  AREA=16  ZONE=1
BUS   241 SGTN RING 1   115.KV  AREA=55  ZONE=1
BUS   242 SGTN RING 2   115.KV  AREA=55  ZONE=1
BUS  7250 SGTN TER1     13.2KV  AREA=15  ZONE=1
BUS  7242 SGTN TER11     4.8KV  AREA=15  ZONE=1
BUS  8250 SGTN TER3     34.5 KV  AREA=15  ZONE=1
BUS  7241 SGTN TER5       1.KV  AREA=15  ZONE=1
BUS  2227 SHAWS HILL    13.8KV  AREA=7  ZONE=1
BUS   227 SHAWS HILL    115.KV  AREA=13  ZONE=1
BUS  7201 SHEPAUG        6.6KV  AREA=8  ZONE=1
BUS     0 Shepaug       13.8KV  AREA=24  ZONE=1
BUS   203 SHEPAUG        69.KV  AREA=25  ZONE=1
BUS   201 SHEPAUG       115.KV  AREA=25  ZONE=1
BUS     0 Shepaug Gen   13.8KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Shepaug Gen   13.8KV
              Unit  1   On-Line   100.00MVA   0.00000R   0.61710X   0.00540R0   0.36570X0   0.00000R2   0.61710X2
BUS     0 so norwalk    27.6KV  AREA=9  ZONE=1
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BUS     0 so norwalk a   4.8KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 so norwalk a   4.8KV
              Unit  1   On-Line   100.00MVA   0.06570R   1.90600X   0.06570R0 99999.00000X0   0.06570R2   1.90600X2
BUS     0 so norwalk b   4.8KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 so norwalk b   4.8KV
              Unit  1   On-Line   100.00MVA   0.10760R   3.12000X   0.10760R0 99999.00000X0   0.10760R2   3.12000X2
BUS     0 so norwalk g  13.8KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 so norwalk g  13.8KV
              Unit  1   On-Line   100.00MVA   0.07470R   2.24000X   0.07470R0 99999.00000X0   0.07470R2   2.24000X2
BUS   102 SOUTH END 43  115.KV  AREA=6  ZONE=1
BUS   103 SOUTH END 45  115.KV  AREA=6  ZONE=1
BUS   104 SOUTH END 75  115.KV  AREA=6  ZONE=1
BUS  2102 SOUTH END A1  13.2KV  AREA=7  ZONE=1
BUS  2103 SOUTH END A3  13.2KV  AREA=7  ZONE=1
BUS  7104 SOUTH END T1  7.97KV  AREA=8  ZONE=1
BUS  7102 SOUTH END T2  7.97KV  AREA=8  ZONE=1
BUS  7103 SOUTH END T3    1.KV  AREA=8  ZONE=1
BUS  2241 SOUTHINGTON   13.8KV  AREA=16  ZONE=1
BUS  2242 SOUTHINGTON   27.6KV  AREA=16  ZONE=1
BUS   250 SOUTHINGTON   345.KV  AREA=551  ZONE=1
BUS     0 ST1 (10)       16.KV  AREA=24  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 ST1 (10)       16.KV
              Unit  1   On-Line   100.00MVA   0.00100R   0.07720X   0.00100R0   0.07720X0   0.00100R2   0.07720X2
BUS     0 statcom a     14.6KV  AREA=1  ZONE=1
BUS     0 statcom b     14.6KV  AREA=1  ZONE=1
BUS   226 STEVENSON      6.9KV  AREA=17  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:   226 STEVENSON      6.9KV
              Unit  1   On-Line   100.00MVA   0.00000R   0.89000X   0.00000R0 9999.00000X0   0.00000R2   0.89000X2
BUS  2261 STEVENSON     27.6KV  AREA=7  ZONE=1
BUS   261 STEVENSON     115.KV  AREA=666  ZONE=1
BUS   199 STONY HILL    115.KV  AREA=25  ZONE=1
BUS     0 STONY HL TP1  115.KV  AREA=24  ZONE=1
BUS     0 STONY HL TP2  115.KV  AREA=24  ZONE=1
BUS  2199 STONYHILL A1  13.8KV  AREA=7  ZONE=1
BUS  3199 STONYHILL A2  13.8KV  AREA=7  ZONE=1
BUS     0 Temp Gen      13.8KV  AREA=1  ZONE=1
    GENERATOR:         Off-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Temp Gen      13.8KV
              Unit  3  Off-Line    32.24MVA   0.00820R   0.17200X   0.00000R0   0.10500X0   0.00000R2   0.16800X2
              Unit  2  Off-Line    32.24MVA   0.00820R   0.17200X   0.00000R0   0.10500X0   0.00000R2   0.16800X2
              Unit  1  Off-Line    32.24MVA   0.00820R   0.17200X   0.00000R0   0.10500X0   0.00000R2   0.16800X2
BUS     0 test wally    115.KV  AREA=14  ZONE=1
BUS   406 THOMASTON     115.KV  AREA=13  ZONE=1
BUS  2406 THOMASTON A2  13.2KV  AREA=7  ZONE=1
BUS  3406 THOMASTON A3  13.2KV  AREA=7  ZONE=1
BUS     0 three          21.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 three          21.KV
              Unit  1   On-Line   234.00MVA   0.00375R   0.15000X   0.00375R0   0.15000X0   0.00375R2   0.15000X2
BUS  2238 TODD          13.8KV  AREA=7  ZONE=1
BUS   238 TODD          115.KV  AREA=13  ZONE=1
BUS  7238 TODD TER1       1.KV  AREA=8  ZONE=1
BUS  2105 TOMAC         27.6KV  AREA=7  ZONE=1
BUS   105 TOMAC         115.KV  AREA=6  ZONE=1
BUS     0 tranxerg      200.KV  AREA=1  ZONE=1
BUS   268 TRAP FALLS    115.KV  AREA=666  ZONE=1
BUS   204 TRIANGLE      115.KV  AREA=6  ZONE=1
BUS  2204 TRIANGLE A1   13.8KV  AREA=7  ZONE=1
BUS  3204 TRIANGLE A2   13.8 KV  AREA=7  ZONE=1
BUS  4204 TRIANGLE A3   13.8KV  AREA=7  ZONE=1
BUS   143 TRUMBULL 71   115.KV  AREA=8  ZONE=1
BUS     0 TRUMBULL 73   115.KV  AREA=8  ZONE=1
BUS     0 two            21.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 two            21.KV
              Unit  1   On-Line   234.00MVA   0.00375R   0.15000X   0.00375R0   0.15000X0   0.00375R2   0.15000X2
BUS   243 UAC TAP       115.KV  AREA=15  ZONE=1
BUS     0 ug tap        115.KV  AREA=6  ZONE=1
BUS     0 Unit 10       13.8KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 10       13.8KV
              Unit  1   On-Line   100.00MVA   0.00690R   0.48000X   0.00690R0   0.24000X0   0.00690R2   0.52000X2
BUS     0 Unit 6J-1     17.1KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 6J-1     17.1KV
              Unit  1   On-Line   100.00MVA   0.00150R   0.12000X   0.00150R0   0.12000X0   0.00150R2   0.12000X2
BUS     0 Unit 6J-10    13.8KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 6J-10    13.8KV
              Unit  1   On-Line   100.00MVA   0.00690R   0.48000X   0.00690R0   0.24000X0   0.00690R2   0.52000X2
BUS     0 Unit 6J-2      19.KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 6J-2      19.KV
              Unit  1   On-Line   100.00MVA   0.00130R   0.10290X   0.00130R0   0.10290X0   0.00130R2   0.10290X2
BUS     0 Unit 7        13.2KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 7        13.2KV
              Unit  1   On-Line   100.00MVA   0.00250R   0.19810X   0.00250R0   0.19810X0   0.00250R2   0.19810X2
BUS     0 Unit 8        13.2KV  AREA=1  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 Unit 8        13.2KV
              Unit  1   On-Line   100.00MVA   0.00250R   0.19810X   0.00250R0   0.19810X0   0.00250R2   0.19810X2
BUS   244 UTECH         115.KV  AREA=14  ZONE=1
BUS   245 UTECHALT      115.KV  AREA=14  ZONE=1
BUS   211 W. BROOKFLD   115.KV  AREA=25  ZONE=1
BUS   178 W. RIVER 88   115.KV  AREA=10  ZONE=1
BUS  2211 W.BROOKFLDA1  13.8KV  AREA=7  ZONE=1
BUS  3211 W.BROOKFLDA2  13.8KV  AREA=7  ZONE=1
BUS   271 WALLNGFRDSUB  115.KV  AREA=551  ZONE=1
BUS     0 WALLY BUS T   13.8KV  AREA=1  ZONE=1
BUS     0 WALLY BUS V   13.8KV  AREA=1  ZONE=1
BUS     0 WALLY BUS W   13.8KV  AREA=1  ZONE=1
BUS     0 WALLY BUS Z   13.8KV  AREA=1  ZONE=1
BUS   284 WALREC TAP    115.KV  AREA=15  ZONE=1
BUS     0 walrecgen     4.16KV  AREA=9  ZONE=1
    GENERATOR:          On-Line    0.00RefAng Regulate V=   1.00p.u. at bus:     0 walrecgen     4.16KV
              Unit  1   On-Line    12.22MVA   0.00514R   0.18000X   0.00514R0   0.12100X0   0.00514R2   0.29500X2
BUS   180 WATER ST      115.KV  AREA=10  ZONE=1
BUS   101 WATERSIDE     115.KV  AREA=6  ZONE=1
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BUS  2101 WATERSIDE A2  13.8KV  AREA=7  ZONE=1
BUS  3101 WATERSIDE A3  13.8KV  AREA=7  ZONE=1
BUS  7101 WATERSIDE T2    1.KV  AREA=8  ZONE=1
BUS  8101 WATERSIDE T3  13.8KV  AREA=8  ZONE=1
BUS  2149 WESTON        27.6KV  AREA=7  ZONE=1
BUS   150 WESTON 63     115.KV  AREA=666  ZONE=1
BUS   149 WESTON 73     115.KV  AREA=6  ZONE=1
BUS  7150 WESTON T1       1.KV  AREA=8  ZONE=1
BUS  7149 WESTON T2     5.04KV  AREA=8  ZONE=1
BUS  2192 WOODMONT      13.8KV  AREA=12  ZONE=1
BUS   192 WOODMONT 88   115.KV  AREA=10  ZONE=1
BUS   193 WOODMONT 89   115.KV  AREA=10  ZONE=1

                                                    -- BRANCH DATA --

BUS     0 11U-SS        0.48KV
    T      0 11U-SS        0.48KV -     0 DEVON 11U     13.8KV 7R-31S
       0.189000R    1.890000X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
       0.189000R0   1.890000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 12U-SS        0.48KV
    T      0 12U-SS        0.48KV -     0 DEVON 12U     13.8KV 7R-32S
       0.187660R    1.876660X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
       0.187660R0   1.876660X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 13U-SS        0.48KV
    T      0 13U-SS        0.48KV -     0 DEVON 13U     13.8KV 7R-33S
       0.189660R    1.896660X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
       0.189660R0   1.896660X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 14U-SS        0.48KV
    T      0 14U-SS        0.48KV -     0 DEVON 14U     13.8KV 7R-34S
       0.189000R    1.890000X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
       0.189000R0   1.890000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 1977tap       115.KV
   0L      0 1977tap       115.KV -   110 GLENBROOK     115.KV 1977-2
       0.000040R    0.000380X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000150R0   0.001060X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L      0 1977tap       115.KV -   115 DARIEN        115.KV 1977-0
       0.001250R    0.011550X    0.000000G1    0.000900B1    0.000000G2    0.000900B2
       0.004540R0   0.031960X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0L    102 SOUTH END 43  115.KV -     0 1977tap       115.KV 1977-1
       0.000790R    0.007350X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
       0.002880R0   0.020150X0   0.000000G10   0.000320B10   0.000000G20   0.000320B20

BUS     0 1X Bus        13.8KV
   1T      0 1X Bus        13.8KV -     0 COMPO         115.KV 23K-1X
       0.010800R    0.363800X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.010800R0   0.363800X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 21S Sta serv  4.16KV
   1T      0 Devon Ring 2  115.KV -     0 21S Sta serv  4.16KV 7R-21S
       0.027300R    0.697500X    0.000000B   115.00PTAP    4.16STAP GD GD-CONFIG
       0.027300R0   0.697500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 2X Bus        13.8KV
   1T      0 2X Bus        13.8KV -     0 COMPO         115.KV 23K-2X
       0.010900R    0.363800X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.010900R0   0.363800X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 6J-21S        4.16KV
   1T    121 NORWALK HARB  115.KV -     0 6J-21S        4.16KV 6J-21S
       0.051600R    0.798300X    0.000000B   115.00PTAP    4.16STAP GD GD-CONFIG
       0.051600R0   0.798300X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 ALLINGS 88    115.KV
   0L      0 ALLINGS 88    115.KV -   192 WOODMONT 88   115.KV 88003A
       0.001650R    0.013910X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.006570R0   0.037160X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    176 ELMWEST 88    115.KV -     0 ALLINGS 88    115.KV 88003A
       0.000680R    0.005740X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.002710R0   0.015330X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS     0 ALLINGS 89    115.KV
   0L      0 ALLINGS 89    115.KV -   193 WOODMONT 89   115.KV 89003B
       0.001650R    0.013910X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.006570R0   0.037040X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    177 ELMWEST 89    115.KV -     0 ALLINGS 89    115.KV 89003B
       0.000680R    0.005740X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.002710R0   0.015280X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   266 ANSONIA       115.KV
   1L    263 ANSONIA TAP   115.KV -   266 ANSONIA       115.KV 1560-1
       0.008470R    0.023910X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
       0.020040R0   0.066730X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   0L    265 INDIAN WELL   115.KV -   266 ANSONIA       115.KV 1594
       0.005350R    0.014790X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.009850R0   0.040390X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   263 ANSONIA TAP   115.KV
   1L    263 ANSONIA TAP   115.KV -   266 ANSONIA       115.KV 1560-1
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      0.008470R    0.023910X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
      0.020040R0   0.066730X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   0L    263 ANSONIA TAP   115.KV -   268 TRAP FALLS    115.KV 1560-0
      0.003840R    0.020700X    0.000000G1    0.001540B1    0.000000G2    0.001540B2
      0.021000R0   0.057100X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
   2L    261 STEVENSON     115.KV -   263 ANSONIA TAP   115.KV 1560-2
      0.005010R    0.027090X    0.000000G1    0.002010B1    0.000000G2    0.002010B2
      0.027140R0   0.074480X0   0.000000G10   0.001180B10   0.000000G20   0.001180B20

BUS     0 Archers Lane  345.KV
   2L      0 Archers Lane  345.KV -     0 Norwalk Jct   345.KV 345P1-22
      0.000390R    0.001920X    0.000000G1    1.029270B1    0.000000G2    1.029270B2
      0.006550R0   0.005670X0   0.000000G10   1.029270B10   0.000000G20   1.029270B20
   1L      0 Archers Lane  345.KV -     0 Norwalk Jct   345.KV 345P1-2
      0.000390R    0.001920X    0.000000G1    1.029270B1    0.000000G2    1.029270B2
      0.006550R0   0.005670X0   0.000000G10   1.029270B10   0.000000G20   1.029270B20
   1L      0 Rt58/Hoyte    345.KV -     0 Archers Lane  345.KV 345P1-1
      0.000130R    0.002320X    0.000000G1    0.021360B1    0.000000G2    0.021360B2
      0.001830R0   0.006650X0   0.000000G10   0.013110B10   0.000000G20   0.013110B20

BUS   146 ASHCREEK      115.KV
   1L    146 ASHCREEK      115.KV -   147 RESCO TAP     115.KV 91001
      0.000924R    0.010200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.004200R0   0.027200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    126 SASCO CREEK   115.KV -   146 ASHCREEK      115.KV 1430
      0.002240R    0.023960X    0.000000G1    0.001980B1    0.000000G2    0.001980B2
      0.011290R0   0.062120X0   0.000000G10   0.001060B10   0.000000G20   0.001060B20

BUS  2151 BAIRD         13.8KV
   0T    152 BAIRD 89      115.KV -  2151 BAIRD         13.8KV
      0.008000R    0.348000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T    151 BAIRD 88      115.KV -  2151 BAIRD         13.8KV
      0.008000R    0.350000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   151 BAIRD 88      115.KV
   0L    151 BAIRD 88      115.KV -   181 CONGRESS 88   115.KV 8809A
      0.002050R    0.012070X    0.000000G1    0.000970B1    0.000000G2    0.000970B2
      0.005940R0   0.031210X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0L    151 BAIRD 88      115.KV -   157 BARNUM 88     115.KV 88006A
      0.000750R    0.006270X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002960R0   0.016760X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T    151 BAIRD 88      115.KV -  2151 BAIRD         13.8KV
      0.008000R    0.350000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   152 BAIRD 89      115.KV
   0L    152 BAIRD 89      115.KV -   182 CONGRESS 89   115.KV 8909B
      0.002050R    0.012070X    0.000000G1    0.000970B1    0.000000G2    0.000970B2
      0.005940R0   0.031210X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0L    152 BAIRD 89      115.KV -   156 BARNUM 89     115.KV 89006B
      0.000750R    0.006270X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002960R0   0.016710X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T    152 BAIRD 89      115.KV -  2151 BAIRD         13.8KV
      0.008000R    0.348000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   262 BALDWIN 57    115.KV
   1L    256 BALDWIN 99    115.KV -   262 BALDWIN 57    115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    277 BALDWIN JCTB  115.KV -   262 BALDWIN 57    115.KV 1575-2
      0.006580R    0.019100X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
      0.021240R0   0.051330X0   0.000000G10   0.000670B10   0.000000G20   0.000670B20
   1X    262 BALDWIN 57    115.KV -  2262 BALDWIN A3    13.8KV -  7262 BALDWIN TER3    1.KV 13F-3X
      0.024530RPS    0.399200XPS    0.024530RPT    0.399200XPT    0.024530RST    0.399200XST    0.000000B
      0.024530RPS0   0.374000XPS0   0.024530RPT0   0.374000XPT0   0.024530RST0   0.374000XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   256 BALDWIN 99    115.KV
   1L    256 BALDWIN 99    115.KV -   262 BALDWIN 57    115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    286 BALDWIN JCTA  115.KV -   256 BALDWIN 99    115.KV 1990-2
      0.006580R    0.019100X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
      0.021240R0   0.051330X0   0.000000G10   0.000670B10   0.000000G20   0.000670B20
   1X    256 BALDWIN 99    115.KV -  2256 BALDWIN A2    13.8KV -  7256 BALDWIN TER2    1.KV 13F-2X
      0.022320RPS    0.445600XPS    0.022320RPT    0.445600XPT    0.022320RST    0.445600XST    0.000000B
      0.022320RPS0   0.436400XPS0   0.022320RPT0   0.436400XPT0   0.022320RST0   0.436400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2256 BALDWIN A2    13.8KV
   1X    256 BALDWIN 99    115.KV -  2256 BALDWIN A2    13.8KV -  7256 BALDWIN TER2    1.KV 13F-2X
      0.022320RPS    0.445600XPS    0.022320RPT    0.445600XPT    0.022320RST    0.445600XST    0.000000B
      0.022320RPS0   0.436400XPS0   0.022320RPT0   0.436400XPT0   0.022320RST0   0.436400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2262 BALDWIN A3    13.8KV
   1X    262 BALDWIN 57    115.KV -  2262 BALDWIN A3    13.8KV -  7262 BALDWIN TER3    1.KV 13F-3X
      0.024530RPS    0.399200XPS    0.024530RPT    0.399200XPT    0.024530RST    0.399200XST    0.000000B
      0.024530RPS0   0.374000XPS0   0.024530RPT0   0.374000XPT0   0.024530RST0   0.374000XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
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         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   286 BALDWIN JCTA  115.KV
   1L    286 BALDWIN JCTA  115.KV -   261 STEVENSON     115.KV 1990-1
        0.010940R    0.033270X    0.000000G1    0.007040B1    0.000000G2    0.007040B2
        0.056460R0   0.113290X0   0.000000G10   0.003650B10   0.000000G20   0.003650B20
   2L    286 BALDWIN JCTA  115.KV -   256 BALDWIN 99    115.KV 1990-2
        0.006580R    0.019100X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
        0.021240R0   0.051330X0   0.000000G10   0.000670B10   0.000000G20   0.000670B20
   0L    286 BALDWIN JCTA  115.KV -     0 Frost bridge  115.KV 1990-0
        0.006220R    0.021710X    0.000000G1    0.004920B1    0.000000G2    0.004920B2
        0.038600R0   0.078300X0   0.000000G10   0.002580B10   0.000000G20   0.002580B20

BUS   277 BALDWIN JCTB  115.KV
   1L    277 BALDWIN JCTB  115.KV -   259 BEACON FALLS  115.KV 1575-1
        0.014200R    0.051910X    0.000000G1    0.003220B1    0.000000G2    0.003220B2
        0.055850R0   0.138540X0   0.000000G10   0.002010B10   0.000000G20   0.002010B20
   2L    277 BALDWIN JCTB  115.KV -   262 BALDWIN 57    115.KV 1575-2
        0.006580R    0.019100X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
        0.021240R0   0.051330X0   0.000000G10   0.000670B10   0.000000G20   0.000670B20
   0L    277 BALDWIN JCTB  115.KV -   230 BUNKERHILL57  115.KV 1575-0
        0.003780R    0.017230X    0.000000G1    0.001160B1    0.000000G2    0.001160B2
        0.017610R0   0.046390X0   0.000000G10   0.000710B10   0.000000G20   0.000710B20

BUS  7256 BALDWIN TER2    1.KV
   1X    256 BALDWIN 99    115.KV -  2256 BALDWIN A2    13.8KV -  7256 BALDWIN TER2    1.KV 13F-2X
        0.022320RPS    0.445600XPS    0.022320RPT    0.445600XPT    0.022320RST    0.445600XST    0.000000B
        0.022320RPS0   0.436400XPS0   0.022320RPT0   0.436400XPT0   0.022320RST0   0.436400XST0   0.000000B0
        112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
           1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7262 BALDWIN TER3    1.KV
   1X    262 BALDWIN 57    115.KV -  2262 BALDWIN A3    13.8KV -  7262 BALDWIN TER3    1.KV 13F-3X
        0.024530RPS    0.399200XPS    0.024530RPT    0.399200XPT    0.024530RST    0.399200XST    0.000000B
        0.024530RPS0   0.374000XPS0   0.024530RPT0   0.374000XPT0   0.024530RST0   0.374000XST0   0.000000B0
        112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
           1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2157 BARNUM       13.8KV
   0T    157 BARNUM 88     115.KV -  2157 BARNUM        13.8KV
        0.012500R    0.436000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
        0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T    156 BARNUM 89     115.KV -  2157 BARNUM        13.8KV
        0.013000R    0.445000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
        0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Barnum 71    115.KV
   2L      0 Barnum 71     115.KV -   145 PEQUONOCK     115.KV 1710-2
        0.000600R    0.002600X    0.000000G1    0.021150B1    0.000000G2    0.021150B2
        0.002950R0   0.003200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    143 TRUMBULL 71   115.KV -     0 Barnum 71     115.KV 1710--2
        0.003400R    0.021660 X    0.000000G1    0.001470B1    0.000000G2    0.001470B2
        0.019040R0   0.061390X0   0.000000G10   0.000870B10   0.000000G20   0.000870B20

BUS     0 Barnum 73    115.KV
   2L      0 Barnum 73     115.KV -     0 TRUMBULL 73   115.KV 1730-2
        0.003400R    0.021660X    0.000000G1    0.001470B1    0.000000G2    0.001470B2
        0.019040R0   0.061390X0   0.000000G10   0.000870B10   0.000000G20   0.000870B20
   2L      0 Barnum 73     115.KV -   145 PEQUONOCK     115.KV 1730-2
        0.000600R    0.002600X    0.000000G1    0.021150B1    0.000000G2    0.021150B2
        0.002950R0   0.003200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   157 BARNUM 88     115.KV
   0L    157 BARNUM 88     115.KV -   170 DEVON TIE 88  115.KV 88066A
        0.000720R    0.006080X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.002870R0   0.016240X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    151 BAIRD 88      115.KV -   157 BARNUM 88     115.KV 88006A
        0.000750R    0.006270X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.002960R0   0.016760X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T    157 BARNUM 88     115.KV -  2157 BARNUM        13.8KV
        0.012500R    0.436000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
        0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   156 BARNUM 89     115.KV
   0L    156 BARNUM 89     115.KV -   171 DEVON TIE 89  115.KV 89006B
        0.000720R    0.006080X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.002870R0   0.016190X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    152 BAIRD 89      115.KV -   156 BARNUM 89     115.KV 89006B
        0.000750R    0.006270X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.002960R0   0.016710X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T    156 BARNUM 89     115.KV -  2157 BARNUM        13.8KV
        0.013000R    0.445000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
        0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2202 BATES RCK A1  13.8KV
   0T   2202 BATES RCK A1  13.8KV -   202 BATES ROCK    115.KV 21K-1X
        0.019100R    0.417200X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
        0.019100R0   0.408800X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3202 BATES RCK A2  13.8KV
   0T   3202 BATES RCK A2  13.8KV -   202 BATES ROCK    115.KV 21K-2X
        0.020510R    0.387600X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
        0.020510R0   0.382000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
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BUS   202 BATES ROCK    115.KV
   1L      0 STONY HL TP2  115.KV -   202 BATES ROCK    115.KV 1770-1
        0.017610R    0.070480X    0.000000G1    0.004260B1    0.000000G2    0.004260B2
        0.077840R0   0.188110X0   0.000000G10   0.002750B10   0.000000G20   0.002750B20
   0L    201 SHEPAUG       115.KV -   202 BATES ROCK    115.KV 1622
        0.004950R    0.032090X    0.000000G1    0.002110B1    0.000000G2    0.002110B2
        0.034080R0   0.084390X0   0.000000G10   0.001390B10   0.000000G20   0.001390B20
   0T   3202 BATES RCK A2  13.8KV -   202 BATES ROCK    115.KV 21K-2X
        0.020510R    0.387600X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
        0.020510R0   0.382000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2202 BATES RCK A1  13.8KV -   202 BATES ROCK    115.KV 21K-1X
        0.019100R    0.417200X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
        0.019100R0   0.408800X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2259 BEACON A1     13.8KV
   0T   2259 BEACON A1     13.8KV -   259 BEACON FALLS  115.KV 11N-1X
        0.018260R    0.332400X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
        0.018260R0   0.317200X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN         0.2XGN

BUS  3259 BEACON A2     13.8KV
   0T   3259 BEACON A2     13.8KV -   259 BEACON FALLS  115.KV 11N-2X
        0.018860R    0.390400X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
        0.011900R0   0.395700X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN         0.2XGN

BUS   259 BEACON FALLS  115.KV
   1L    277 BALDWIN JCTB  115.KV -   259 BEACON FALLS  115.KV 1575-1
        0.014200R    0.051910X    0.000000G1    0.003220B1    0.000000G2    0.003220B2
        0.055850R0   0.138540X0   0.000000G10   0.002010B10   0.000000G20   0.002010B20
   2L    259 BEACON FALLS  115.KV -   264 DERBY TAP     115.KV 1570-2
        0.016870R    0.079410X    0.000000G1    0.005430B1    0.000000G2    0.005430B2
        0.080540R0   0.208220X0   0.000000G10   0.003380B10   0.000000G20   0.003380B20
   0T   3259 BEACON A2     13.8KV -   259 BEACON FALLS  115.KV 11N-2X
        0.018860R    0.390400X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
        0.011900R0   0.395700X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN         0.2XGN
   0T   2259 BEACON A1     13.8KV -   259 BEACON FALLS  115.KV 11N-1X
        0.018260R    0.332400X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
        0.018260R0   0.317200X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN         0.2XGN

BUS   221 BERLIN        115.KV
   1L    221 BERLIN        115.KV -   293 GREEN HILL    115.KV
        0.185639R    0.835479X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        6.499470R0  10.912700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    221 BERLIN        115.KV -   290 E. MERIDEN    115.KV
        0.258450R    1.003020X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        4.657750R0   6.531450X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    221 BERLIN        115.KV -   407 CAMPVILLE     115.KV
        0.284575R    0.763059X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        4.778600R0   6.230780X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    221 BERLIN        115.KV -   278 RESEV RD JCT  115.KV 1670-0
        0.006090R    0.028770X    0.000000G1    0.001830B1    0.000000G2    0.001830B2
        0.028170R0   0.080080X0   0.000000G10   0.001160B10   0.000000G20   0.001160B20
   0L    221 BERLIN        115.KV -   241 SGTN RING 1   115.KV 1771
        0.012510R    0.057930X    0.000000G1    0.003800B1    0.000000G2    0.003800B2
        0.059840R0   0.159480X0   0.000000G10   0.002400B10   0.000000G20   0.002400B20
   1P    221 BERLIN        115.KV -    24 MONTVILLE     345.KV
     294.937988R  790.447021X    0.000000B     0.00Deg.
        0.000000R0 9999.000000X0   0.000000B0
   1P    221 BERLIN        115.KV -   471 CARD          345.KV
      10.086800R   28.506300X    0.000000B     0.00Deg.
        0.000000R0 9999.000000X0   0.000000B0
    T    221 BERLIN        115.KV -     0 PLEASANT VAL  345.KV
       4.615340R   14.796400X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
     1365.479980R0 1127.010010X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    221 BERLIN        115.KV -   123 NORPORT CA    138.KV
      2346.520020R  11467.700195X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
        0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    221 BERLIN        115.KV -   470 MANCHSTER     345.KV
        0.007718R    0.071489X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
        0.195007R0   0.421172X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   282 BLACK RKTRNU  14.4KV
   1L   2281 BLACKROCK A3  14.4KV -   282 BLACK RKTRNU  14.4KV tie
        0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    282 BLACK RKTRNU  14.4KV -  2279 BLACKRK A1A2  14.4KV GND REACTOR
        0.000000R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.000000R0   0.578700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1X    280 BLACK ROCK 83  115.KV -   282 BLACK RKTRNU  14.4KV -  2280 BLACKROCK A2   4.8KV 11H-2X
        0.030770RPS    0.310560XPS    0.164410RPT    0.592860XPT    0.119570RST    0.237143XST    0.000000B
        0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
        111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   0X    279 BLACKROCK 67  115.KV -   282 BLACK RKTRNU  14.4KV -  3279 BLACKROCK A1   4.8KV 11H-1X
        0.029940RPS    0.310560XPS    0.155290RPT    0.571430XPT    0.146850RST    0.235710XST    0.000000B
        0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
        111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   287 BLACK ROCK     69.KV
   0L    287 BLACK ROCK     69.KV -   288 BURRITT        69.KV 680
        0.009060R    0.015380X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
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     0.014900R0   0.070220X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1X    281 BLACKROCK 82  115.KV -   287 BLACK ROCK     69.KV -  8281 BLK RCK TER4   7.2KV 11H-4X
     0.002900RPS    0.075800XPS    0.002900RPT    0.075800XPT    0.002900RST    0.075800XST    0.000000B
     0.000000RPS0   0.160400XPS0   0.000000RPT0   0.623600XPT0   0.000000RST0   0.407200XST0   0.000000B0
     112.1PTAP    69.0STAP     7.2TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2279 BLACKRK A1A2  14.4KV
   0L    282 BLACK RKTRNU  14.4KV -  2279 BLACKRK A1A2  14.4KV GND REACTOR
     0.000000R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
     0.000000R0   0.578700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   279 BLACKROCK 67  115.KV
   2L    278 RESEV RD JCT  115.KV -   279 BLACKROCK 67  115.KV 1670-2
     0.002380R    0.007060X    0.000000G1    0.000390B1    0.000000G2    0.000390B2
     0.005510R0   0.016720X0   0.000000G10   0.000250B10   0.000000G20   0.000250B20
   0X    279 BLACKROCK 67  115.KV -   282 BLACK RKTRNU  14.4KV -  3279 BLACKROCK A1   4.8KV 11H-1X
     0.029940RPS    0.310560XPS    0.155290RPT    0.571430XPT    0.146850RST    0.235710XST    0.000000B
     0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
     111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   281 BLACKROCK 82  115.KV
   0L    242 SGTN RING 2   115.KV -   281 BLACKROCK 82  115.KV 1820
     0.013280R    0.038560X    0.000000G1    0.002240B1    0.000000G2    0.002240B2
     0.041660R0   0.097930X0   0.000000G10   0.001420B10   0.000000G20   0.001420B20
   0X    281 BLACKROCK 82  115.KV -   2281 BLACKROCK A3  14.4KV -  7281 BLK RCK TER3    1.KV 11H-3X
     0.046810RPS    0.425000XPS    0.046810RPT    0.425000XPT    0.046810RST    0.425000XST    0.000000B
     0.046810RPS0   0.387143XPS0   0.046810RPT0   0.387143XPT0   0.046810RST0   0.387143XST0   0.000000B0
     110.0PTAP    14.4STAP     1.0TTAP  GGD GGD-CONFIG
        1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   1X    281 BLACKROCK 82  115.KV -   287 BLACK ROCK     69.KV -  8281 BLK RCK TER4   7.2KV 11H-4X
     0.002900RPS    0.075800XPS    0.002900RPT    0.075800XPT    0.002900RST    0.075800XST    0.000000B
     0.000000RPS0   0.160400XPS0   0.000000RPT0   0.623600XPT0   0.000000RST0   0.407200XST0   0.000000B0
     112.1PTAP    69.0STAP     7.2TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   280 BLACKROCK 83  115.KV
   0L    241 SGTN RING 1   115.KV -   280 BLACKROCK 83  115.KV 1830
     0.013050R    0.038030X    0.000000G1    0.002190B1    0.000000G2    0.002190B2
     0.041910R0   0.095330X0   0.000000G10   0.001440B10   0.000000G20   0.001440B20
   1X    280 BLACKROCK 83  115.KV -   282 BLACK RKTRNU  14.4KV -  2280 BLACKROCK A2   4.8KV 11H-2X
     0.030770RPS    0.310560XPS    0.164410RPT    0.592860XPT    0.119570RST    0.237143XST    0.000000B
     0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
     111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  3279 BLACKROCK A1   4.8KV
   0X    279 BLACKROCK 67  115.KV -   282 BLACK RKTRNU  14.4KV -  3279 BLACKROCK A1   4.8KV 11H-1X
     0.029940RPS    0.310560XPS    0.155290RPT    0.571430XPT    0.146850RST    0.235710XST    0.000000B
     0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
     111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2280 BLACKROCK A2   4.8KV
   1X    280 BLACKROCK 83  115.KV -   282 BLACK RKTRNU  14.4KV -  2280 BLACKROCK A2   4.8KV 11H-2X
     0.030770RPS    0.310560XPS    0.164410RPT    0.592860XPT    0.119570RST    0.237143XST    0.000000B
     0.032000RPS0   0.287000XPS0   0.062000RPT0   0.493500XPT0   0.026500RST0   0.221500XST0   0.000000B0
     111.4PTAP    14.4STAP     4.8TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2281 BLACKROCK A3  14.4KV
   1L   2281 BLACKROCK A3  14.4KV -   282 BLACK RKTRNU  14.4KV tie
     0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
     0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X    281 BLACKROCK 82  115.KV -  2281 BLACKROCK A3  14.4KV -  7281 BLK RCK TER3    1.KV 11H-3X
     0.046810RPS    0.425000XPS    0.046810RPT    0.425000XPT    0.046810RST    0.425000XST    0.000000B
     0.046810RPS0   0.387143XPS0   0.046810RPT0   0.387143XPT0   0.046810RST0   0.387143XST0   0.000000B0
     110.0PTAP    14.4STAP     1.0TTAP  GGD GGD-CONFIG
        1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7281 BLK RCK TER3    1.KV
   0X    281 BLACKROCK 82  115.KV -  2281 BLACKROCK A3  14.4KV -  7281 BLK RCK TER3    1.KV 11H-3X
     0.046810RPS    0.425000XPS    0.046810RPT    0.425000XPT    0.046810RST    0.425000XST    0.000000B
     0.046810RPS0   0.387143XPS0   0.046810RPT0   0.387143XPT0   0.046810RST0   0.387143XST0   0.000000B0
     110.0PTAP    14.4STAP     1.0TTAP  GGD GGD-CONFIG
        1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  8281 BLK RCK TER4   7.2KV
   1X    281 BLACKROCK 82  115.KV -   287 BLACK ROCK     69.KV -  8281 BLK RCK TER4   7.2KV 11H-4X
     0.002900RPS    0.075800XPS    0.002900RPT    0.075800XPT    0.002900RST    0.075800XST    0.000000B
     0.000000RPS0   0.160400XPS0   0.000000RPT0   0.623600XPT0   0.000000RST0   0.407200XST0   0.000000B0
     112.1PTAP    69.0STAP     7.2TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   272 BRANFORD      115.KV
   0L    272 BRANFORD      115.KV -   225 BRANFORD RR   115.KV 1537-0
     0.003450R    0.032990X    0.000000G1    0.004700B1    0.000000G2    0.004700B2
     0.022580R0   0.084400X0   0.000000G10   0.001430B10   0.000000G20   0.001430B20
   0L    272 BRANFORD      115.KV -   293 GREEN HILL    115.KV 1508
     0.010060R    0.063810X    0.000000G1    0.004370B1    0.000000G2    0.004370B2
     0.061840R0   0.228730X0   0.000000G10   0.002430B10   0.000000G20   0.002430B20
   0L    272 BRANFORD      115.KV -   274 NO. HAVEN     115.KV 1655
     0.010760R    0.071300X    0.000000G1    0.004980B1    0.000000G2    0.004980B2
     0.077130R0   0.204250X0   0.000000G10   0.003290B10   0.000000G20   0.003290B20
   0T   3272 BRANFORD R2    23.KV -   272 BRANFORD      115.KV 11J-2X
     0.011430R    0.248300X    0.000000B    23.00PTAP  115.00STAP GD GD-CONFIG
     0.011430R0   0.248300X0   0.000000B0
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2272 BRANFORD R1    23.KV -   272 BRANFORD      115.KV 11J-1X
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      0.011390R    0.276700X    0.000000B    23.00PTAP  115.00STAP GD GD-CONFIG
      0.011390R0   0.276700X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2272 BRANFORD R1    23.KV
   0T   2272 BRANFORD R1    23.KV -   272 BRANFORD      115.KV 11J-1X
      0.011390R    0.276700X    0.000000B    23.00PTAP  115.00STAP GD GD-CONFIG
      0.011390R0   0.276700X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3272 BRANFORD R2    23.KV
   0T   3272 BRANFORD R2    23.KV -   272 BRANFORD      115.KV 11J-2X
      0.011430R    0.248300X    0.000000B    23.00PTAP  115.00STAP GD GD-CONFIG
      0.011430R0   0.248300X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   225 BRANFORD RR   115.KV
   0L    272 BRANFORD      115.KV -   225 BRANFORD RR   115.KV 1537-0
      0.003450R    0.032990X    0.000000G1    0.004700B1    0.000000G2    0.004700B2
      0.022580R0   0.084400X0   0.000000G10   0.001430B10   0.000000G20   0.001430B20
   0L    292 EAST SHORE    115.KV -   225 BRANFORD RR   115.KV 1460-0
      0.001850R    0.018140X    0.000000G1    0.001120B1    0.000000G2    0.001120B2
      0.007530R0   0.043400X0   0.000000G10   0.000720B10   0.000000G20   0.000720B20
   1T    225 BRANFORD RR   115.KV -     0 Railroad55     55.KV RR Ph to Ph
      0.001700R    0.075600X    0.000000B   199.19PTAP   95.26STAP DD GG-CONFIG
      0.001700R0   0.075600X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 Railroad225  47.63KV -   225 BRANFORD RR   115.KV RR Ph to Gnd
      0.002300R    0.100500X    0.000000B    47.63PTAP  115.00STAP GE GD-CONFIG
      0.002300R0   0.100500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 brdgphbr 2    18.4KV
   1T    145 PEQUONOCK     115.KV -     0 brdgphbr 2    18.4KV brdgphbr 2x
      0.002200R    0.059400X    0.000000B   115.00PTAP   18.40STAP GD GD-CONFIG
      0.002200R0   0.059400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 brdgphbr 3    20.2KV
   1T    145 PEQUONOCK     115.KV -     0 brdgphbr 3    20.2KV brdgphbr 3x
      0.000500R    0.024500X    0.000000B   115.00PTAP   20.20STAP GD GD-CONFIG
      0.000500R0   0.024500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 brdgphbr jet 13.68KV
   1T      0 brdgphbr jet 13.68KV -   145 PEQUONOCK     115.KV brdgphb jetx
      0.007000R    0.226500X    0.000000B    13.68PTAP  115.00STAP GD GD-CONFIG
      0.007000R0   0.226500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 BRGPRT ENERG  115.KV
    L      0 BRGPRT ENERG  115.KV -   145 PEQUONOCK     115.KV LINE
      0.000039R    0.000770X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000770R0   0.003010X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    T      0 BRGPRT ENERG  115.KV -     0 ST1 (10)       16.KV STEAMTURB
      0.002000R    0.101000X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.101000X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 BRGPRT ENERG  115.KV -     0 GT2 (12)       16.KV GASTURB2
      0.002000R    0.089500X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.089500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 BRGPRT ENERG  115.KV -     0 GT1 (11)       16.KV GASTURB1
      0.002000R    0.089500X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.089500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   248 BRISTOL       115.KV
   1L    247 CHIPPEN TAP   115.KV -   248 BRISTOL       115.KV 1810-1
      0.001500R    0.009230X    0.000000G1    0.000660B1    0.000000G2    0.000660B2
      0.010330R0   0.029250X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    246 FORESTVILLE   115.KV -   248 BRISTOL       115.KV 1825
      0.007120R    0.029360X    0.000000G1    0.001880B1    0.000000G2    0.001880B2
      0.033540R0   0.089060X0   0.000000G10   0.001220B10   0.000000G20   0.001220B20
  2XX    248 BRISTOL       115.KV -  5248 BRISTOL A2    13.8KV -  5248 BRISTOL A2     4.8KV 11K-2X
      0.017280RPS    0.353300XPS    0.062700RPT    0.622900XPT    0.058900RST    0.203100XST    0.000000B
      0.017280RPS0   0.353300XPS0   0.062700RPT0   0.622900XPT0   0.058900RST0   0.203100XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3
  1XX    248 BRISTOL       115.KV -  2248 BRISTOL A1    13.8KV -  4248 BRISTOL A1     4.8KV 11K-1X
      0.017020RPS    0.354800XPS    0.060900RPT    0.620000XPT    0.057780RST    0.203100XST    0.000000B
      0.017020RPS0   0.354800XPS0   0.060900RPT0   0.620000XPT0   0.057780RST0   0.203100XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3

BUS  4248 BRISTOL A1     4.8KV
  1XX    248 BRISTOL       115.KV -  2248 BRISTOL A1    13.8KV -  4248 BRISTOL A1     4.8KV 11K-1X
      0.017020RPS    0.354800XPS    0.060900RPT    0.620000XPT    0.057780RST    0.203100XST    0.000000B
      0.017020RPS0   0.354800XPS0   0.060900RPT0   0.620000XPT0   0.057780RST0   0.203100XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3

BUS  2248 BRISTOL A1    13.8KV
  1XX    248 BRISTOL       115.KV -  2248 BRISTOL A1    13.8KV -  4248 BRISTOL A1     4.8KV 11K-1X
      0.017020RPS    0.354800XPS    0.060900RPT    0.620000XPT    0.057780RST    0.203100XST    0.000000B
      0.017020RPS0   0.354800XPS0   0.060900RPT0   0.620000XPT0   0.057780RST0   0.203100XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3

BUS  5248 BRISTOL A2     4.8KV
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  2XX    248 BRISTOL       115.KV -  3248 BRISTOL A2    13.8KV -  5248 BRISTOL A2     4.8KV 11K-2X
       0.017280RPS    0.353300XPS    0.062700RPT    0.622900XPT    0.058900RST    0.203100XST    0.000000B
       0.017280RPS0   0.353300XPS0   0.062700RPT0   0.622900XPT0   0.058900RST0   0.203100XST0   0.000000B0
       114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3

BUS  3248 BRISTOL A2    13.8KV
  2XX    248 BRISTOL       115.KV -  3248 BRISTOL A2    13.8KV -  5248 BRISTOL A2     4.8KV 11K-2X
       0.017280RPS    0.353300XPS    0.062700RPT    0.622900XPT    0.058900RST    0.203100XST    0.000000B
       0.017280RPS0   0.353300XPS0   0.062700RPT0   0.622900XPT0   0.058900RST0   0.203100XST0   0.000000B0
       114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           1XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 BROADWAY      115.KV
    L      0 BROADWAY      115.KV -     0 MILL RIVER    115.KV 9502
       0.000820R    0.003200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.005110R0   0.007040X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    L      0 BROADWAY      115.KV -   180 WATER ST      115.KV 9500
       0.000760R    0.002950X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.004710R0   0.006500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS  3213 BULLS BRIDGE   4.8KV
   0X   2213 BULLS BRIDGE  27.6KV -   213 BULLS BRIDGE  115.KV -  3213 BULLS BRIDGE   4.8KV 11M-3X
       0.032000RPS    0.335560XPS    0.145000RPT    0.275710XPT    0.144900RST    0.635710XST    0.000000B
       0.032000RPS0   0.335560XPS0   0.145000RPT0   0.275710XPT0   0.144900RST0   0.635710XST0   0.000000B0
        27.6PTAP   111.4STAP     4.8TTAP  GDD GDD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2213 BULLS BRIDGE  27.6KV
   0X   2213 BULLS BRIDGE  27.6KV -   213 BULLS BRIDGE  115.KV -  3213 BULLS BRIDGE   4.8KV 11M-3X
       0.032000RPS    0.335560XPS    0.145000RPT    0.275710XPT    0.144900RST    0.635710XST    0.000000B
       0.032000RPS0   0.335560XPS0   0.145000RPT0   0.275710XPT0   0.144900RST0   0.635710XST0   0.000000B0
        27.6PTAP   111.4STAP     4.8TTAP  GDD GDD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   213 BULLS BRIDGE  115.KV
   0L    212 ROCKY RIVER   115.KV -   213 BULLS BRIDGE  115.KV 1555
       0.016840R    0.041540X    0.000000G1    0.002270B1    0.000000G2    0.002270B2
       0.048280R0   0.121240X0   0.000000G10   0.001460B10   0.000000G20   0.001460B20
   0X   2213 BULLS BRIDGE  27.6KV -   213 BULLS BRIDGE  115.KV -  3213 BULLS BRIDGE   4.8KV 11M-3X
       0.032000RPS    0.335560XPS    0.145000RPT    0.275710XPT    0.144900RST    0.635710XST    0.000000B
       0.032000RPS0   0.335560XPS0   0.145000RPT0   0.275710XPT0   0.144900RST0   0.635710XST0   0.000000B0
        27.6PTAP   111.4STAP     4.8TTAP  GDD GDD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   230 BUNKERHILL57  115.KV
   0L    277 BALDWIN JCTB  115.KV -   230 BUNKERHILL57  115.KV 1575-0
       0.003780R    0.017230X    0.000000G1    0.001160B1    0.000000G2    0.001160B2
       0.017610R0   0.046390X0   0.000000G10   0.000710B10   0.000000G20   0.000710B20
   0L    230 BUNKERHILL57  115.KV -   231 BUNKERHILL66  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T   2230 BUNKERHILLA4  13.8KV -   230 BUNKERHILL57  115.KV 12B-4X
       0.017070R    0.407200X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.017070R0   0.396400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   232 BUNKERHILL58  115.KV
   1L    232 BUNKERHILL58  115.KV -   257 S. NAUG 85    115.KV 1585
       0.018240R    0.077070X    0.000000G1    0.004960B1    0.000000G2    0.004960B2
       0.082480R0   0.199350X0   0.000000G10   0.003260B10   0.000000G20   0.003260B20
   0L    231 BUNKERHILL66  115.KV -   232 BUNKERHILL58  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T   2232 BUNKERHILLA3  13.8KV -   232 BUNKERHILL58  115.KV 12B-3X
       0.017270R    0.416000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.017270R0   0.396400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   231 BUNKERHILL66  115.KV
   0L    231 BUNKERHILL66  115.KV -   233 FREIGHT       115.KV 1668
       0.001220R    0.011380X    0.000000G1    0.000860B1    0.000000G2    0.000860B2
       0.011860R0   0.037790X0   0.000000G10   0.000540B10   0.000000G20   0.000540B20
   0L    231 BUNKERHILL66  115.KV -   232 BUNKERHILL58  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    230 BUNKERHILL57  115.KV -   231 BUNKERHILL66  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    227 SHAWS HILL    115.KV -   231 BUNKERHILL66  115.KV 1272
       0.001040R    0.012020X    0.000000G1    0.000890B1    0.000000G2    0.000890B2
       0.011080R0   0.032660X0   0.000000G10   0.000550B10   0.000000G20   0.000550B20

BUS  2232 BUNKERHILLA3  13.8KV
   0T   2232 BUNKERHILLA3  13.8KV -   232 BUNKERHILL58  115.KV 12B-3X
       0.017270R    0.416000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.017270R0   0.396400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2230 BUNKERHILLA4  13.8KV
   0T   2230 BUNKERHILLA4  13.8KV -   230 BUNKERHILL57  115.KV 12B-4X
       0.017070R    0.407200X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.017070R0   0.396400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   288 BURRITT        69.KV
   0L    287 BLACK ROCK     69.KV -   288 BURRITT        69.KV 680
       0.009060R    0.015380X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.014900R0   0.070220X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
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BUS     0 BUS 1X        115.KV
   1L      0 BUS 1X         115.KV -    206 PLUMTREE      115.KV 1Xtie
        0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  1XX    207 PLUMTREE      345.KV -     0 BUS 1X         115.KV -  7207 PLUMTREE T1   34.5KV 30G-1X
        0.000898RPS    0.035185XPS    0.000570RPT    0.252930XPT    0.000580RST    0.204400XST    0.000000B
        0.000898RPS0   0.035185XPS0   0.000570RPT0   0.252930XPT0   0.000580RST0   0.204400XST0   0.000000B0
        344.5PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 BUS2X         115.KV
   1L      0 BUS2X         115.KV -    206 PLUMTREE      115.KV 2Xtie
        0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  2XX    207 PLUMTREE      345.KV -     0 BUS2X          115.KV -  8207 PLUMTREE T2   34.5KV 30G-2X
        0.000938RPS    0.035185XPS    0.000580RPT    0.256270XPT    0.000580RST    0.205470XST    0.000000B
        0.000938RPS0   0.035185XPS0   0.000580RPT0   0.256270XPT0   0.000580RST0   0.205470XST0   0.000000B0
        344.5PTAP   115.0STAP     34.5TTAP  GGD GGD-CONFIG
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   407 CAMPVILLE     115.KV
   1L    407 CAMPVILLE      115.KV -   293 GREEN HILL    115.KV
      22.973200R   44.150101X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
    9628.490234R0 -5054.359863X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    407 CAMPVILLE      115.KV -   290 E. MERIDEN    115.KV
      29.579201R   52.469601X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
    5805.790039R0 -2912.830078X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    221 BERLIN         115.KV -   407 CAMPVILLE     115.KV
       0.284575R    0.763059X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       4.778600R0   6.230780X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    406 THOMASTON      115.KV -   407 CAMPVILLE     115.KV 1921
       0.003250R    0.031200X    0.000000G1    0.002260B1    0.000000G2    0.002260B2
       0.029170R0   0.096540X0   0.000000G10   0.001330B10   0.000000G20   0.001330B20
   0L      0 Frost bridge  115.KV -   407 CAMPVILLE     115.KV 1191
       0.016150R    0.049920X    0.000000G1    0.004680B1    0.000000G2    0.004680B2
       0.067250R0   0.144380X0   0.000000G10   0.002960B10   0.000000G20   0.002960B20
   1P    407 CAMPVILLE      115.KV -    24 MONTVILLE     345.KV
     894.169006R  1673.699951X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    407 CAMPVILLE      115.KV -   471 CARD          345.KV
      31.021500R   60.523998X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
    T    407 CAMPVILLE      115.KV -     0 PLEASANT VAL  345.KV
       1.071340R    2.760050X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
       7.426380R0  20.807199X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    407 CAMPVILLE      115.KV -   123 NORPORT CA    138.KV
     625.526001R  1485.000000X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    407 CAMPV ILLE     115.KV -   470 MANCHSTER     345.KV
       0.081085R    0.320324X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
       0.460355R0   1.170500X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2240 CANAL          23.KV
  2xT   2240 CANAL          23.KV -   240 CANAL         115.KV 15Q-2X
       0.013650R    0.393570X    0.000000B    23.00PTAP  115.50STAP GE GD-CONFIG
       0.013650R0   0.391210X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   240 CANAL         115.KV
   0L    240 CANAL          115.KV -   242 SGTN RING 2   115.KV 1950
       0.001880R    0.011800X    0.000000G1    0.000810B1    0.000000G2    0.000810B2
       0.013270R0   0.038420X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0L    237 NOERA TAP 55  115.KV -   240 CANAL         115.KV 1550-0
       0.005360R    0.033600X    0.000000G1    0.002420B1    0.000000G2    0.002420B2
       0.037760R0   0.109320X0   0.000000G10   0.001520B10   0.000000G20   0.001520B20
  2xT   2240 CANAL          23.KV -   240 CANAL         115.KV 15Q-2X
       0.013650R    0.393570X    0.000000B    23.00PTAP  115.50STAP GE GD-CONFIG
       0.013650R0   0.391210X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   471 CARD          345.KV
   1L    471 CARD           345.KV -    24 MONTVILLE     345.KV
       0.018383R    0.141423X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.490329R0   1.096070X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    470 MANCHSTER      345.KV -   471 CARD          345.KV 368
       0.000830R    0.012960X    0.000000G1    0.068090B1    0.000000G2    0.068090B2
       0.011470R0   0.031290X0   0.000000G10   0.050290B10   0.000000G20   0.050290B20
   0L     29 MILLSTONE     345.KV -   471 CARD          345.KV 383
       0.001210R    0.014350X    0.000000G1    0.124470B1    0.000000G2    0.124470B2
       0.016010R0   0.039910X0   0.000000G10   0.084780B10   0.000000G20   0.084780B20
   1P    471 CARD           345.KV -     0 PLEASANT VAL  345.KV
       2.459310R    8.203360X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.00000 0B0
   1P    471 CARD           345.KV -   123 NORPORT CA    138.KV
     1144.390015R  6382.560059X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD           345.KV -   470 MANCHSTER     345.KV
       0.164495R    0.930363X    0.000000B     0.00Deg.
      83.471603R0  43.259899X0   0.000000B0
   1P    471 CARD           345.KV -   293 GREEN HILL    115.KV
     825.213989R  1653.430054X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD           345.KV -   290 E. MERIDEN    115.KV
     1065.250000R  1966.420044X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    407 CAMPVILLE      115.KV -   471 CARD          345.KV
      31.021500R   60.523998X    0.000000B     0.00Deg.
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     0.000000R0 9999.000000X0   0.000000B0
   1P    221 BERLIN         115.KV -    471 CARD          345.KV
      10.086800R   28.506300X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0

BUS  2218 CARMEL HILL    23.KV
   0T   2218 CARMEL HILL    23.KV -    218 CARMEL HILL   115.KV 11S-3X
       0.005730R    0.654730X    0.000000B    23.00PTAP  112.75STAP GD GD-CONFIG
       0.005730R0   0.653070X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   218 CARMEL HILL   115.KV
   0L    218 CARMEL HILL   115.KV -     0 Frost bridge  115.KV 1238
       0.005580R    0.052140X    0.000000G1    0.003930B1    0.000000G2    0.003930B2
       0.048130R0   0.163270X0   0.000000G10   0.002110B10   0.000000G20   0.002110B20
   0L    212 ROCKY RIVER   115.KV -    218 CARMEL HILL   115.KV 1813
       0.006370R    0.059530X    0.000000G1    0.004490B1    0.000000G2    0.004490B2
       0.056340R0   0.193280X0   0.000000G10   0.002410B10   0.000000G20   0.002410B20
   0T   2218 CARMEL HILL    23.KV -    218 CARMEL HILL   115.KV 11S-3X
       0.005730R    0.654730X    0.000000B    23.00PTAP  112.75STAP GD GD-CONFIG
       0.005730R0   0.653070X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 CEDAR HTS 75  115.KV
   1L    113 CEDAR HTS 79  115.KV -     0 CEDAR HTS 75  115.KV temptie
       0.001000R    0.001000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.001000R0   0.001000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    110 GLENBROOK     115.KV -     0 CEDAR HTS 75  115.KV 1753
       0.005520R    0.010380X    0.000000G1    0.051500B1    0.000000G2    0.051500B2
       0.029540R0   0.023940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X      0 CEDAR HTS 75  115.KV -  2113 CEDAR HTS A2  13.2KV -  7113 CEDAR HTS T2    1.KV 4R-2X
       0.022710RPS    0.391600XPS    0.022710RPT    0.391600XPT    0.022710RST    0.391600XST    0.000000B
       0.022710RPS0   0.347200XPS0   0.022710RPT0   0.347200XPT0   0.022710RST0   0.347200XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   113 CEDAR HTS 79  115.KV
   1L    113 CEDAR HTS 79  115.KV -     0 CEDAR HTS 75  115.KV temptie
       0.001000R    0.001000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.001000R0   0.001000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    110 GLENBROOK     115.KV -   113 CEDAR HTS 79  115.KV 1792
       0.005420R    0.010190X    0.000000G1    0.050500B1    0.000000G2    0.050500B2
       0.028990R0   0.023490X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1X    113 CEDAR HTS 79  115.KV -  2112 CEDAR HTS A3  13.2KV -  7112 CEDAR HTS T3    1.KV 4R-3X
       0.022490RPS    0.392400XPS    0.022490RPT    0.392400XPT    0.022790RST    0.392400XST    0.000000B
       0.022490RPS0   0.351600XPS0   0.022490RPT0   0.351600XPT0   0.022490RST0   0.351600XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2113 CEDAR HTS A2  13.2KV
   0L   2113 CEDAR HTS A2  13.2KV -     0 CedHtsFdr     13.2KV 4R-Fdrs
       0.001000R    0.001000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.001000R0   0.001000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X      0 CEDAR HTS 75  115.KV -  2113 CEDAR HTS A2  13.2KV -  7113 CEDAR HTS T2    1.KV 4R-2X
       0.022710RPS    0.391600XPS    0.022710RPT    0.391600XPT    0.022710RST    0.391600XST    0.000000B
       0.022710RPS0   0.347200XPS0   0.022710RPT0   0.347200XPT0   0.022710RST0   0.347200XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2112 CEDAR HTS A3  13.2KV
   1X    113 CEDAR HTS 79  115.KV -  2112 CEDAR HTS A3  13.2KV -  7112 CEDAR HTS T3    1.KV 4R-3X
       0.022490RPS    0.392400XPS    0.022490RPT    0.392400XPT    0.022790RST    0.392400XST    0.000000B
       0.022490RPS0   0.351600XPS0   0.022490RPT0   0.351600XPT0   0.022490RST0   0.351600XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7113 CEDAR HTS T2    1.KV
   0X      0 CEDAR HTS 75  115.KV -  2113 CEDAR HTS A2  13.2KV -  7113 CEDAR HTS T2    1.KV 4R-2X
       0.022710RPS    0.391600XPS    0.022710RPT    0.391600XPT    0.022710RST    0.391600XST    0.000000B
       0.022710RPS0   0.347200XPS0   0.022710RPT0   0.347200XPT0   0.022710RST0   0.347200XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7112 CEDAR HTS T3    1.KV
   1X    113 CEDAR HTS 79  115.KV -  2112 CEDAR HTS A3  13.2KV -  7112 CEDAR HTS T3    1.KV 4R-3X
       0.022490RPS    0.392400XPS    0.022490RPT    0.392400XPT    0.022790RST    0.392400XST    0.000000B
       0.022490RPS0   0.351600XPS0   0.022490RPT0   0.351600XPT0   0.022490RST0   0.351600XST0   0.000000B0
       115.5PTAP    13.2STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 CedHtsFdr     13.2KV
   0L   2113 CEDAR HTS A2  13.2KV -     0 CedHtsFdr     13.2KV 4R-Fdrs
       0.001000R    0.001000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.001000R0   0.001000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   249 CHIPPEN HILL  115.KV
   0L    249 CHIPPEN HILL  115.KV -   406 THOMASTON     115.KV 1835
       0.005830R    0.036090X    0.000000G1    0.002760B1    0.000000G2    0.002760B2
       0.035860R0   0.130270X0   0.000000G10   0.001590B10   0.000000G20   0.001590B20
   2L    247 CHIPPEN TAP   115.KV -   249 CHIPPEN HILL  115.KV 1810-2
       0.003940R    0.024660X    0.000000G1    0.001750B1    0.000000G2    0.001750B2
       0.027150R0   0.081910X0   0.000000G10   0.001040B10   0.000000G20   0.001040B20
  2XX    249 CHIPPEN HILL  115.KV -  3249 CHIPPENHL A2  13.8KV -  8249 CHIPPENHL T2    1.KV 15U-2X
       0.021700RPS    0.327330XPS    0.021700RPT    0.327330XPT    0.021700RST    0.327330XST    0.000000B
       0.021700RPS0   0.298000XPS0   0.021700RPT0   0.298000XPT0   0.021700RST0   0.298000XST0   0.000000B0
       112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    249 CHIPPEN HILL  115.KV -  2249 CHIPPENHL A1  13.8KV -  7249 CHIPPENHL T1    1.KV 15U-1X
       0.018700RPS    0.320000XPS    0.018700RPT    0.320000XPT    0.018700RST    0.320000XST    0.000000B
       0.018700RPS0   0.295330XPS0   0.018700RPT0   0.295330XPT0   0.018700RST0   0.295330XST0   0.000000B0
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      112.1PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   247 CHIPPEN TAP   115.KV
   2L    247 CHIPPEN TAP   115.KV -   249 CHIPPEN HILL  115.KV 1810-2
       0.003940R    0.024660X    0.000000G1    0.001750B1    0.000000G2    0.001750B2
       0.027150R0   0.081910X0   0.000000G10   0.001040B10   0.000000G20   0.001040B20
   1L    247 CHIPPEN TAP   115.KV -   248 BRISTOL       115.KV 1810-1
       0.001500R    0.009230X    0.000000G1    0.000660B1    0.000000G2    0.000660B2
       0.010330R0   0.029250X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   3L    245 UTECHALT      115.KV -   247 CHIPPEN TAP   115.KV 1810-3
       0.003520R    0.021360X    0.000000G1    0.001530B1    0.000000G2    0.001530B2
       0.023860R0   0.068300X0   0.000000G10   0.000970B10   0.000000G20   0.000970B20

BUS  2249 CHIPPENHL A1  13.8KV
  1XX    249 CHIPPEN HILL  115.KV -  2249 CHIPPENHL A1  13.8KV -  7249 CHIPPENHL T1    1.KV 15U-1X
       0.018700RPS    0.320000XPS    0.018700RPT    0.320000XPT    0.018700RST    0.320000XST    0.000000B
       0.018700RPS0   0.295330XPS0   0.018700RPT0   0.295330XPT0   0.018700RST0   0.295330XST0   0.000000B0
       112.1PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  3249 CHIPPENHL A2  13.8KV
  2XX    249 CHIPPEN HILL  115.KV -  3249 CHIPPENHL A2  13.8KV -  8249 CHIPPENHL T2    1.KV 15U-2X
       0.021700RPS    0.327330XPS    0.021700RPT    0.327330XPT    0.021700RST    0.327330XST    0.000000B
       0.021700RPS0   0.298000XPS0   0.021700RPT0   0.298000XPT0   0.021700RST0   0.298000XST0   0.000000B0
       112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7249 CHIPPENHL T1    1.KV
  1XX    249 CHIPPEN HILL  115.KV -  2249 CHIPPENHL A1  13.8KV -  7249 CHIPPENHL T1    1.KV 15U-1X
       0.018700RPS    0.320000XPS    0.018700RPT    0.320000XPT    0.018700RST    0.320000XST    0.000000B
       0.018700RPS0   0.295330XPS0   0.018700RPT0   0.295330XPT0   0.018700RST0   0.295330XST0   0.000000B0
       112.1PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  8249 CHIPPENHL T2    1.KV
  2XX    249 CHIPPEN HILL  115.KV -  3249 CHIPPENHL A2  13.8KV -  8249 CHIPPENHL T2    1.KV 15U-2X
       0.021700RPS    0.327330XPS    0.021700RPT    0.327330XPT    0.021700RST    0.327330XST    0.000000B
       0.021700RPS0   0.298000XPS0   0.021700RPT0   0.298000XPT0   0.021700RST0   0.298000XST0   0.000000B0
       112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   301 COLONY        115.KV
   1L    300 LUCCINI J300  115.KV -   301 COLONY        115.KV 1355-1
       0.003750R    0.014490X    0.000000G1    0.001180B1    0.000000G2    0.001180B2
       0.018910R0   0.041950X0   0.000000G10   0.000760B10   0.000000G20   0.000760B20
   0L    301 COLONY        115.KV -     0 test wally    115.KV 1588
       0.005120R    0.015170X    0.000000G1    0.000850B1    0.000000G2    0.000850B2
       0.010990R0   0.031890X0   0.000000G10   0.000560B10   0.000000G20   0.000560B20

BUS     0 COMPO         115.KV
   1L    115 DARIEN        115.KV -     0 COMPO         115.KV 1416
       0.004040R    0.040470X    0.000000G1    0.003230B1    0.000000G2    0.003230B2
       0.019870R0   0.108770X0   0.000000G10   0.001780B10   0.000000G20   0.001780B20
   1L      0 COMPO         115.KV -   145 PEQUONOCK     115.KV 1130
      0.004730R    0.053390X    0.000000G1    0.004320B1    0.000000G2    0.004320B2
       0.026820R0   0.141340X0   0.000000G10   0.002250B10   0.000000G20   0.002250B20
   1T      0 2X Bus        13.8KV -     0 COMPO         115.KV 23K-2X
      0.010900R    0.363800X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.010900R0   0.363800X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 1X Bus        13.8KV -     0 COMPO         115.KV 23K-1X
       0.010800R    0.363800X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.010800R0   0.363800X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2181 CONGRESS      13.8KV
   0T    182 CONGRESS 89   115.KV -  2181 CONGRESS      13.8KV
       0.014000R    0.442500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
     9999.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T    181 CONGRESS 88   115.KV -  2181 CONGRESS      13.8KV
       0.014000R    0.442500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
     9999.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   181 CONGRESS 88   115.KV
   0L    181 CONGRESS 88   115.KV -   190 E.MAINTAP 88  115.KV 8809A
       0.000150R    0.001620X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000710R0   0.004350X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    151 BAIRD 88      115.KV -   181 CONGRESS 88   115.KV 8809A
       0.002050R    0.012070X    0.000000G1    0.000970B1    0.000000G2    0.000970B2
       0.005940R0   0.031210X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0T    181 CONGRESS 88   115.KV -  2181 CONGRESS      13.8KV
       0.014000R    0.442500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
     9999.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   182 CONGRESS 89   115.KV
   0L    182 CONGRESS 89   115.KV -   191 E.MAINTAP 89  115.KV 8909B
       0.000150R    0.001620X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000710R0   0.004350X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    152 BAIRD 89      115.KV -   182 CONGRESS 89   115.KV 8909B
       0.002050R    0.012070X    0.000000G1    0.000970B1    0.000000G2    0.000970B2
       0.005940R0   0.031210X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0T    182 CONGRESS 89   115.KV -  2181 CONGRESS      13.8KV
       0.014000R    0.442500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
     9999.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
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BUS   100 COS COB       115.KV
   1L    105 TOMAC         115.KV -   100 COS COB       115.KV 1750-1
      0.001100R    0.010340X    0.000000G1    0.000790B1    0.000000G2    0.000790B2
      0.003890R0   0.025460X0   0.000000G10   0.000480B10   0.000000G20   0.000480B20
   0L    100 COS COB       115.KV -   101 WATERSIDE     115.KV 1740
      0.001410R    0.013220X    0.000000G1    0.001010B1    0.000000G2    0.001010B2
      0.004970R0   0.032540X0   0.000000G10   0.000620B10   0.000000G20   0.000620B20
   1T    100 COS COB       115.KV -     0 COSCOBGEN     13.8KV 11R-2X
      0.008100R    0.230600X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.015500R0   0.193300X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T   3100 COS COB A2A3  27.6KV -   100 COS COB       115.KV 11R-3X
      0.012910R    0.359640X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.012910R0   0.358210X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   3100 COS COB A2A3  27.6KV -   100 COS COB       115.KV 11R-2X
      0.013520R    0.356430X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.013520R0   0.353210X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2100 COS COB A1    27.6KV -   100 COS COB       115.KV 11R-1X
      0.014770R    0.304820X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.014770R0   0.301110X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2100 COS COB A1    27.6KV
   0T   2100 COS COB A1    27.6KV -   100 COS COB       115.KV 11R-1X
      0.014770R    0.304820X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.014770R0   0.301110X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3100 COS COB A2A3  27.6KV
   1T   3100 COS COB A2A3  27.6KV -   100 COS COB       115.KV 11R-3X
      0.012910R    0.359640X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.012910R0   0.358210X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   3100 COS COB A2A3  27.6KV -   100 COS COB       115.KV 11R-2X
      0.013520R    0.356430X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
      0.013520R0   0.353210X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 COSCOBGEN     13.8KV
   1T    100 COS COB       115.KV -     0 COSCOBGEN     13.8KV 11R-2X
      0.008100R    0.230600X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.015500R0   0.193300X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 CRS SOUN CBL  345.KV
   1L      0 CRS SOUN CBL  345.KV -   291 EAST SHORE    345.KV 387-1
      0.000010R    0.000050X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000050R0   0.000150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L     13 SCOVILL RCK   345.KV -     0 CRS SOUN CBL  345.KV 387
      0.001370R    0.017670X    0.000000G1    0.133440B1    0.000000G2    0.133440B2
      0.018560R0   0.051430X0   0.000000G10   0.085840B10   0.000000G20   0.085840B20
   1T      0 CRS SOUN CBL  345.KV -     0 tranxerg      200.KV transengrdc
      0.001200R    0.051200X    0.000000B   345.00PTAP  200.00STAP GD GD-CONFIG
      0.001200R0   0.051200X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   115 DARIEN        115.KV
   1L    115 DARIEN        115.KV -     0 COMPO         115.KV 1416
      0.004040R    0.040470X    0.000000G1    0.003230B1    0.000000G2    0.003230B2
      0.019870R0   0.108770X0   0.000000G10   0.001780B10   0.000000G20   0.001780B20
   1L      0 1977tap         115.KV -   115 DARIEN        115.KV 1977-0
      0.001250R    0.011550X    0.000000G1    0.000900B1    0.000000G2    0.000900B2
      0.004540R0   0.031960X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
  2xX   3115 DARIEN A2     13.2KV -   115 DARIEN        115.KV -  8115 DARIEN TERT2 12.47KV 13S-2X
      0.014440RPS    0.404290XPS    0.001850RPT    0.274290XPT    0.001850RST    0.575710XST    0.000000B
      0.014440RPS0   0.364290XPS0   0.001850RPT0   0.274290XPT0   0.001850RST0   0.575710XST0   0.000000B0
       13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
               0RG1           0XG1      1e+008RG2      1e+008XG2     0.01397RGN      0.5049XGN           0RG3           0XG3
  1xX   2115 DARIEN A1     13.2KV -   115 DARIEN        115.KV -  7115 DARIEN TERT1 12.47KV 13S-1X
      0.016220RPS    0.405000XPS    0.001850RPT    0.266430XPT    0.001850RST    0.575000XST    0.000000B
      0.016220RPS0   0.363570XPS0   0.001850RPT0   0.266430XPT0   0.001850RST0   0.575000XST0   0.000000B0
       13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
               0RG1           0XG1      1e+008RG2      1e+008XG2     0.01404RGN      0.4995XGN           0RG3           0XG3

BUS  2115 DARIEN A1     13.2KV
  1xX   2115 DARIEN A1     13.2KV -   115 DARIEN        115.KV -  7115 DARIEN TERT1 12.47KV 13S-1X
      0.016220RPS    0.405000XPS    0.001850RPT    0.266430XPT    0.001850RST    0.575000XST    0.000000B
      0.016220RPS0   0.363570XPS0   0.001850RPT0   0.266430XPT0   0.001850RST0   0.575000XST0   0.000000B0
       13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
               0RG1           0XG1      1e+008RG2      1e+008XG2     0.01404RGN      0.4995XGN           0RG3           0XG3

BUS  3115 DARIEN A2     13.2KV
  2xX   3115 DARIEN A2     13.2KV -   115 DARIEN        115.KV -  8115 DARIEN TERT2 12.47KV 13S-2X
      0.014440RPS    0.404290XPS    0.001850RPT    0.274290XPT    0.001850RST    0.575710XST    0.000000B
      0.014440RPS0   0.364290XPS0   0.001850RPT0   0.274290XPT0   0.001850RST0   0.575710XST0   0.000000B0
       13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
               0RG1           0XG1      1e+008RG2      1e+008XG2     0.01397RGN      0.5049XGN           0RG3           0XG3

BUS  7115 DARIEN TERT1 12.47KV
  1xX   2115 DARIEN A1     13.2KV -   115 DARIEN        115.KV -  7115 DARIEN TERT1 12.47KV 13S-1X
      0.016220RPS    0.405000XPS    0.001850RPT    0.266430XPT    0.001850RST    0.575000XST    0.000000B
      0.016220RPS0   0.363570XPS0   0.001850RPT0   0.266430XPT0   0.001850RST0   0.575000XST0   0.000000B0
       13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
               0RG1           0XG1      1e+008RG2      1e+008XG2     0.01404RGN      0.4995XGN           0RG3           0XG3

BUS  8115 DARIEN TERT2 12.47KV
  2xX   3115 DARIEN A2     13.2KV -   115 DARIEN        115.KV -  8115 DARIEN TERT2 12.47KV 13S-2X
      0.014440RPS    0.404290XPS    0.001850RPT    0.274290XPT    0.001850RST    0.575710XST    0.000000B
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       0.014440RPS0   0.364290XPS0   0.001850RPT0   0.274290XPT0   0.001850RST0   0.575710XST0   0.000000B0
        13.2PTAP   115.5STAP    12.5TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2     0.01397RGN      0.5049XGN           0RG3           0XG3

BUS   264 DERBY TAP     115.KV
   0L    264 DERBY TAP     115.KV -     0 Devon Ring 1  115.KV 1570-0
      0.007550R    0.046310X    0.000000G1    0.003410B1    0.000000G2    0.003410B2
      0.044680R0   0.118020X0   0.000000G10   0.002130B10   0.000000G20   0.002130B20
   1L    264 DERBY TAP     115.KV -    265 INDIAN WELL   115.KV 1570-1
      0.003120R    0.009110X    0.000000G1    0.000530B1    0.000000G2    0.000530B2
      0.010240R0   0.026120X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   2L    259 BEACON FALLS  115.KV -    264 DERBY TAP     115.KV 1570-2
      0.016870R    0.079410X    0.000000G1    0.005430B1    0.000000G2    0.005430B2
      0.080540R0   0.208220X0   0.000000G10   0.003380B10   0.000000G20   0.003380B20

BUS     0 DEVON 11U     13.8KV
    T      0 11U-SS        0.48KV -     0 DEVON 11U     13.8KV 7R-31S
      0.189000R    1.890000X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
      0.189000R0   1.890000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 11U     13.8KV 7R-11X
      0.005500R    0.150600X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.005500R0   0.150600X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 DEVON 12U     13.8KV
    T      0 12U-SS        0.48KV -     0 DEVON 12U     13.8KV 7R-32S
      0.187660R    1.876660X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
      0.187660R0   1.876660X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 12U     13.8KV 7R-12X
      0.009200R    0.217700X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.009200R0   0.217700X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 DEVON 13U     13.8KV
    T      0 13U-SS        0.48KV -     0 DEVON 13U     13.8KV 7R-33S
      0.189660R    1.896660X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
      0.189660R0   1.896660X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 13U     13.8KV 7R-13X
      0.005700R    0.148500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.005700R0   0.148500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 DEVON 14U     13.8KV
    T      0 14U-SS        0.48KV -     0 DEVON 14U     13.8KV 7R-34S
      0.189000R    1.890000X    0.000000B     0.48PTAP   13.80STAP GE GD-CONFIG
      0.189000R0   1.890000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 14U     13.8KV 7R-14X
      0.009700R    0.215500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.009700R0   0.215500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Devon Ring 1  115.KV
   0L     0 TRUMBULL 73   115.KV -     0 Devon Ring 1  115.KV 1730-0
      0.005110R    0.020460X    0.000000G1    0.002140B1    0.000000G2    0.002140B2
      0.020440R0   0.057640X0   0.000000G10   0.001250B10   0.000000G20   0.001250B20
   1L     0 Milford       115.KV -     0 Devon Ring 1  115.KV 1350
      0.000270R    0.003800X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002900R0   0.020600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L     0 Devon Ring 1  115.KV -     0 Devon Ring 2  115.KV 1480 TIE
      0.000050R    0.010100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000050R0   0.010100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    268 TRAP FALLS    115.KV -     0 Devon Ring 1  115.KV 1545
      0.004170R    0.025610X    0.000000G1    0.001860B1    0.000000G2    0.001860B2
      0.013720R0   0.059520X0   0.000000G10   0.001130B10   0.000000G20   0.001130B20
   0L    264 DERBY TAP     115.KV -     0 Devon Ring 1  115.KV 1570-0
      0.007550R    0.046310X    0.000000G1    0.003410B1    0.000000G2    0.003410B2
      0.044680R0   0.118020X0   0.000000G10   0.002130B10   0.000000G20   0.002130B20
   0L    258 S. NAUG 80    115.KV -     0 Devon Ring 1  115.KV 1580
      0.038830R    0.141810X    0.000000G1    0.008890B1    0.000000G2    0.008890B2
      0.145070R0   0.357360X0   0.000000G10   0.005620B10   0.000000G20   0.005620B20
   0L    143 TRUMBULL 71   115.KV -     0 Devon Ring 1  115.KV 1710-0
      0.005240R    0.023780X    0.000000G1    0.001620B1    0.000000G2    0.001620B2
      0.021300R0   0.065530X0   0.000000G10   0.000990B10   0.000000G20   0.000990B20
    T      0 Devon Ring 1  115.KV -     0 DEVON 11U     13.8KV 7R-11X
      0.005500R    0.150600X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.005500R0   0.150600X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 12U     13.8KV 7R-12X
      0.009200R    0.217700X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.009200R0   0.217700X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 13U     13.8KV 7R-13X
      0.005700R    0.148500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.005700R0   0.148500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T      0 Devon Ring 1  115.KV -     0 DEVON 14U     13.8KV 7R-14X
      0.009700R    0.215500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.009700R0   0.215500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Devon Ring 2  115.KV
   0L    251 LUCCINI J251  115.KV -     0 Devon Ring 2  115.KV 1690-0
      0.031730R    0.094040X    0.000000G1    0.020960B1    0.000000G2    0.020960B2
      0.153610R0   0.308680X0   0.000000G10   0.011020B10   0.000000G20   0.011020B20
   1L     0 Devon Ring 2  115.KV -    269 JUNE ST       115.KV 1685
      0.012260R    0.079020X    0.000000G1    0.005420B1    0.000000G2    0.005420B2
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      0.069410R0   0.180580X0   0.000000G10   0.003540B10   0.000000G20   0.003540B20
   1L      0 Devon Ring 2  115.KV -      0 Devon RR      115.KV 1650
      0.000220R    0.000640X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000720R0   0.002050X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L      0 Devon Ring 1  115.KV -      0 Devon Ring 2  115.KV 1480 TIE
      0.000050R    0.010100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000050R0   0.010100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    271 WALLNGFRDSUB  115.KV -      0 Devon Ring 2  115.KV 1640
      0.055030R    0.175020X    0.000000G1    0.009560B1    0.000000G2    0.009560B2
      0.177460R0   0.384430X0   0.000000G10   0.006660B10   0.000000G20   0.006660B20
   0L    171 DEVON TIE 89  115.KV -      0 Devon Ring 2  115.KV 1790
      0.000050R    0.000300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000340R0   0.000940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    170 DEVON TIE 88  115.KV -      0 Devon Ring 2  115.KV 1780
      0.000050R    0.000300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000340R0   0.000940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T      0 Devon Ring 2  115.KV -      0 21S Sta serv  4.16KV 7R-21S
      0.027300R    0.697500X    0.000000B   115.00PTAP    4.16STAP GD GD-CONFIG
      0.027300R0   0.697500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  0.T      0 Devon Ring 2  115.KV -      0 Unit 10       13.8KV Unit 10 stup
      0.054600R    0.664500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.054600R0   0.664500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 Devon Ring 2  115.KV -      0 Unit 8        13.2KV Unit 8 stpup
      0.003200R    0.101400X    0.000000B   115.00PTAP   13.20STAP GD GD-CONFIG
      0.003200R0   0.101400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 Devon Ring 2  115.KV -      0 Unit 7        13.2KV Unit 7 stpup
      0.003600R    0.110900X    0.000000B   115.00PTAP   13.20STAP GD GD-CONFIG
      0.009900R0   0.081420X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Devon RR      115.KV
   1L      0 Devon Ring 2  115.KV -      0 Devon RR      115.KV 1650
      0.000220R    0.000640X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000720R0   0.002050X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T      0 RR 1ph model  23.9KV -      0 Devon RR      115.KV RR 1ph model
      0.003850R    0.218300X    0.000000B    23.90PTAP  115.00STAP GD GD-CONFIG
      0.003850R0   0.218300X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 Devon RR      115.KV -      0 RR 3ph model  27.6KV RR 3ph model
     0.003850R    0.163600X    0.000000B   199.19PTAP   47.80STAP DD GG-CONFIG
      0.003850R0   0.163600X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   170 DEVON TIE 88  115.KV
   0L    170 DEVON TIE 88  115.KV -      0 Devon Ring 2  115.KV 1780
      0.000050R    0.000300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000340R0   0.000940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    170 DEVON TIE 88  115.KV -   172 MILVON 88     115.KV 88005A
      0.001210R    0.007140X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
      0.003510R0   0.018470X0   0.000000G10   0.000300B10   0.000000G20   0.000300B20
   0L    157 BARNUM 88     115.KV -   170 DEVON TIE 88  115.KV 88066A
      0.000720R    0.006080X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002870R0   0.016240X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   171 DEVON TIE 89  115.KV
   0L    171 DEVON TIE 89  115.KV -      0 Devon Ring 2  115.KV 1790
      0.000050R    0.000300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000340R0   0.000940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    171 DEVON TIE 89  115.KV -   173 MILVON 89     115.KV 89005B
      0.001210R    0.007140X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
      0.003510R0   0.018470X0   0.000000G10   0.000300B10   0.000000G20   0.000300B20
   0L    156 BARNUM 89     115.KV -   171 DEVON TIE 89  115.KV 89006B
      0.000720R    0.006080X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002870R0   0.016190X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   290 E. MERIDEN    115.KV
   1L    290 E. MERIDEN    115.KV -   293 GREEN HILL    115.KV
      0.074510R    0.363916X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.972689R0   2.167030X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    407 CAMPVILLE     115.KV -   290 E. MERIDEN    115.KV
     29.579201R   52.469601X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
   5805.790039R0 -2912.830078X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    221 BERLIN        115.KV -   290 E. MERIDEN    115.KV
      0.258450R    1.003020X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      4.657750R0   6.531450X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    252 NWALLINGFORD  115.KV -   290 E. MERIDEN    115.KV 1466
      0.002840R    0.011810X    0.000000G1    0.000710B1    0.000000G2    0.000710B2
      0.011960R0   0.029140X0   0.000000G10   0.000480B10   0.000000G20   0.000480B20
   1P    290 E. MERIDEN    115.KV -      0 PLEASANT VAL  345.KV
    507.609009R  1027.829956X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD          345.KV -   290 E. MERIDEN    115.KV
    1065.250000R  1966.420044X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
    T    290 E. MERIDEN    115.KV -   470 MANCHSTER     345.KV
      0.279057R    1.240390X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      4.239980R0   6.445570X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   190 E.MAINTAP 88  115.KV
   0L    181 CONGRESS 88   115.KV -   190 E.MAINTAP 88  115.KV 8809A
      0.000150R    0.001620X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000710R0   0.004350X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -   190 E.MAINTAP 88  115.KV 8809A
      0.000190R    0.001690X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000760R0   0.004510X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
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BUS   191 E.MAINTAP 89  115.KV
   0L    182 CONGRESS 89   115.KV -    191 E.MAINTAP 89  115.KV 8909B
      0.000150R    0.001620X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000710R0   0.004350X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -    191 E.MAINTAP 89  115.KV 8909B
      0.000190R    0.001690X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000760R0   0.004510X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   292 EAST SHORE    115.KV
   0L    292 EAST SHORE    115.KV -   225 BRANFORD RR   115.KV 1460-0
      0.001850R    0.018140X    0.000000G1    0.001120B1    0.000000G2    0.001120B2
      0.007530R0   0.043400X0   0.000000G10   0.000720B10   0.000000G20   0.000720B20
   1L    187 GRAND AVE.    115.KV -   292 EAST SHORE    115.KV 8100
      0.000360R    0.005690X    0.000000G1    0.000870B1    0.000000G2    0.000870B2
      0.006890R0   0.022180X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    187 GRAND AVE.    115.KV -   292 EAST SHORE    115.KV 8200
      0.000360R    0.005690X    0.000000G1    0.000870B1    0.000000G2    0.000870B2
      0.006890R0   0.022190X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
    T    292 EAST SHORE    115.KV -     0 ESHOREGEN     13.8KV 9G-1X
      0.001000R    0.017500X    0.000000B   115.00PTAP   13.80STAP GE GD-CONFIG
      0.001000R0   0.017500X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   2T    291 EAST SHORE    345.KV -   292 EAST SHORE    115.KV
      0.000480R    0.020000X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000480R0   0.020000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T    291 EAST SHORE    345.KV -   292 EAST SHORE    115.KV
      0.000480R    0.020000X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000480R0   0.020000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   291 EAST SHORE    345.KV
   1L      0 CRS SOUN CBL  345.KV -   291 EAST SHORE    345.KV 387-1
      0.000010R    0.000050X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000050R0   0.000150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2T    291 EAST SHORE    345.KV -   292 EAST SHORE    115.KV
      0.000480R    0.020000X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000480R0   0.020000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T    291 EAST SHORE    345.KV -   292 EAST SHORE    115.KV
      0.000480R    0.020000X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000480R0   0.020000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  2176 ELMWEST       13.8KV
   0T   2176 ELMWEST       13.8KV -   177 ELMWEST 89    115.KV
      0.014000R    0.447000X    0.000000B    13.80PTAP  115.00STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   0T   2176 ELMWEST       13.8KV -   176 ELMWEST 88    115.KV
      0.014000R    0.447000X    0.000000B    13.80PTAP  115.00STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   176 ELMWEST 88    115.KV
   0L    176 ELMWEST 88    115.KV -     0 ALLINGS 88    115.KV 88003A
      0.000680R    0.005740X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002710R0   0.015330X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    176 ELMWEST 88    115.KV -   178 W. RIVER 88   115.KV 88003A
      0.000710R    0.005980X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
      0.002820R0   0.015980X0   0.000000G10   0.000270B10   0.000000G20   0.000270B20
   0T   2176 ELMWEST       13.8KV -   176 ELMWEST 88    115.KV
      0.014000R    0.447000X    0.000000B    13.80PTAP  115.00STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   177 ELMWEST 89    115.KV
   0L    177 ELMWEST 89    115.KV -     0 ALLINGS 89    115.KV 89003B
      0.000680R    0.005740X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002710R0   0.015280X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    177 ELMWEST 89    115.KV -   178 W. RIVER 88   115.KV 89003B
      0.000710R    0.005980X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
      0.002830R0   0.015930X0   0.000000G10   0.000270B10   0.000000G20   0.000270B20
   0T   2176 ELMWEST       13.8KV -   177 ELMWEST 89    115.KV
      0.014000R    0.447000X    0.000000B    13.80PTAP  115.00STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   160 ELY AVE       115.KV
   1L    160 ELY AVE       115.KV -   126 SASCO CREEK   115.KV 1890-1
      0.004160R    0.038060X    0.000000G1    0.003050B1    0.000000G2    0.003050B2
      0.018320R0   0.100340X0   0.000000G10   0.001620B10   0.000000G20   0.001620B20
   2L    160 ELY AVE       115.KV -   121 NORWALK HARB  115.KV 1890-2
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    110 GLENBROOK     115.KV -   160 ELY AVE       115.KV 1890-0
      0.002720R    0.028150X    0.000000G1    0.002340B1    0.000000G2    0.002340B2
      0.011590R0   0.076200X0   0.000000G10   0.001430B10   0.000000G20   0.001430B20

BUS     0 ely jct       115.KV
   1L      0 ely jct       115.KV -   121 NORWALK HARB  115.KV 1867-00
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    120 ROWAYTNJCT86  115.KV -     0 ely jct       115.KV 1867-0
      0.000620R    0.006090X    0.000000G1    0.000430B1    0.000000G2    0.000430B2
      0.002640R0   0.014910X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20

BUS     0 ely jct2      115.KV
   0L      0 ely jct2      115.KV -   121 NORWALK HARB  115.KV 1880-00
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
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      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    119 ROWAYTNJCT88  115.KV -      0 ely jct2      115.KV 1880-0
      0.000640R    0.006160X    0.000000G1    0.000430B1    0.000000G2    0.000430B2
      0.002730R0   0.015510X0   0.000000G10   0.000290B10   0.000000G20   0.000290B20

BUS  2480 ENFIELD        23.KV

BUS     0 English      13.68KV
   1T      0 English      13.68KV -   187 GRAND AVE.    115.KV English x
      0.010700R    0.463500X    0.000000B    13.68PTAP  115.00STAP GD GD-CONFIG
      0.010700R0   0.463500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 ESHOREGEN     13.8KV
    T    292 EAST SHORE    115.KV -     0 ESHOREGEN     13.8KV 9G-1X
      0.001000R    0.017500X    0.000000B   115.00PTAP   13.80STAP GE GD-CONFIG
      0.001000R0   0.017500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   134 FLAX HILL     115.KV
   0L    134 FLAX HILL     115.KV -   135 NORWALK       115.KV 1389
      0.002570R    0.016730X    0.000000G1    0.001090B1    0.000000G2    0.001090B2
      0.009550R0   0.040660X0   0.000000G10   0.000740B10   0.000000G20   0.000740B20
   1L    120 ROWAYTNJCT86  115.KV -   134 FLAX HILL     115.KV 1867-1
      0.001040R    0.006780X    0.000000G1    0.000440B1    0.000000G2    0.000440B2
      0.003850R0   0.016440X0   0.000000G10   0.000320B10   0.000000G20   0.000320B20
  3xT   3134 FLAX HILL A3  13.8KV -   134 FLAX HILL     115.KV 24A-3X
      0.019050R    0.403600X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.019050R0   0.399840X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2134 FLAX HILL A2  13.8KV -   134 FLAX HILL     115.KV 24A-2X
      0.019580R    0.407200X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.019580R0   0.404160X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2134 FLAX HILL A2  13.8KV
   0T   2134 FLAX HILL A2  13.8KV -   134 FLAX HILL     115.KV 24A-2X
      0.019580R    0.407200X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.019580R0   0.404160X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3134 FLAX HILL A3  13.8KV
  3xT   3134 FLAX HILL A3  13.8KV -   134 FLAX HILL     115.KV 24A-3X
      0.019050R    0.403600X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.019050R0   0.399840X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2246 FORESTVIL A1  13.8KV
  2XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  8246 FORESTVIL T2    1.KV 12A-2X
      0.017150RPS    0.368700XPS    0.017150RPT    0.368700XPT    0.017150RST    0.368700XST    0.000000B
      0.017150RPS0   0.326400XPS0   0.017150RPT0   0.326400XPT0   0.017150RST0   0.326400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  7246 FORESTVIL T1    1.KV 12A-1X
      0.016760RPS    0.372200XPS    0.016760RPT    0.372200XPT    0.016760RST    0.372200XST    0.000000B
      0.016760RPS0   0.326400XPS0   0.016760RPT0   0.326400XPT0   0.016760RST0   0.326400XST0   0.000000B0
      115.0PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  3246 FORESTVIL A3  13.8KV
  3XX    246 FORESTVILLE   115.KV -  3246 FORESTVIL A3  13.8KV -  9246 FORESTVIL T3 12.47KV 12A-3X
      0.016276RPS    0.404643XPS    0.016276RPT    0.404643XPT    0.016276RST    0.404643XST    0.000000B
      0.016276RPS0   0.359350XPS0   0.016276RPT0   0.573500XPT0   0.016276RST0   0.238780XST0   0.000000B0
      115.0PTAP    13.8STAP    12.5TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7246 FORESTVIL T1    1.KV
  1XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  7246 FORESTVIL T1    1.KV 12A-1X
      0.016760RPS    0.372200XPS    0.016760RPT    0.372200XPT    0.016760RST    0.372200XST    0.000000B
      0.016760RPS0   0.326400XPS0   0.016760RPT0   0.326400XPT0   0.016760RST0   0.326400XST0   0.000000B0
      115.0PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  8246 FORESTVIL T2    1.KV
  2XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  8246 FORESTVIL T2    1.KV 12A-2X
      0.017150RPS    0.368700XPS    0.017150RPT    0.368700XPT    0.017150RST    0.368700XST    0.000000B
      0.017150RPS0   0.326400XPS0   0.017150RPT0   0.326400XPT0   0.017150RST0   0.326400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  9246 FORESTVIL T3 12.47KV
  3XX    246 FORESTVILLE   115.KV -  3246 FORESTVIL A3  13.8KV -  9246 FORESTVIL T3 12.47KV 12A-3X
      0.016276RPS    0.404643XPS    0.016276RPT    0.404643XPT    0.016276RST    0.404643XST    0.000000B
      0.016276RPS0   0.359350XPS0   0.016276RPT0   0.573500XPT0   0.016276RST0   0.238780XST0   0.000000B0
      115.0PTAP    13.8STAP    12.5TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   246 FORESTVILLE   115.KV
   0L    246 FORESTVILLE   115.KV -   248 BRISTOL       115.KV 1825
      0.007120R    0.029360X    0.000000G1    0.001880B1    0.000000G2    0.001880B2
      0.033540R0   0.089060X0   0.000000G10   0.001220B10   0.000000G20   0.001220B20
   1L    243 UAC TAP       115.KV -   246 FORESTVILLE   115.KV 1800-1
      0.001890R    0.017690X    0.000000G1    0.001340B1    0.000000G2    0.001340B2
      0.018680R0   0.057300X0   0.000000G10   0.000830B10   0.000000G20   0.000830B20
  3XX    246 FORESTVILLE   115.KV -  3246 FORESTVIL A3  13.8KV -  9246 FORESTVIL T3 12.47KV 12A-3X
      0.016276RPS    0.404643XPS    0.016276RPT    0.404643XPT    0.016276RST    0.404643XST    0.000000B
      0.016276RPS0   0.359350XPS0   0.016276RPT0   0.573500XPT0   0.016276RST0   0.238780XST0   0.000000B0
      115.0PTAP    13.8STAP    12.5TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  2XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  8246 FORESTVIL T2    1.KV 12A-2X
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      0.017150RPS    0.368700XPS    0.017150RPT    0.368700XPT    0.017150RST    0.368700XST    0.000000B
      0.017150RPS0   0.326400XPS0   0.017150RPT0   0.326400XPT0   0.017150RST0   0.326400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    246 FORESTVILLE   115.KV -  2246 FORESTVIL A1  13.8KV -  7246 FORESTVIL T1    1.KV 12A-1X
      0.016760RPS    0.372200XPS    0.016760RPT    0.372200XPT    0.016760RST    0.372200XST    0.000000B
      0.016760RPS0   0.326400XPS0   0.016760RPT0   0.326400XPT0   0.016760RST0   0.326400XST0   0.000000B0
      115.0PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   233 FREIGHT       115.KV
   0L    231 BUNKERHILL66  115.KV -   233 FREIGHT       115.KV 1668
      0.001220R    0.011380X    0.000000G1    0.000860B1    0.000000G2    0.000860B2
      0.011860R0   0.037790X0   0.000000G10   0.000540B10   0.000000G20   0.000540B20
   0L      0 Frost bridge  115.KV -   233 FREIGHT       115.KV 1721
      0.003130R    0.033350X    0.000000G1    0.002500B1    0.000000G2    0.002500B2
      0.033270R0   0.094210X0   0.000000G10   0.001690B10   0.000000G20   0.001690B20
  3xX    233 FREIGHT       115.KV -  3233 FREIGHT A3    13.8KV -  9233 FREIGHT TER3    1.KV 11W-3X
      0.043490RPS    0.635330XPS    0.043490RPT    0.635330XPT    0.043490RST    0.635330XST    0.000000B
      0.000000RPS0   0.075333XPS0   0.000000RPT0   0.075333XPT0   0.000000RST0   0.075333XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3
  2xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  8233 FREIGHT TER2    1.KV 11W-2X
      0.043345RPS    0.634670XPS    0.043345RPT    0.634670XPT    0.043345RST    0.634670XST    0.000000B
      0.000000RPS0   0.076000XPS0   0.000000RPT0   0.076000XPT0   0.000000RST0   0.076000XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3
  1xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  7233 FREIGHT TER1    1.KV 11W-1X
      0.043720RPS    0.633330XPS    0.043720RPT    0.633330XPT    0.043720RST    0.633330XST    0.000000B
      0.000000RPS0   0.074670XPS0   0.000000RPT0   0.074670XPT0   0.000000RST0   0.074670XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  2233 FREIGHT A1    13.8KV
  2xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  8233 FREIGHT TER2    1.KV 11W-2X
      0.043345RPS    0.634670XPS    0.043345RPT    0.634670XPT    0.043345RST    0.634670XST    0.000000B
      0.000000RPS0   0.076000XPS0   0.000000RPT0   0.076000XPT0   0.000000RST0   0.076000XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3
  1xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  7233 FREIGHT TER1    1.KV 11W-1X
      0.043720RPS    0.633330XPS    0.043720RPT    0.633330XPT    0.043720RST    0.633330XST    0.000000B
      0.000000RPS0   0.074670XPS0   0.000000RPT0   0.074670XPT0   0.000000RST0   0.074670XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  3233 FREIGHT A3    13.8KV
  3xX    233 FREIGHT       115.KV -  3233 FREIGHT A3    13.8KV -  9233 FREIGHT TER3    1.KV 11W-3X
      0.043490RPS    0.635330XPS    0.043490RPT    0.635330XPT    0.043490RST    0.635330XST    0.000000B
      0.000000RPS0   0.075333XPS0   0.000000RPT0   0.075333XPT0   0.000000RST0   0.075333XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  7233 FREIGHT TER1    1.KV
  1xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  7233 FREIGHT TER1    1.KV 11W-1X
      0.043720RPS    0.633330XPS    0.043720RPT    0.633330XPT    0.043720RST    0.633330XST    0.000000B
      0.000000RPS0   0.074670XPS0   0.000000RPT0   0.074670XPT0   0.000000RST0   0.074670XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  8233 FREIGHT TER2    1.KV
  2xX    233 FREIGHT       115.KV -  2233 FREIGHT A1    13.8KV -  8233 FREIGHT TER2    1.KV 11W-2X
      0.043345RPS    0.634670XPS    0.043345RPT    0.634670XPT    0.043345RST    0.634670XST    0.000000B
      0.000000RPS0   0.076000XPS0   0.000000RPT0   0.076000XPT0   0.000000RST0   0.076000XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  9233 FREIGHT TER3    1.KV
  3xX    233 FREIGHT       115.KV -  3233 FREIGHT A3    13.8KV -  9233 FREIGHT TER3    1.KV 11W-3X
      0.043490RPS    0.635330XPS    0.043490RPT    0.635330XPT    0.043490RST    0.635330XST    0.000000B
      0.000000RPS0   0.075333XPS0   0.000000RPT0   0.075333XPT0   0.000000RST0   0.075333XST0   0.000000B0
      115.5PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2         0.4XG2           0RGN           0XGN           0RG3           0XG3

BUS  7228 FROST BRIDGE  34.5KV
   1X    228 FROST BRIDGE  345.KV -   229 frst brdg tp  115.KV -  7228 FROST BRIDGE  34.5KV 8R-1X
      0.000560RPS    0.019417XPS    0.003216RPT    0.124900XPT    0.003428RST    0.104200XST    0.000000B
      0.000560RPS0   0.019417XPS0   0.003216RPT0   0.125000XPT0   0.003428RST0   0.104440XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
            0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 Frost bridge  115.KV
   1L    229 frst brdg tp  115.KV -     0 Frost bridge  115.KV temptie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    286 BALDWIN JCTA  115.KV -     0 Frost bridge  115.KV 1990-0
      0.006220R    0.021710X    0.000000G1    0.004920B1    0.000000G2    0.004920B2
      0.038600R0   0.078300X0   0.000000G10   0.002580B10   0.000000G20   0.002580B20
   0L      0 Frost bridge  115.KV -   407 CAMPVILLE     115.KV 1191
      0.016150R    0.049920X    0.000000G1    0.004680B1    0.000000G2    0.004680B2
      0.067250R0   0.144380X0   0.000000G10   0.002960B10   0.000000G20   0.002960B20
   2L      0 Frost bridge  115.KV -   237 NOERA TAP 55  115.KV 1550-2
      0.002940R    0.018290X    0.000000G1    0.001300B1    0.000000G2    0.001300B2
      0.018870R0   0.054440X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20
   2L      0 Frost bridge  115.KV -   236 NOERA TAP 16  115.KV 1163-2
      0.002940R    0.018300X    0.000000G1    0.001300B1    0.000000G2    0.001300B2
      0.018850R0   0.054490X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20
   0L      0 Frost bridge  115.KV -   233 FREIGHT       115.KV 1721
      0.003130R    0.033350X    0.000000G1    0.002500B1    0.000000G2    0.002500B2
      0.033270R0   0.094210X0   0.000000G10   0.001690B10   0.000000G20   0.001690B20
   0L    227 SHAWS HILL    115.KV -     0 Frost bridge  115.KV 1445
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      0.000810R    0.009330X    0.000000G1    0.000680B1    0.000000G2    0.000680B2
      0.008320R0   0.025050X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    218 CARMEL HILL   115.KV -     0 Frost bridge  115.KV 1238
      0.005580R    0.052140X    0.000000G1    0.003930B1    0.000000G2    0.003930B2
      0.048130R0   0.163270X0   0.000000G10   0.002110B10   0.000000G20   0.002110B20

BUS   228 FROST BRIDGE  345.KV
   1L    228 FROST BRIDGE  345.KV -    250 SOUTHINGTON   345.KV 329
      0.000940R    0.015070X    0.000000G1    0.076590B1    0.000000G2    0.076590B2
      0.012390R0   0.039340X0   0.000000G10   0.058420B10   0.000000G20   0.058420B20
   0L    228 FROST BRIDGE  345.KV -   239 LONG MTN      345.KV 352
      0.000840R    0.013270X    0.000000G1    0.069470B1    0.000000G2    0.069470B2
      0.011770R0   0.034470X0   0.000000G10   0.051980B10   0.000000G20   0.051980B20
   1X    228 FROST BRIDGE  345.KV -   229 frst brdg tp  115.KV -  7228 FROST BRIDGE  34.5KV 8R-1X
      0.000560RPS    0.019417XPS    0.003216RPT    0.124900XPT    0.003428RST    0.104200XST    0.000000B
      0.000560RPS0   0.019417XPS0   0.003216RPT0   0.125000XPT0   0.003428RST0   0.104440XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   229 frst brdg tp  115.KV
   1L    229 frst brdg tp  115.KV -     0 Frost bridge  115.KV temptie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1X    228 FROST BRIDGE  345.KV -   229 frst brdg tp  115.KV -  7228 FROST BRIDGE  34.5KV 8R-1X
      0.000560RPS    0.019417XPS    0.003216RPT    0.124900XPT    0.003428RST    0.104200XST    0.000000B
      0.000560RPS0   0.019417XPS0   0.003216RPT0   0.125000XPT0   0.003428RST0   0.104440XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 G1/G2         13.8KV
   1T    271 WALLNGFRDSUB  115.KV -     0 G1/G2         13.8KV 13M-2G/3GX
      0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.003320R0   0.112780X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 G3/G4         13.8KV
   1T    271 WALLNGFRDSUB  115.KV -     0 G3/G4         13.8KV 13M-G4/G5X
      0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.003320R0   0.112780X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 G5            13.8KV
   1T    271 WALLNGFRDSUB  115.KV -     0 G5            13.8KV 13M-G1X
      0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.003320R0   0.112780X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Glenbrook     13.2KV
  1XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  7110 GLENBROOK T1  7.26KV 1K-1X
      0.020790RPS    0.326000XPS    0.006420RPT    0.416000XPT    0.006420RST    0.163200XST    0.000000B
      0.020790RPS0   0.326000XPS0   0.006420RPT0   0.416000XPT0   0.006420RST0   0.163200XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
             0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3
  2XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  8110 GLENBROOK T2  7.26KV 1K-2X
      0.018500RPS    0.349600XPS    0.006420RPT    0.511444XPT    0.006420RST    0.179600XST    0.000000B
      0.018500RPS0   0.349600XPS0   0.006420RPT0   0.511444XPT0   0.006420RST0   0.179600XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
             0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3

BUS   110 GLENBROOK     115.KV
   0L      0 1977tap       115.KV -   110 GLENBROOK     115.KV 1977-2
      0.000040R    0.000380X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000150R0   0.001060X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    110 GLENBROOK     115.KV -   160 ELY AVE       115.KV 1890-0
      0.002720R    0.028150X    0.000000G1    0.002340B1    0.000000G2    0.002340B2
      0.011590R0   0.076200X0   0.000000G10   0.001430B10   0.000000G20   0.001430B20
   2L    110 GLENBROOK     115.KV -   120 ROWAYTNJCT86  115.KV 1867-2
      0.002490R    0.023110X    0.000000G1    0.001810B1    0.000000G2    0.001810B2
      0.015580R0   0.062900X0   0.000000G10   0.001080B10   0.000000G20   0.001080B20
   2L    110 GLENBROOK     115.KV -   119 ROWAYTNJCT88  115.KV 1880-2
      0.002080R    0.022030X    0.000000G1    0.001910B1    0.000000G2    0.001910B2
      0.008870R0   0.060750X0   0.000000G10   0.001100B10   0.000000G20   0.001100B20
   0L    110 GLENBROOK     115.KV -   113 CEDAR HTS 79  115.KV 1792
      0.005420R    0.010190X    0.000000G1    0.050500B1    0.000000G2    0.050500B2
      0.028990R0   0.023490X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    110 GLENBROOK     115.KV -     0 CEDAR HTS 75  115.KV 1753
      0.005520R    0.010380X    0.000000G1    0.051500B1    0.000000G2    0.051500B2
      0.029540R0   0.023940X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    103 SOUTH END 45  115.KV -   110 GLENBROOK     115.KV 1450
      0.000790R    0.007460X    0.000000G1    0.000580B1    0.000000G2    0.000580B2
      0.002810R0   0.018370X0   0.000000G10   0.000340B10   0.000000G20   0.000340B20
   0L    101 WATERSIDE     115.KV -   110 GLENBROOK     115.KV 1440
      0.001520R    0.014330X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
      0.005380R0   0.035290X0   0.000000G10   0.000660B10   0.000000G20   0.000660B20
  3XX    110 GLENBROOK     115.KV -  2110 Glenbrook 3X  13.2KV -     0 Glenbrook 3X  7.26KV 1K-3X
      0.018700RPS    0.343900XPS    0.058400RPT    0.537600XPT    0.040800RST    0.322400XST    0.000000B
      0.026000RPS0   0.308800XPS0   0.058400RPT0   0.537600XPT0   0.040800RST0   0.322400XST0   0.000000B0
      115.0PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
             0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3
  1XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  7110 GLENBROOK T1  7.26KV 1K-1X
      0.020790RPS    0.326000XPS    0.006420RPT    0.416000XPT    0.006420RST    0.163200XST    0.000000B
      0.020790RPS0   0.326000XPS0   0.006420RPT0   0.416000XPT0   0.006420RST0   0.163200XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
             0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3
  2XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  8110 GLENBROOK T2  7.26KV 1K-2X
      0.018500RPS    0.349600XPS    0.006420RPT    0.511444XPT    0.006420RST    0.179600XST    0.000000B
      0.018500RPS0   0.349600XPS0   0.006420RPT0   0.511444XPT0   0.006420RST0   0.179600XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
             0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3
   1T    110 GLENBROOK     115.KV -     0 statcom b     14.6KV 1K-4X satcmb
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      0.001840R    0.053330X    0.000000B   115.00PTAP   14.60STAP GE GD-CONFIG
      0.001840R0   0.053330X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  4XT    110 GLENBROOK     115.KV -     0 statcom a     14.6KV 1K-4X satcmb
      0.001840R    0.053330X    0.000000B   115.00PTAP   14.60STAP GD GD-CONFIG
      0.001840R0   0.053330X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Glenbrook 3X  7.26KV
  3XX    110 GLENBROOK     115.KV -  2110 Glenbrook 3X  13.2KV -     0 Glenbrook 3X  7.26KV 1K-3X
      0.018700RPS    0.343900XPS    0.058400RPT    0.537600XPT    0.040800RST    0.322400XST    0.000000B
      0.026000RPS0   0.308800XPS0   0.058400RPT0   0.537600XPT0   0.040800RST0   0.322400XST0   0.000000B0
      115.0PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
               0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3

BUS  2110 Glenbrook 3X  13.2KV
  3XX    110 GLENBROOK     115.KV -  2110 Glenbrook 3X  13.2KV -     0 Glenbrook 3X  7.26KV 1K-3X
      0.018700RPS    0.343900XPS    0.058400RPT    0.537600XPT    0.040800RST    0.322400XST    0.000000B
      0.026000RPS0   0.308800XPS0   0.058400RPT0   0.537600XPT0   0.040800RST0   0.322400XST0   0.000000B0
      115.0PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
               0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3

BUS  7110 GLENBROOK T1  7.26KV
  1XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  7110 GLENBROOK T1  7.26KV 1K-1X
      0.020790RPS    0.326000XPS    0.006420RPT    0.416000XPT    0.006420RST    0.163200XST    0.000000B
      0.020790RPS0   0.326000XPS0   0.006420RPT0   0.416000XPT0   0.006420RST0   0.163200XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
               0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3

BUS  8110 GLENBROOK T2  7.26KV
  2XX    110 GLENBROOK     115.KV -     0 Glenbrook     13.2KV -  8110 GLENBROOK T2  7.26KV 1K-2X
      0.018500RPS    0.349600XPS    0.006420RPT    0.511444XPT    0.006420RST    0.179600XST    0.000000B
      0.018500RPS0   0.349600XPS0   0.006420RPT0   0.511444XPT0   0.006420RST0   0.179600XST0   0.000000B0
      115.5PTAP    13.2STAP     7.3TTAP  GGD GGD-CONFIG
               0RG1           0XG1     0.01437RG2        1.15XG2           0RGN           0XGN           0RG3           0XG3

BUS   273 GLENLAKE JCT  115.KV
   2L    273 GLENLAKE JCT  115.KV -   296 MIX AVE       115.KV 1610-2
      0.003630R    0.017100X    0.000000G1    0.001060B1    0.000000G2    0.001060B2
      0.009660R0   0.034870X0   0.000000G10   0.000760B10   0.000000G20   0.000760B20
   0L    269 JUNE ST       115.KV -   273 GLENLAKE JCT  115.KV 1610-0
      0.003020R    0.020400X    0.000000G1    0.001430B1    0.000000G2    0.001430B2
      0.018250R0   0.050620X0   0.000000G10   0.000920B10   0.000000G20   0.000920B20
   1L    241 SGTN RING 1   115.KV -   273 GLENLAKE JCT  115.KV 1610-1
      0.022610R    0.104190X    0.000000G1    0.006900B1    0.000000G2    0.006900B2
      0.100840R0   0.239210X0   0.000000G10   0.004570B10   0.000000G20   0.004570B20

BUS   187 GRAND AVE.    115.KV
    L      0 MILL RIVER    115.KV -   187 GRAND AVE.    115.KV 8301
      0.000010R    0.000120X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000070R0   0.000330X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    187 GRAND AVE.    115.KV -   295 SACKETT       115.KV 8400
      0.002450R    0.022150X    0.000000G1    0.001570B1    0.000000G2    0.001570B2
      0.024090R0   0.074560X0   0.000000G10   0.000920B10   0.000000G20   0.000920B20
   1L    187 GRAND AVE.    115.KV -   292 EAST SHORE    115.KV 8100
      0.000360R    0.005690X    0.000000G1    0.000870B1    0.000000G2    0.000870B2
      0.006890R0   0.022180X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    187 GRAND AVE.    115.KV -   292 EAST SHORE    115.KV 8200
      0.000360R    0.005690X    0.000000G1    0.000870B1    0.000000G2    0.000870B2
      0.006890R0   0.022190X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    180 WATER ST      115.KV -   187 GRAND AVE.    115.KV 8500
      0.000300R    0.003000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.005000R0   0.001700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    178 W. RIVER 88   115.KV -   187 GRAND AVE.    115.KV 89003B
      0.000900R    0.004500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.007600R0   0.007000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    178 W. RIVER 88   115.KV -   187 GRAND AVE.    115.KV 88003A
      0.000900R    0.004500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.007600R0   0.007000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T      0 English      13.68KV -   187 GRAND AVE.    115.KV English x
      0.010700R    0.463500X    0.000000B    13.68PTAP  115.00STAP GD GD-CONFIG
      0.010700R0   0.463500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   293 GREEN HILL    115.KV
   1L    290 E. MERIDEN    115.KV -   293 GREEN HILL    115.KV
      0.074510R    0.363916X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.972689R0   2.167030X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    407 CAMPVILLE     115.KV -   293 GREEN HILL    115.KV
     22.973200R   44.150101X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
   9628.490234R0 -5054.359863X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    221 BERLIN        115.KV -   293 GREEN HILL    115.KV
      0.185639R    0.835479X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      6.499470R0  10.912700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    272 BRANFORD      115.KV -   293 GREEN HILL    115.KV 1508
      0.010060R    0.063810X    0.000000G1    0.004370B1    0.000000G2    0.004370B2
      0.061840R0   0.228730X0   0.000000G10   0.002430B10   0.000000G20   0.002430B20
   1P    293 GREEN HILL    115.KV -     0 PLEASANT VAL  345.KV
    390.712006R  862.872009X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD          345.KV -   293 GREEN HILL    115.KV
    825.213989R  1653.430054X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
    T    293 GREEN HILL    115.KV -   470 MANCHSTER     345.KV
      0.196079R    1.032070X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      7.295510R0  10.658600X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 GT1 (11)       16.KV
    T      0 BRGPRT ENERG  115.KV -     0 GT1 (11)       16.KV GASTURB1
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      0.002000R    0.089500X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.089500X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 GT2 (12)       16.KV
    T      0 BRGPRT ENERG  115.KV -     0 GT2 (12)       16.KV GASTURB2
      0.002000R    0.089500X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.089500X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS    12 HADDAM NECK   345.KV
   EL      0 MERIDEN TAP   345.KV -    12 HADDAM NECK   345.KV 362 E
      0.000800R    0.010400X    0.000000G1    0.089540B1    0.000000G2    0.089540B2
      0.011230R0   0.027500X0   0.000000G10   0.060240B10   0.000000G20   0.060240B20
   0L     12 HADDAM NECK   345.KV -    24 MONTVILLE     345.KV 364
      0.000960R    0.011320X    0.000000G1    0.097740B1    0.000000G2    0.097740B2
      0.012200R0   0.030260X0   0.000000G10   0.065910B10   0.000000G20   0.065910B20
   0L     12 HADDAM NECK   345.KV -    13 SCOVILL RCK   345.KV 376
      0.000220R    0.002600X    0.000000G1    0.022050B1    0.000000G2    0.022050B2
      0.002730R0   0.006530X0   0.000000G10   0.015170B10   0.000000G20   0.015170B20

BUS  4298 HANOVER        4.8KV
   1T   3298 HANOVER A3    13.8KV -  4298 HANOVER        4.8KV 12F-6X
      0.093300R    1.400000X    0.000000B    23.90PTAP    8.31STAP DD GG-CONFIG
      0.000000R0 100000000.000000X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 HANOVER 23A    23.KV
  5xX    298 HANOVER 63    115.KV -     0 HANOVER 23A    23.KV -     0 HANOVER TER5  13.2KV 12F-5X
      0.013350RPS    0.401110XPS    0.023000RPT    0.599340XPT    0.011300RST    0.295000XST    0.000000B
      0.013350RPS0   0.353000XPS0   0.023000RPT0   0.599340XPT0   0.011300RST0   0.295000XST0   0.000000B0
      115.0PTAP    23.0STAP    13.2TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   299 HANOVER 60    115.KV
   1L    298 HANOVER 63    115.KV -   299 HANOVER 60    115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    251 LUCCINI J251  115.KV -   299 HANOVER 60    115.KV 1690-2
      0.001470R    0.004270X    0.000000G1    0.000240B1    0.000000G2    0.000240B2
      0.005110R0   0.012670X0   0.000000G10   0.000150B10   0.000000G20   0.000150B20
  2xX    299 HANOVER 60    115.KV -  3299 HANOVER A2    13.8KV -  8299 HANOVER TER2    1.KV 12F-2X
      0.020760RPS    0.402000XPS    0.020760RPT    0.402000XPT    0.020760RST    0.402000XST    0.000000B
      0.020760RPS0   0.350400XPS0   0.020760RPT0   0.350400XPT0   0.020760RST0   0.350400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   298 HANOVER 63    115.KV
   1L    298 HANOVER 63    115.KV -   299 HANOVER 60    115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    298 HANOVER 63    115.KV -   300 LUCCINI J300  115.KV 1355-2
      0.001470R    0.004270X    0.000000G1    0.000240B1    0.000000G2    0.000240B2
      0.005110R0   0.012670X0   0.000000G10   0.000150B10   0.000000G20   0.000150B20
  5xX    298 HANOVER 63    115.KV -     0 HANOVER 23A    23.KV -     0 HANOVER TER5  13.2KV 12F-5X
      0.013350RPS    0.401110XPS    0.023000RPT    0.599340XPT    0.011300RST    0.295000XST    0.000000B
      0.013350RPS0   0.353000XPS0   0.023000RPT0   0.599340XPT0   0.011300RST0   0.295000XST0   0.000000B0
      115.0PTAP    23.0STAP    13.2TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  3xX    298 HANOVER 63    115.KV -  3298 HANOVER A3    13.8KV -  7298 HANOVER TER3    1.KV 12F-3X
      0.020910RPS    0.400000XPS    0.020910RPT    0.400000XPT    0.020910RST    0.400000XST    0.000000B
      0.019000RPS0   0.352140XPS0   0.019960RPT0   0.352140XPT0   0.019960RST0   0.352140XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  3299 HANOVER A2    13.8KV
  2xX    299 HANOVER 60    115.KV -  3299 HANOVER A2    13.8KV -  8299 HANOVER TER2    1.KV 12F-2X
      0.020760RPS    0.402000XPS    0.020760RPT    0.402000XPT    0.020760RST    0.402000XST    0.000000B
      0.020760RPS0   0.350400XPS0   0.020760RPT0   0.350400XPT0   0.020760RST0   0.350400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  3298 HANOVER A3    13.8KV
  3xX    298 HANOVER 63    115.KV -  3298 HANOVER A3    13.8KV -  7298 HANOVER TER3    1.KV 12F-3X
      0.020910RPS    0.400000XPS    0.020910RPT    0.400000XPT    0.020910RST    0.400000XST    0.000000B
      0.019000RPS0   0.352140XPS0   0.019960RPT0   0.352140XPT0   0.019960RST0   0.352140XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   1T   3298 HANOVER A3    13.8KV -  4298 HANOVER        4.8KV 12F-6X
      0.093300R    1.400000X    0.000000B    23.90PTAP    8.31STAP DD GG-CONFIG
      0.000000R0 100000000.000000X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  8299 HANOVER TER2    1.KV
  2xX    299 HANOVER 60    115.KV -  3299 HANOVER A2    13.8KV -  8299 HANOVER TER2    1.KV 12F-2X
      0.020760RPS    0.402000XPS    0.020760RPT    0.402000XPT    0.020760RST    0.402000XST    0.000000B
      0.020760RPS0   0.350400XPS0   0.020760RPT0   0.350400XPT0   0.020760RST0   0.350400XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7298 HANOVER TER3    1.KV
  3xX    298 HANOVER 63    115.KV -  3298 HANOVER A3    13.8KV -  7298 HANOVER TER3    1.KV 12F-3X
      0.020910RPS    0.400000XPS    0.020910RPT    0.400000XPT    0.020910RST    0.400000XST    0.000000B
      0.019000RPS0   0.352140XPS0   0.019960RPT0   0.352140XPT0   0.019960RST0   0.352140XST0   0.000000B0
      112.8PTAP    13.8STAP     1.0TTAP  GGD GGD-CONFIG
         1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS     0 HANOVER TER5  13.2KV
  5xX    298 HANOVER 63    115.KV -     0 HANOVER 23A    23.KV -     0 HANOVER TER5  13.2KV 12F-5X
      0.013350RPS    0.401110XPS    0.023000RPT    0.599340XPT    0.011300RST    0.295000XST    0.000000B
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       0.013350RPS0   0.353000XPS0   0.023000RPT0   0.599340XPT0   0.011300RST0   0.295000XST0   0.000000B0
       115.0PTAP    23.0STAP    13.2TTAP  GGD GGD-CONFIG
          1e+008RG1      1e+008XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   140 HAWTHORNE     115.KV
   0L    135 NORWALK       115.KV -   140 HAWTHORNE     115.KV 1720-0
       0.018010R    0.077170X    0.000000G1    0.005460B1    0.000000G2    0.005460B2
       0.084130R0   0.235430X0   0.000000G10   0.003250B10   0.000000G20   0.003250B20
   0L    140 HAWTHORNE     115.KV -   142 OLD TOWN      115.KV 1222 -0
       0.002480R    0.011040X    0.000000G1    0.000780B1    0.000000G2    0.000780B2
       0.012970R0   0.035090X0   0.000000G10   0.000460B10   0.000000G20   0.000460B20

BUS   265 INDIAN WELL   115.KV
   0L    265 INDIAN WELL   115.KV -   266 ANSONIA       115.KV 1594
       0.005350R    0.014790X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.009850R0   0.040390X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    264 DERBY TAP     115.KV -   265 INDIAN WELL   115.KV 1570-1
       0.003120R    0.009110X    0.000000G1    0.000530B1    0.000000G2    0.000530B2
       0.010240R0   0.026120X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20

BUS   269 JUNE ST       115.KV
   1L      0 Devon Ring 2  115.KV -   269 JUNE ST       115.KV 1685
       0.012260R    0.079020X    0.000000G1    0.005420B1    0.000000G2    0.005420B2
       0.069410R0   0.180580X0   0.000000G10   0.003540B10   0.000000G20   0.003540B20
   0L    269 JUNE ST       115.KV -   273 GLENLAKE JCT  115.KV 1610-0
       0.003020R    0.020400X    0.000000G1    0.001430B1    0.000000G2    0.001430B2
       0.018250R0   0.050620X0   0.000000G10   0.000920B10   0.000000G20   0.000920B20

BUS   239 LONG MTN      345.KV
   0L    239 LONG MTN      345.KV -     0 PLEASANT VAL  345.KV 398
       0.000940R    0.015070X    0.000000G1    0.076600B1    0.000000G2    0.076600B2
       0.012390R0   0.039340X0   0.000000G10   0.058420B10   0.000000G20   0.058420B20
   0L    228 FROST BRIDGE  345.KV -   239 LONG MTN      345.KV 352
       0.000840R    0.013270X    0.000000G1    0.069470B1    0.000000G2    0.069470B2
       0.011770R0   0.034470X0   0.000000G10   0.051980B10   0.000000G20   0.051980B20
   0L    207 PLUMTREE      345.KV -   239 LONG MTN      345.KV 321
       0.000620R    0.008470X    0.000000G1    0.079050B1    0.000000G2    0.079050B2
       0.009620R0   0.029110X0   0.000000G10   0.049090B10   0.000000G20   0.049090B20

BUS     0 low side      13.8KV
   1T      0 low side      13.8KV -     0 test wally    115.KV 2x
       0.034300R    0.616700X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.034300R0   0.616700X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 low side      13.8KV -   252 NWALLINGFORD  115.KV 1x
       0.032900R    0.591700X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.032900R0   0.591700X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   251 LUCCINI J251  115.KV
   0L    251 LUCCINI J251  115.KV -     0 Devon Ring 2  115.KV 1690-0
       0.031730R    0.094040X    0.000000G1    0.020960B1    0.000000G2    0.020960B2
       0.153610R0   0.308680X0   0.000000G10   0.011020B10   0.000000G20   0.011020B20
   2L    251 LUCCINI J251  115.KV -   299 HANOVER 60    115.KV 1690-2
       0.001470R    0.004270X    0.000000G1    0.000240B1    0.000000G2    0.000240B2
       0.005110R0   0.012670X0   0.000000G10   0.000150B10   0.000000G20   0.000150B20
   1L    242 SGTN RING 2   115.KV -   251 LUCCINI J251  115.KV 1690-1
       0.004850R    0.014350X    0.000000G1    0.003220B1    0.000000G2    0.003220B2
       0.025640R0   0.050280X0   0.000000G10   0.001690B10   0.000000G20   0.001690B20

BUS   300 LUCCINI J300  115.KV
   1L    300 LUCCINI J300  115.KV -   301 COLONY        115.KV 1355-1
       0.003750R    0.014490X    0.000000G1    0.001180B1    0.000000G2    0.001180B2
       0.018910R0   0.041950X0   0.000000G10   0.000760B10   0.000000G20   0.000760B20
   2L    298 HANOVER 63    115.KV -   300 LUCCINI J300  115.KV 1355-2
       0.001470R    0.004270X    0.000000G1    0.000240B1    0.000000G2    0.000240B2
       0.005110R0   0.012670X0   0.000000G10   0.000150B10   0.000000G20   0.000150B20
   0L    241 SGTN RING 1   115.KV -   300 LUCCINI J300  115.KV 1355-0
       0.005710R    0.025950X    0.000000G1    0.001760B1    0.000000G2    0.001760B2
       0.025780R0   0.066440X0   0.000000G10   0.001110B10   0.000000G20   0.001110B20

BUS   470 MANCHSTER     345.KV
   1L    470 MANCHSTER     345.KV -     0 PLEASANT VAL  345.KV
       0.125654R    0.801489X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      59.636200R0  42.019501X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    470 MANCHSTER     345.KV -   471 CARD          345.KV 368
       0.000830R    0.012960X    0.000000G1    0.068090B1    0.000000G2    0.068090B2
       0.011470R0   0.031290X0   0.000000G10   0.050290B10   0.000000G20   0.050290B20
   0L     29 MILLSTONE     345.KV -   470 MANCHSTER     345.KV 310
       0.001550R    0.023040X    0.000000G1    0.208910B1    0.000000G2    0.208910B2
       0.026100R0   0.065030X0   0.000000G10   0.142150B10   0.000000G20   0.142150B20
   0L     13 SCOVILL RCK   345.KV -   470 MANCHSTER     345.KV 353
       0.000830R    0.012480X    0.000000G1    0.070750B1    0.000000G2    0.070750B2
       0.010800R0   0.030910X0   0.000000G10   0.051190B10   0.000000G20   0.051190B20
   1P    470 MANCHSTER     345.KV -    24 MONTVILLE     345.KV
       5.031020R   25.876200X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD          345.KV -   470 MANCHSTER     345.KV
       0.164495R    0.930363X    0.000000B     0.00Deg.
      83.471603R0  43.25989 9X0   0.000000B0
    T    470 MANCHSTER     345.KV -   123 NORPORT CA    138.KV
      24.584101R  624.892029X    0.000000B   345.00PTAP  138.00STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    293 GREEN HILL    115.KV -   470 MANCHSTER     345.KV
       0.196079R    1.032070X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
       7.295510R0  10.658600X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    290 E. MERIDEN    115.KV -   470 MANCHSTER     345.KV
       0.279057R    1.240390X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
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      4.239980R0   6.445570X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
    T    407 CAMPVILLE     115.KV -    470 MANCHSTER     345.KV
      0.081085R    0.320324X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      0.460355R0   1.170500X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
    T    221 BERLIN        115.KV -    470 MANCHSTER     345.KV
      0.007718R    0.071489X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      0.195007R0   0.421172X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS     0 MERIDEN GEN   345.KV
   1L      0 MERIDEN TAP   345.KV -     0 MERIDEN GEN   345.KV 362tap
      0.000060R    0.000900X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000060R0   0.000900X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T      0 MERIDEN GEN   345.KV -      0 three          21.KV three
      0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
      0.000750R0   0.065000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T      0 MERIDEN GEN   345.KV -     0 two            21.KV two
      0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
      0.000750R0   0.065000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T      0 MERIDEN GEN   345.KV -     0 one            21.KV one
      0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
      0.000750R0   0.065000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS     0 MERIDEN TAP   345.KV
   EL      0 MERIDEN TAP   345.KV -    12 HADDAM NECK   345.KV 362 E
      0.000800R    0.010400X    0.000000G1    0.089540B1    0.000000G2    0.089540B2
      0.011230R0   0.027500X0   0.000000G10   0.060240B10   0.000000G20   0.060240B20
   1L      0 MERIDEN TAP   345.KV -     0 MERIDEN GEN   345.KV 362tap
      0.000060R    0.000900X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000060R0   0.000900X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L      0 MERIDEN TAP   345.KV -   250 SOUTHINGTON   345.KV 362W
      0.000170R    0.001980X    0.000000G1    0.017030B1    0.000000G2    0.017030B2
      0.002300R0   0.005560X0   0.000000G10   0.011460B10   0.000000G20   0.011460B20

BUS   205 MIDDLE RIVER  115.KV
   0L    205 MIDDLE RIVER  115.KV -     0 ug tap        115.KV 1270-1
      0.002920R    0.006480X    0.000000G1    0.054200B1    0.000000G2    0.054200B2
      0.027880R0   0.023260X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    204 TRIANGLE      115.KV -   205 MIDDLE RIVER  115.KV 1337
      0.002940R    0.006520X    0.000000G1    0.054500B1    0.000000G2    0.054500B2
      0.028040R0   0.023390X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  3xT   3205 MIDDLE RVRA3  13.8KV -   205 MIDDLE RIVER  115.KV 28M-3X
      0.019120R    0.388400X    0.000000B    13.80PTAP  112.75STAP GD GD-CONFIG
      0.015230R0   0.398400X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
  2xT   2205 MIDDLE RVRA2  13.8KV -   205 MIDDLE RIVER  115.KV 28M-2X
      0.014410R    0.381429X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014410R0   0.388571X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  2205 MIDDLE RVRA2  13.8KV
  2xT   2205 MIDDLE RVRA2  13.8KV -   205 MIDDLE RIVER  115.KV 28M-2X
      0.014410R    0.381429X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014410R0   0.388571X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  3205 MIDDLE RVRA3  13.8KV
  3xT   3205 MIDDLE RVRA3  13.8KV -   205 MIDDLE RIVER  115.KV 28M-3X
      0.019120R    0.388400X    0.000000B    13.80PTAP  112.75STAP GD GD-CONFIG
      0.015230R0   0.398400X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS    15 MIDDLETOWN    345.KV
   0L     13 SCOVILL RCK   345.KV -    15 MIDDLETOWN    345.KV 384
      0.000140R    0.002150X    0.000000G1    0.011930B1    0.000000G2    0.011930B2
      0.001890R0   0.005000X0   0.000000G10   0.008810B10   0.000000G20   0.008810B20
   1T     15 MIDDLETOWN    345.KV -     0 Middletown 4   22.KV 5A - 4X
      0.000450R    0.021380X    0.000000B   345.00PTAP   22.00STAP GD GD-CONFIG
      0.000450R0   0.021380X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS     0 Middletown 4   22.KV
   1T     15 MIDDLETOWN    345.KV -     0 Middletown 4   22.KV 5A - 4X
      0.000450R    0.021380X    0.000000B   345.00PTAP   22.00STAP GD GD-CONFIG
      0.000450R0   0.021380X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS     0 Milford       115.KV
   1L      0 Milford       115.KV -     0 Devon Ring 1  115.KV 1350
      0.000270R    0.003800X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002900R0   0.020600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  2XT      0 Milford       115.KV -     0 Milford 2     20.9KV 43G-2X
      0.000800R    0.050000X    0.000000B   115.00PTAP   20.90STAP GD GD-CONFIG
      0.000800R0   0.050000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
  1XT      0 Milford       115.KV -     0 Milford 1     20.9KV 43G-1X
      0.000800R    0.050000X    0.000000B   115.00PTAP   20.90STAP GD GD-CONFIG
      0.000800R0   0.050000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS     0 Milford 1     20.9KV
  1XT      0 Milford       115.KV -     0 Milford 1     20.9KV 43G-1X
      0.000800R    0.050000X    0.000000B   115.00PTAP   20.90STAP GD GD-CONFIG
      0.000800R0   0.050000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
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BUS     0 Milford 2     20.9KV
  2XT      0 Milford       115.KV -     0 Milford 2     20.9KV 43G-2X
       0.000800R    0.050000X    0.000000B   115.00PTAP   20.90STAP GD GD-CONFIG
       0.000800R0   0.050000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 MILL RIVER    115.KV
    L      0 MILL RIVER    115.KV -   187 GRAND AVE.    115.KV 8301
       0.000010R    0.000120X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000070R0   0.000330X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    L      0 MILL RIVER    115.KV -   297 QUINNIPIAC    115.KV 8300
       0.001330R    0.012080X    0.000000G1    0.000980B1    0.000000G2    0.000980B2
       0.013130R0   0.040650X0   0.000000G10   0.000600B10   0.000000G20   0.000600B20
    L      0 BROADWAY      115.KV -     0 MILL RIVER    115.KV 9502
       0.000820R    0.003200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.005110R0   0.007040X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS    26 MILLS U2 RSS  345.KV
   0L     29 MILLSTONE     345.KV -    26 MILLS U2 RSS  345.KV BUS TIE
       0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS    27 MILLS U3 RSS  345.KV
   0L     29 MILLSTONE     345.KV -    27 MILLS U3 RSS  345.KV BUS TIE
       0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS    29 MILLSTONE     345.KV
   0L     29 MILLSTONE     345.KV -    27 MILLS U3 RSS  345.KV BUS TIE
       0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L     29 MILLSTONE     345.KV -    26 MILLS U2 RSS  345.KV BUS TIE
       0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L     29 MILLSTONE     345.KV -   471 CARD          345.KV 383
       0.001210R    0.014350X    0.000000G1    0.124470B1    0.000000G2    0.124470B2
       0.016010R0   0.039910X0   0.000000G10   0.084780B10   0.000000G20   0.084780B20
   0L     29 MILLSTONE     345.KV -   470 MANCHSTER     345.KV 310
       0.001550R    0.023040X    0.000000G1    0.208910B1    0.000000G2    0.208910B2
       0.026100R0   0.065030X0   0.000000G10   0.142150B10   0.000000G20   0.142150B20
   0L     29 MILLSTONE     345.KV -   250 SOUTHINGTON   345.KV 348-0
       0.002270R    0.026620X    0.000000G1    0.230550B1    0.000000G2    0.230550B2
       0.028860R0   0.070260X0   0.000000G10   0.155380B10   0.000000G20   0.155380B20
   0L     24 MONTVILLE     345.KV -    29 MILLSTONE     345.KV 371
       0.000530R    0.006220X    0.000000G1    0.054290B1    0.000000G2    0.054290B2
       0.006530R0   0.016020X0   0.000000G10   0.036690B10   0.000000G20   0.036690B20
  XBT     29 MILLSTONE     345.KV -    23 MILLSTONE U3  22.8KV 15G-3XB
       0.000340R    0.017000X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000340R0   0.017000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  XAT     29 MILLSTONE     345.KV -    23 MILLSTONE U3  22.8KV 15G-3XA
       0.000330R    0.017200X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000330R0   0.017200X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T     29 MILLSTONE     345.KV -    22 MILLSTONE U2  22.8KV 15G-2X
       0.000250R    0.010900X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000250R0   0.010900X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS    22 MILLSTONE U2  22.8KV
   0T     29 MILLSTONE     345.KV -    22 MILLSTONE U2  22.8KV 15G-2X
       0.000250R    0.010900X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000250R0   0.010900X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS    23 MILLSTONE U3  22.8KV
  XBT     29 MILLSTONE     345.KV -    23 MILLSTONE U3  22.8KV 15G-3XB
       0.000340R    0.017000X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000340R0   0.017000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  XAT     29 MILLSTONE     345.KV -    23 MILLSTONE U3  22.8KV 15G-3XA
       0.000330R    0.017200X    0.000000B   345.00PTAP   22.80STAP GD GD-CONFIG
       0.000330R0   0.017200X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2172 MILVON        13.8KV
   0T    173 MILVON 89     115.KV -  2172 MILVON        13.8KV
       0.013000R    0.415500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T    172 MILVON 88     115.KV -  2172 MILVON        13.8KV
       0.013000R    0.417000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   172 MILVON 88     115.KV
   0L    172 MILVON 88     115.KV -   192 WOODMONT 88   115.KV 88055A
       0.003570R    0.021060X    0.000000G1    0.001690B1    0.000000G2    0.001690B2
       0.010360R0   0.054450X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
   0L    170 DEVON TIE 88  115.KV -   172 MILVON 88     115.KV 88005A
       0.001210R    0.007140X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
       0.003510R0   0.018470X0   0.000000G10   0.000300B10   0.000000G20   0.000300B20
   0T    172 MILVON 88     115.KV -  2172 MILVON        13.8KV
       0.013000R    0.417000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   173 MILVON 89     115.KV
   0L    173 MILVON 89     115.KV -   193 WOODMONT 89   115.KV 89005B
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      0.003570R    0.021060X    0.000000G1    0.001690B1    0.000000G2    0.001690B2
      0.010360R0   0.054450X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
   0L    171 DEVON TIE 89  115.KV -   173 MILVON 89     115.KV 89005B
      0.001210R    0.007140X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
      0.003510R0   0.018470X0   0.000000G10   0.000300B10   0.000000G20   0.000300B20
   0T    173 MILVON 89     115.KV -  2172 MILVON         13.8KV
      0.013000R    0.415500X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   296 MIX AVE       115.KV
   2L    273 GLENLAKE JCT  115.KV -   296 MIX AVE       115.KV 1610-2
      0.003630R    0.017100X    0.000000G1    0.001060B1    0.000000G2    0.001060B2
      0.009660R0   0.034870X0   0.000000G10   0.000760B10   0.000000G20   0.000760B20
   0L    189 SACK PH SHFT  115.KV -   296 MIX AVE       115.KV 84004
      0.002300R    0.004660X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.008800R0   0.005800X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS    24 MONTVILLE     345.KV
   1L    471 CARD          345.KV -    24 MONTVILLE     345.KV
      0.018383R    0.141423X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.490329R0   1.096070X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L     24 MONTVILLE     345.KV -    29 MILLSTONE     345.KV 371
      0.000530R    0.006220X    0.000000G1    0.054290B1    0.000000G2    0.054290B2
      0.006530R0   0.016020X0   0.000000G10   0.036690B10   0.000000G20   0.036690B20
   0L     12 HADDAM NECK   345.KV -    24 MONTVILLE     345.KV 364
      0.000960R    0.011320X    0.000000G1    0.097740B1    0.000000G2    0.097740B2
      0.012200R0   0.030260X0   0.000000G10   0.065910B10   0.000000G20   0.065910B20
   1P     24 MONTVILLE     345.KV -     0 PLEASANT VAL  345.KV
     72.505501R  227.681000X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
   1P    470 MANCHSTER     345.KV -    24 MONTVILLE     345.KV
      5.031020R   25.876200X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
   1P    407 CAMPVILLE     115.KV -    24 MONTVILLE     345.KV
    894.169006R  1673.699951X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0
   1P    221 BERLIN        115.KV -    24 MONTVILLE     345.KV
    294.937988R  790.447021X    0.000000B     0.00Deg.
      0.000000R0 9999.000000X0   0.000000B0

BUS  2260 NEWTOWN       13.8KV
  1xT   2260 NEWTOWN       13.8KV -   260 NEWTOWN       115.KV 12M-1X
      0.039258R    0.661333X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.039258R0   0.653333X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   260 NEWTOWN       115.KV
   0L    260 NEWTOWN       115.KV -   217 SANDY HOOK    115.KV 1876-0
      0.002154R    0.020284X    0.000000G1    0.002670B1    0.000000G2    0.002670B2
      0.023900R0   0.063809X0   0.000000G10   0.001700B10   0.000000G20   0.001700B20
   0L    206 PLUMTREE      115.KV -   260 NEWTOWN       115.KV 1760
      0.003390R    0.031930X    0.000000G1    0.002420B1    0.000000G2    0.002420B2
      0.037620R0   0.100430X0   0.000000G10   0.001530B10   0.000000G20   0.001530B20
  1xT   2260 NEWTOWN       13.8KV -   260 NEWTOWN       115.KV 12M-1X
      0.039258R    0.661333X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.039258R0   0.653333X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   274 NO. HAVEN     115.KV
   0L    274 NO. HAVEN     115.KV -   297 QUINNIPIAC    115.KV 8600
      0.004930R    0.044590X    0.000000G1    0.003500B1    0.000000G2    0.003500B2
      0.045280R0   0.160650X0   0.000000G10   0.001880B10   0.000000G20   0.001880B20
   3L    274 NO. HAVEN     115.KV -   284 WALREC TAP    115.KV 1630-3
      0.001070R    0.009970X    0.000000G1    0.000700B1    0.000000G2    0.000700B2
      0.007150R0   0.026430X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    272 BRANFORD      115.KV -   274 NO. HAVEN     115.KV 1655
      0.010760R    0.071300X    0.000000G1    0.004980B1    0.000000G2    0.004980B2
      0.077130R0   0.204250X0   0.000000G10   0.003290B10   0.000000G20   0.003290B20

BUS  3234 NOERA          4.8KV
  2xX    235 NOERA155      115.KV -  2235 NOERA A2      13.8KV -  3234 NOERA          4.8KV 13H-2X
      0.016194RPS    0.357778XPS    0.062632RPT    0.630476XPT    0.060042RST    0.205714XST    0.000000B
      0.016194RPS0   0.357778XPS0   0.062632RPT0   0.630476XPT0   0.060042RST0   0.205714XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   0X    234 NOERA116      115.KV -  2234 NOERA A1      13.8KV -  3234 NOERA          4.8KV 13H-1X
      0.016165RPS    0.362963XPS    0.060444RPT    0.647619XPT    0.059364RST    0.206667XST    0.000000B
      0.016165RPS0   0.362963XPS0   0.060444RPT0   0.647619XPT0   0.059364RST0   0.206667XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2234 NOERA A1      13.8KV
   0X    234 NOERA116      115.KV -  2234 NOERA A1      13.8KV -  3234 NOERA          4.8KV 13H-1X
      0.016165RPS    0.362963XPS    0.060444RPT    0.647619XPT    0.059364RST    0.206667XST    0.000000B
      0.016165RPS0   0.362963XPS0   0.060444RPT0   0.647619XPT0   0.059364RST0   0.206667XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2235 NOERA A2      13.8KV
  2xX    235 NOERA155      115.KV -  2235 NOERA A2      13.8KV -  3234 NOERA          4.8KV 13H-2X
      0.016194RPS    0.357778XPS    0.062632RPT    0.630476XPT    0.060042RST    0.205714XST    0.000000B
      0.016194RPS0   0.357778XPS0   0.062632RPT0   0.630476XPT0   0.060042RST0   0.205714XST0   0.000000B0
      114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   236 NOERA TAP 16  115.KV
   0L    236 NOERA TAP 16  115.KV -   238 TODD          115.KV 1163-0
      0.002030R    0.012740X    0.000000G1    0.000900B1    0.000000G2    0.000900B2
      0.014320R0   0.041470X0   0.000000G10   0.000570B10   0.000000G20   0.000570B20
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   1L    234 NOERA116      115.KV -   236 NOERA TAP 16  115.KV 1163-1
       0.003190R    0.009020X    0.000000G1    0.000540B1    0.000000G2    0.000540B2
       0.012200R0   0.029070X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   2L      0 Frost bridge  115.KV -   236 NOERA TAP 16  115.KV 1163-2
       0.002940R    0.018300X    0.000000G1    0.001300B1    0.000000G2    0.001300B2
       0.018850R0   0.054490X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20

BUS   237 NOERA TAP 55  115.KV
   0L    237 NOERA TAP 55  115.KV -   240 CANAL         115.KV 1550-0
       0.005360R    0.033600X    0.000000G1    0.002420B1    0.000000G2    0.002420B2
       0.037760R0   0.109320X0   0.000000G10   0.001520B10   0.000000G20   0.001520B20
   1L    235 NOERA155      115.KV -   237 NOERA TAP 55  115.KV 1550-1
       0.003180R    0.009020X    0.000000G1    0.000540B1    0.000000G2    0.000540B2
       0.012200R0   0.029070X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   2L      0 Frost bridge  115.KV -   237 NOERA TAP 55  115.KV 1550-2
       0.002940R    0.018290X    0.000000G1    0.001300B1    0.000000G2    0.001300B2
       0.018870R0   0.054440X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20

BUS   234 NOERA116      115.KV
   1L    234 NOERA116      115.KV -   236 NOERA TAP 16  115.KV 1163-1
       0.003190R    0.009020X    0.000000G1    0.000540B1    0.000000G2    0.000540B2
       0.012200R0   0.029070X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   0X    234 NOERA116      115.KV -  2234 NOERA A1      13.8KV -  3234 NOERA          4.8KV 13H-1X
       0.016165RPS    0.362963XPS    0.060444RPT    0.647619XPT    0.059364RST    0.206667XST    0.000000B
       0.016165RPS0   0.362963XPS0   0.060444RPT0   0.647619XPT0   0.059364RST0   0.206667XST0   0.000000B0
       114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   235 NOERA155      115.KV
   1L    235 NOERA155      115.KV -   237 NOERA TAP 55  115.KV 1550-1
       0.003180R    0.009020X    0.000000G1    0.000540B1    0.000000G2    0.000540B2
       0.012200R0   0.029070X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
  2xX    235 NOERA155      115.KV -  2235 NOERA A2      13.8KV -  3234 NOERA          4.8KV 13H-2X
       0.016194RPS    0.357778XPS    0.062632RPT    0.630476XPT    0.060042RST    0.205714XST    0.000000B
       0.016194RPS0   0.357778XPS0   0.062632RPT0   0.630476XPT0   0.060042RST0   0.205714XST0   0.000000B0
       114.3PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   123 NORPORT CA    138.KV
   4L      0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   5L      0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   3L      0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1P    471 CARD          345.KV -   123 NORPORT CA    138.KV
     1144.390015R  6382.560059X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
    T    123 NORPORT CA    138.KV -     0 PLEASANT VAL  345.KV
       0.048168R    0.544308X    0.000000B   138.00PTAP  345.00STAP GG GG-CONFIG
      59.323200R0  51.041000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    470 MANCHSTER     345.KV -   123 NORPORT CA    138.KV
      24.584101R  624.892029X    0.000000B   345.00PTAP  138.00STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    407 CAMPVILLE     115.KV -   123 NORPORT CA    138.KV
     625.526001R  1485.000000X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    221 BERLIN        115.KV -   123 NORPORT CA    138.KV
     2346.520020R  11467.700195X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  5135 NORWALK        4.8KV
  2XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  5135 NORWALK        4.8KV 9S-2X
       0.013749RPS    0.356000XPS    0.056190RPT    0.688571XPT    0.054476RST    0.236190XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  5135 NORWALK        4.8KV 9S-1X
       0.013806RPS    0.355667XPS    0.053814RPT    0.688571XPT    0.052154RST    0.239048XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2135 NORWALK       27.6KV
   1L   2135 NORWALK       27.6KV -     0 so norwalk    27.6KV 44 line
       0.084970R    0.325300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.275600R0   0.762500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    136 NORWALK TRNU  27.6KV -  2135 NORWALK       27.6KV tie
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    136 NORWALK TRNU  27.6KV -  2135 NORWALK       27.6KV
       0.000000R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000000R0   1.500470X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   135 NORWALK       115.KV
   0L    135 NORWALK       115.KV -   138 PEACEABLE 47  115.KV 1470-0
       0.009550R    0.047070X    0.000000G1    0.037450B1    0.000000G2    0.037450B2
       0.044320R0   0.126310X0   0.000000G10   0.036330B10   0.000000G20   0.036330B20
   0L    135 NORWALK       115.KV -   140 HAWTHORNE     115.KV 1720-0
       0.018010R    0.077170X    0.000000G1    0.005460B1    0.000000G2    0.005460B2
       0.084130R0   0.235430X0   0.000000G10   0.003250B10   0.000000G20   0.003250B20
   0L    135 NORWALK       115.KV -   150 WESTON 63     115.KV 1637-0
       0.008300R    0.035730X    0.000000G1    0.002500B1    0.000000G2    0.002500B2
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      0.035310R0   0.103640X0   0.000000G10   0.001550B10   0.000000G20   0.001550B20
   0L    134 FLAX HILL      115.KV -    135 NORWALK        115.KV 1389
      0.002570R    0.016730X    0.000000G1    0.001090B1    0.000000G2    0.001090B2
      0.009550R0   0.040660X0   0.000000G10   0.000740B10   0.000000G20   0.000740B20
   1L    119 ROWAYTNJCT88  115.KV -    135 NORWALK        115.KV 1880-1
      0.003610R    0.023530X    0.000000G1    0.001540B1    0.000000G2    0.001540B2
      0.013190R0   0.058570X0   0.000000G10   0.001050B10   0.000000G20   0.001050B20
   3XX    135 NORWALK       115.KV -    136 NORWALK TRNU  27.6KV -  7135 NORWALK T3     4.8KV 9S-3X
      0.013710RPS    0.351330XPS    0.054440RPT    0.685710XPT    0.052940RST    0.238100XST    0.000000B
      0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545330XPT0   0.018330RST0   0.218670XST0   0.000000B0
      114.3PTAP    27.6STAP     4.8TTAP   GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   2XX    135 NORWALK       115.KV -    136 NORWALK TRNU  27.6KV -  5135 NORWALK        4.8KV 9S-2X
      0.013749RPS    0.356000XPS    0.056190RPT    0.688571XPT    0.054476RST    0.236190XST    0.000000B
      0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
      114.3PTAP    27.6STAP     4.8TTAP   GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   1XX    135 NORWALK       115.KV -    136 NORWALK TRNU  27.6KV -  5135 NORWALK        4.8KV 9S-1X
      0.013806RPS    0.355667XPS    0.053814RPT    0.688571XPT    0.052154RST    0.239048XST    0.000000B
      0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
      114.3PTAP    27.6STAP     4.8TTAP   GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   8XT      0 Norwalk       345.KV -    135 NORWALK       115.KV 9S-8X
      0.000860R    0.037460X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000860R0   0.037460X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   6XT   4135 NORWALK A6    13.8KV -    135 NORWALK       115.KV 9S-6X
      0.018273R    0.374643X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.018273R0   0.371071X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   5XT   3135 NORWALK A5    13.8KV -    135 NORWALK       115.KV 9S-5X
      0.018879R    0.387600X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.001480R0   0.396400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Norwalk       345.KV
   1L      0 Norwalk Jct   345.KV -      0 Norwalk       345.KV 345P1-4
      0.000100R    0.001800X    0.000000G1    0.016360B1    0.000000G2    0.016360B2
      0.001210R0   0.004640X0   0.000000G10   0.010430B10   0.000000G20   0.010430B20
   8XT      0 Norwalk       345.KV -    135 NORWALK       115.KV 9S-8X
      0.000860R    0.037460X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000860R0   0.037460X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3135 NORWALK A5    13.8KV
   5XT   3135 NORWALK A5    13.8KV -    135 NORWALK       115.KV 9S-5X
      0.018879R    0.387600X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.001480R0   0.396400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  4135 NORWALK A6    13.8KV
   6XT   4135 NORWALK A6    13.8KV -    135 NORWALK       115.KV 9S-6X
      0.018273R    0.374643X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
      0.018273R0   0.371071X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   121 NORWALK HARB  115.KV
   1L      0 ely jct       115.KV -    121 NORWALK HARB  115.KV 1867-00
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L      0 ely jct2      115.KV -    121 NORWALK HARB  115.KV 1880-00
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    160 ELY AVE       115.KV -    121 NORWALK HARB  115.KV 1890-2
      0.000540R    0.002300X    0.000000G1    0.028490B1    0.000000G2    0.028490B2
      0.002300R0   0.003140X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   NXT    121 NORWALK HARB  115.KV -     0 NWHARBOR      138.KV 6J-newx
      0.000250R    0.007400X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
      0.000250R0   0.007400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   8XT    121 NORWALK HARB  115.KV -     0 NWHARBOR      138.KV 6J-8X
      0.000250R    0.007400X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
      0.000250R0   0.007400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    121 NORWALK HARB  115.KV -     0 6J-21S        4.16KV 6J-21S
      0.051600R    0.798300X    0.000000B   115.00PTAP    4.16STAP GD GD-CONFIG
      0.051600R0   0.798300X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-10    13.8KV 6J-10X
      0.037500R    0.623100X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.037500R0   0.623100X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-2      19.KV 6J-2X
      0.002000R    0.053500X    0.000000B   115.00PTAP   19.00STAP GD GD-CONFIG
      0.002000R0   0.053500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-1     17.1KV 6J-1X
      0.001800R    0.055400X    0.000000B   115.00PTAP   17.10STAP GD GD-CONFIG
      0.001800R0   0.055400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Norwalk Jct   345.KV
   1L      0 Norwalk Jct   345.KV -      0 Norwalk       345.KV 345P1-4
      0.000100R    0.001800X    0.000000G1    0.016360B1    0.000000G2    0.016360B2
      0.001210R0   0.004640X0   0.000000G10   0.010430B10   0.000000G20   0.010430B20
   2L      0 Archers Lane  345.KV -      0 Norwalk Jct   345.KV 345P1-22
      0.000390R    0.001920X    0.000000G1    1.029270B1    0.000000G2    1.029270B2
      0.006550R0   0.005670X0   0.000000G10   1.029270B10   0.000000G20   1.029270B20
   1L      0 Archers Lane  345.KV -      0 Norwalk Jct   345.KV 345P1-2
      0.000390R    0.001920X    0.000000G1    1.029270B1    0.000000G2    1.029270B2
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      0.006550R0   0.005670X0   0.000000G10   1.029270B10   0.000000G20   1.029270B20

BUS  7135 NORWALK T3     4.8KV
  3XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  7135 NORWALK T3     4.8KV 9S-3X
       0.013710RPS    0.351330XPS    0.054440RPT    0.685710XPT    0.052940RST    0.238100XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545330XPT0   0.018330RST0   0.218670XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   136 NORWALK TRNU  27.6KV
   1L    136 NORWALK TRNU  27.6KV -  2135 NORWALK       27.6KV tie
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    136 NORWALK TRNU  27.6KV -  2135 NORWALK       27.6KV
       0.000000R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000000R0   1.500470X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  3XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  7135 NORWALK T3     4.8KV 9S-3X
       0.013710RPS    0.351330XPS    0.054440RPT    0.685710XPT    0.052940RST    0.238100XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545330XPT0   0.018330RST0   0.218670XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  2XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  5135 NORWALK       4.8KV 9S-2X
       0.013749RPS    0.356000XPS    0.056190RPT    0.688571XPT    0.054476RST    0.236190XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    135 NORWALK       115.KV -   136 NORWALK TRNU  27.6KV -  5135 NORWALK       4.8KV 9S-1X
       0.013806RPS    0.355667XPS    0.053814RPT    0.688571XPT    0.052154RST    0.239048XST    0.000000B
       0.022000RPS0   0.309000XPS0   0.050000RPT0   0.545333XPT0   0.018333RST0   0.218667XST0   0.000000B0
       114.3PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  5053 NRTHPT P EQ   138.KV

BUS   252 NWALLINGFORD  115.KV
   1L    252 NWALLINGFORD  115.KV -     0 test wally    115.KV highside tie
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    252 NWALLINGFORD  115.KV -   290 E. MERIDEN    115.KV 1466
       0.002840R    0.011810X    0.000000G1    0.000710B1    0.000000G2    0.000710B2
       0.011960R0   0.029140X0   0.000000G10   0.000480B10   0.000000G20   0.000480B20
   1T     0 low side      13.8KV -   252 NWALLINGFORD  115.KV 1x
       0.032900R    0.591700X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.032900R0   0.591700X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 NWHARBOR      138.KV
   4L     0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   5L     0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   3L     0 NWHARBOR      138.KV -   123 NORPORT CA    138.KV 3x1x88mm2
       0.006080R    0.014190X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.019260R0   0.011150X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  NXT    121 NORWALK HARB  115.KV -     0 NWHARBOR      138.KV 6J-newx
       0.000250R    0.007400X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
       0.000250R0   0.007400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  8XT    121 NORWALK HARB  115.KV -     0 NWHARBOR      138.KV 6J-8X
       0.000250R    0.007400X    0.000000B   115.00PTAP  138.00STAP GG GG-CONFIG
       0.000250R0   0.007400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   142 OLD TOWN      115.KV
   1L    142 OLD TOWN      115.KV -   143 TRUMBULL 71   115.KV 1710-1
       0.001590R    0.015580X    0.000000G1    0.001310B1    0.000000G2    0.001310B2
       0.019040R0   0.056150X0   0.000000G10   0.000750B10   0.000000G20   0.000750B20
   0L    140 HAWTHORNE     115.KV -   142 OLD TOWN      115.KV 1222 -0
       0.002480R    0.011040X    0.000000G1    0.000780B1    0.000000G2    0.000780B2
       0.012970R0   0.035090X0   0.000000G10   0.000460B10   0.000000G20   0.000460B20

BUS     0 one           21.KV
   1T     0 MERIDEN GEN   345.KV -     0 one           21.KV one
       0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
       0.000750R0   0.065000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 PEACABLE B1   13.8KV
   1T     0 PEACABLE B1   13.8KV -   137 PEACEABLE 56  115.KV 12N-1X
       0.020780R    0.361900X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.020780R0   0.361900X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   138 PEACEABLE 47  115.KV
   0L    135 NORWALK       115.KV -   138 PEACEABLE 47  115.KV 1470-0
       0.009550R    0.047070X    0.000000G1    0.037450B1    0.000000G2    0.037450B2
       0.044320R0   0.126310X0   0.000000G10   0.036330B10   0.000000G20   0.036330B20
   0L    137 PEACEABLE 56  115.KV -   138 PEACEABLE 47  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    130 RDGFLDTAP47   115.KV -   138 PEACEABLE 47  115.KV 1470-2
       0.000120R    0.001120X    0.000000G1    0.000080B1    0.000000G2    0.000080B2
       0.001200R0   0.003690X0   0.000000G10   0.000050B10   0.000000G20   0.000050B20
  2xT   2138 PEACEABLE B2  13.8KV -   138 PEACEABLE 47  115.KV 12N-2X
       0.037472R    0.642000X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
       0.037472R0   0.629333X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
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BUS   137 PEACEABLE 56  115.KV
   0L    137 PEACEABLE 56  115.KV -   138 PEACEABLE 47  115.KV BUS TIE
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    131 RDGFLDTAP56   115.KV -   137 PEACEABLE 56  115.KV 1565-2
       0.000120R    0.001120X    0.000000G1    0.000080B1    0.000000G2    0.000080B2
       0.001200R0   0.003690X0   0.000000G10   0.000050B10   0.000000G20   0.000050B20
   1T      0 PEACABLE B1   13.8KV -   137 PEACEABLE 56  115.KV 12N-1X
       0.020780R    0.361900X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.020780R0   0.361900X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2138 PEACEABLE B2  13.8KV
  2xT   2138 PEACEABLE B2  13.8KV -   138 PEACEABLE 47  115.KV 12N-2X
       0.037472R    0.642000X    0.000000B    13.80PTAP  115.50STAP GE GD-CONFIG
       0.037472R0   0.629333X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   145 PEQUONOCK     115.KV
   1L      0 COMPO          115.KV -   145 PEQUONOCK     115.KV 1130
       0.004730R    0.053390X    0.000000G1    0.004320B1    0.000000G2    0.004320B2
       0.026820R0   0.141340X0   0.000000G10   0.002250B10   0.000000G20   0.002250B20
   2L      0 Barnum 71     115.KV -   145 PEQUONOCK     115.KV 1710-2
       0.000600R    0.002600X    0.000000G1    0.021150B1    0.000000G2    0.021150B2
       0.002950R0   0.003200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L      0 Barnum 73     115.KV -   145 PEQUONOCK     115.KV 1730-2
       0.000600R    0.002600X    0.000000G1    0.021150B1    0.000000G2    0.021150B2
       0.002950R0   0.003200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    L      0 BRGPRT ENERG  115.KV -   145 PEQUONOCK     115.KV LINE
       0.000039R    0.000770X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000770R0   0.003010X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -   191 E.MAINTAP 89  115.KV 8909B
       0.000190R    0.001690X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000760R0   0.004510X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -   190 E.MAINTAP 88  115.KV 8809A
       0.000190R    0.001690X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000760R0   0.004510X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -   147 RESCO TAP     115.KV 91001
       0.000600R    0.006200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.002600R0   0.016600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T      0 brdgphbr jet 13.68KV -   145 PEQUONOCK     115.KV brdgphb jetx
       0.007000R    0.226500X    0.000000B    13.68PTAP  115.00STAP GD GD-CONFIG
       0.007000R0   0.226500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    145 PEQUONOCK     115.KV -     0 brdgphbr 2    18.4KV brdgphbr 2x
      0.002200R     0.059400X    0.000000B   115.00PTAP   18.40STAP GD GD-CONFIG
       0.002200R0   0.059400X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    145 PEQUONOCK     115.KV -     0 brdgphbr 3    20.2KV brdgphbr 3x
       0.000500R    0.024500X    0.000000B   115.00PTAP   20.20STAP GD GD-CONFIG
       0.000500R0   0.024500X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 PLEASANT VAL  345.KV
   1L    470 MANCHSTER     345.KV -      0 PLEASANT VAL  345.KV
       0.125654R    0.801489X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      59.636200R0  42.019501X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    239 LONG MTN      345.KV -      0 PLEASANT VAL  345.KV 398
       0.000940R    0.015070X    0.000000G1    0.076600B1    0.000000G2    0.076600B2
       0.012390R0   0.039340X0   0.000000G10   0.058420B10   0.000000G20   0.058420B20
   1P     24 MONTV ILLE     345.KV -      0 PLEASANT VAL  345.KV
      72.505501R  227.681000X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    293 GREEN HILL    115.KV -      0 PLEASANT VAL  345.KV
     390.712006R  862.872009X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    290 E. MERIDEN    115.KV -      0 PLEASANT VAL  345.KV
     507.609009R  1027.829956X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
   1P    471 CARD          345.KV -      0 PLEASANT VAL  345.KV
       2.459310R    8.203360X    0.000000B     0.00Deg.
       0.000000R0 9999.000000X0   0.000000B0
    T    123 NORPORT CA    138.KV -      0 PLEASANT VAL  345.KV
       0.048168R    0.544308X    0.000000B   138.00PTAP  345.00STAP GG GG-CONFIG
      59.323200R0  51.041000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    407 CAMPVILLE     115.KV -      0 PLEASANT VAL  345.KV
       1.071340R    2.760050X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
       7.426380R0  20.807199X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
    T    221 BERLIN        115.KV -      0 PLEASANT VAL  345.KV
       4.615340R   14.796400X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
    1365.479980R0 1127.010010X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   206 PLUMTREE      115.KV
   0L      0 ug tap         115.KV -   206 PLUMTREE      115.KV 1270
       0.003080R    0.010520X    0.000000G1    0.000640B1    0.000000G2    0.000640B2
       0.012070R0   0.033900X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   1L      0 BUS 1X         115.KV -   206 PLUMTREE      115.KV 1Xtie
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L      0 BUS2X          115.KV -   206 PLUMTREE      115.KV 2Xtie
       0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    206 PLUMTREE      115.KV -      0 STONY HL TP2  115.KV 1770-0
       0.002490R    0.018890X    0.000000G1    0.001970B1    0.000000G2    0.001970B2
       0.021020R0   0.065500X0   0.000000G10   0.001180B10   0.000000G20   0.001180B20
   0L    206 PLUMTREE      115.KV -    260 NEWTOWN       115.KV 1760
       0.003390R    0.031930X    0.000000G1    0.002420B1    0.000000G2    0.002420B2
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      0.037620R0   0.100430X0   0.000000G10   0.001530B10   0.000000G20   0.001530B20
  65L    204 TRIANGLE      115.KV -    206 PLUMTREE      115.KV 1165
      0.002180R    0.010140X    0.000000G1    0.000660B1    0.000000G2    0.000660B2
      0.011170R0   0.033510X0   0.000000G10   0.000430B10   0.000000G20   0.000430B20
   0L    204 TRIANGLE      115.KV -    206 PLUMTREE      115.KV 1060
      0.003090R    0.010520X    0.000000G1    0.000640B1    0.000000G2    0.000640B2
      0.012310R0   0.033650X0   0.000000G10   0.000460B10   0.000000G20   0.000460B20
   0L    131 RDGFLDTAP56   115.KV -    206 PLUMTREE      115.KV 1565-0
      0.004170R    0.042090X    0.000000G1    0.060300B1    0.000000G2    0.060300B2
      0.044380R0   0.089870X0   0.000000G10   0.059650B10   0.000000G20   0.059650B20

BUS   207 PLUMTREE      345.KV
   2L    207 PLUMTREE      345.KV -     0 Rt58/Hoyte    345.KV 345P1-0
      0.000080R    0.000610X    0.000000G1    0.110790B1    0.000000G2    0.110790B2
      0.000450R0   0.000500X0   0.000000G10   0.110790B10   0.000000G20   0.110790B20
   1L    207 PLUMTREE      345.KV -     0 Rt58/Hoyte    345.KV 345P1-00
      0.000080R    0.000610 X    0.000000G1    0.110790B1    0.000000G2    0.110790B2
      0.000450R0   0.000500X0   0.000000G10   0.110790B10   0.000000G20   0.110790B20
   0L    207 PLUMTREE      345.KV -    239 LONG MTN      345.KV 321
      0.000620R    0.008470X    0.000000G1    0.079050B1    0.000000G2    0.079050B2
      0.009620R0   0.029110X0   0.000000G10   0.049090B10   0.000000G20   0.049090B20
  2XX    207 PLUMTREE      345.KV -     0 BUS2X         115.KV -  8207 PLUMTREE T2   34.5KV 30G-2X
      0.000938RPS    0.0351 85XPS    0.000580RPT    0.256270XPT    0.000580RST    0.205470XST    0.000000B
      0.000938RPS0   0.035185XPS0   0.000580RPT0   0.256270XPT0   0.000580RST0   0.205470XST0   0.000000B0
      344.5PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    207 PLUMTREE      345.KV -     0 BUS 1X        115.KV -  7207 PLUMTREE T1   34.5KV 30G-1X
      0.000898RPS    0.035185XPS    0.000570RPT    0.252930XPT    0.000580RST    0.204400XST    0.000000B
      0.000898RPS0   0.035185XPS0   0.000570RPT0   0.252930XPT0   0.000580RST0   0.204400XST0   0.000000B0
      344.5PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7207 PLUMTREE T1   34.5KV
  1XX    207 PLUMTREE      345.KV -     0 BUS 1X        115.KV -  7207 PLUMTREE T1   34.5KV 30G-1X
      0.000898RPS    0.0351 85XPS    0.000570RPT    0.252930XPT    0.000580RST    0.204400XST    0.000000B
      0.000898RPS0   0.035185XPS0   0.000570RPT0   0.252930XPT0   0.000580RST0   0.204400XST0   0.000000B0
      344.5PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  8207 PLUMTREE T2   34.5KV
  2XX    207 PLUMTREE      345.KV -     0 BUS2X         115.KV -  8207 PLUMTREE T2   34.5KV 30G-2X
      0.000938RPS    0.035185XPS    0.000580RPT    0.256270XPT    0.000580RST    0.205470XST    0.000000B
      0.000938RPS0   0.035185XPS0   0.000580RPT0   0.256270XPT0   0.000580RST0   0.205470XST0   0.000000B0
      344.5PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   297 QUINNIPIAC    115.KV
    L      0 MILL RIVER    115.KV -   297 QUINNIPIAC    115.KV 8300
      0.001330R    0.01208 0X    0.000000G1    0.000980B1    0.000000G2    0.000980B2
      0.013130R0   0.040650X0   0.000000G10   0.000600B10   0.000000G20   0.000600B20
   0L    274 NO. HAVEN     115.KV -   297 QUINNIPIAC    115.KV 8600
      0.004930R    0.044590X    0.000000G1    0.003500B1    0.000000G2    0.003500B2
      0.045280R0   0.160650X0   0.000000G10   0.001880B10   0.000000G20   0.001880B20

BUS     0 Railroad225  47.63KV
   1T      0 Railroad225  47.63KV -   225 BRANFORD RR   115.KV RR Ph to Gnd
      0.002300R    0.100500X    0.000000B    47.63PTAP  115.00STAP GE GD-CONFIG
      0.002300R0   0.100500X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Railroad55     55.KV
   1T    225 BRANFORD RR   115.KV -     0 Railroad55     55.KV RR Ph to Ph
      0.001700R    0.075600X    0.000000B   199.19PTAP   95.26STAP DD GG-CONFIG
      0.001700R0   0.075600X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   130 RDGFLDTAP47   115.KV
   2L    130 RDGFLDTAP47   115.KV -   138 PEACEABLE 47  115.KV 1470-2
      0.000120R    0.001120X    0.000000G1    0.000080B1    0.000000G2    0.000080B2
      0.001200R0   0.003690X0   0.000000G10   0.000050B10   0.000000G20   0.000050B20
   1L    130 RDGFLDTAP47   115.KV -   132 RIDGEFIELD47  115.KV 1470-1
      0.007520R    0.022680X    0.000000G1    0.001410B1    0.000000G2    0.001410B2
      0.027250R0   0.069800X0   0.000000G10   0.000910B10   0.000000G20   0.000910B20

BUS   131 RDGFLDTAP56   115.KV
   0L    131 RDGFLDTAP56   115.KV -   206 PLUMTREE      115.KV 1565-0
      0.004170R    0.042090X    0.000000G1    0.060300B1    0.000000G2    0.060300B2
      0.044380R0   0.089870X0   0.000000G10   0.059650B10   0.000000G20   0.059650B20
   2L    131 RDGFLDTAP56   115.KV -   137 PEACEABLE 56  115.KV 1565-2
      0.000120R    0.001120X    0.000000G1    0.000080B1    0.000000G2    0.000080B2
      0.001200R0   0.003690X0   0.000000G10   0.000050B10   0.000000G20   0.000050B20
   1L    131 RDGFLDTAP56   115.KV -   133 RIDGEFIELD56  115.KV 1565-1
      0.007400R    0.021560X    0.000000G1    0.001330B1    0.000000G2    0.001330B2
      0.026050R0   0.066120X0   0.000000G10   0.000850B10   0.000000G20   0.000850B20

BUS   148 RESCO         115.KV
   2L    147 RESCO TAP     115.KV -   148 RESCO         115.KV 91001
      0.000340R    0.001980X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000930R0   0.004950X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   147 RESCO TAP     115.KV
   2L    147 RESCO TAP     115.KV -   148 RESCO         115.KV 91001
      0.000340R    0.001980X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000930R0   0.004950X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L    146 ASHCREEK      115.KV -   147 RESCO TAP     115.KV 91001
      0.000924R    0.010200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.004200R0   0.027200X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    145 PEQUONOCK     115.KV -   147 RESCO TAP     115.KV 91001
      0.000600R    0.006200X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.002600R0   0.016600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
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BUS   278 RESEV RD JCT  115.KV
   2L    278 RESEV RD JCT  115.KV -   279 BLACKROCK 67  115.KV 1670-2
      0.002380R    0.007060X    0.000000G1    0.000390B1    0.000000G2    0.000390B2
      0.005510R0   0.016720X0   0.000000G10   0.000250B10   0.000000G20   0.000250B20
   1L    241 SGTN RING 1   115.KV -   278 RESEV RD JCT  115.KV 1670-1
      0.006410R    0.029170X    0.000000G1    0.001970B1    0.000000G2    0.001970B2
      0.032920R0   0.076500X0   0.000000G10   0.001300B10   0.000000G20   0.001300B20
   0L    221 BERLIN        115.KV -   278 RESEV RD JCT  115.KV 1670-0
      0.006090R    0.028770X    0.000000G1    0.001830B1    0.000000G2    0.001830B2
      0.028170R0   0.080080X0   0.000000G10   0.001160B10   0.000000G20   0.001160B20

BUS   132 RIDGEFIELD47  115.KV
   1L    130 RDGFLDTAP47   115.KV -   132 RIDGEFIELD47  115.KV 1470-1
      0.007520R    0.022680X    0.000000G1    0.001410B1    0.000000G2    0.001410B2
      0.027250R0   0.069800X0   0.000000G10   0.000910B10   0.000000G20   0.000910B20
  3xT   2132 RIDGEFIELDA3  13.8KV -   132 RIDGEFIELD47  115.KV 22N-3X
      0.021971R    0.400000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021971R0   0.398400X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   133 RIDGEFIELD56  115.KV
   1L    131 RDGFLDTAP56   115.KV -   133 RIDGEFIELD56  115.KV 1565-1
      0.007400R    0.021560X    0.000000G1    0.001330B1    0.000000G2    0.001330B2
      0.026050R0   0.066120X0   0.000000G10   0.000850B10   0.000000G20   0.000850B20
  2xT   2133 RIDGEFIELDA2  13.8KV -   133 RIDGEFIELD56  115.KV 22N-2X
      0.021156R    0.396400X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021156R0   0.389600X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  2133 RIDGEFIELDA2  13.8KV
  2xT   2133 RIDGEFIELDA2  13.8KV -   133 RIDGEFIELD56  115.KV 22N-2X
      0.021156R    0.396400X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021156R0   0.389600X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  2132 RIDGEFIELDA3  13.8KV
  3xT   2132 RIDGEFIELDA3  13.8KV -   132 RIDGEFIELD47  115.KV 22N-3X
      0.021971R    0.400000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021971R0   0.398400X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   212 ROCKY RIVER   115.KV
   0L    212 ROCKY RIVER   115.KV -   218 CARMEL HILL   115.KV 1813
      0.006370R    0.059530X    0.000000G1    0.004490B1    0.000000G2    0.004490B2
      0.056340R0   0.193280X0   0.000000G10   0.002410B10   0.000000G20   0.002410B20
   0L    212 ROCKY RIVER   115.KV -   213 BULLS BRIDGE  115.KV 1555
      0.016840R    0.041540X    0.000000G1    0.002270B1    0.000000G2    0.002270B2
      0.048280R0   0.121240X0   0.000000G10   0.001460B10   0.000000G20   0.001460B20
   0L    211 W. BROOKFLD   115.KV -   212 ROCKY RIVER   115.KV 1618
      0.005467R    0.043110X    0.000000G1    0.004400B1    0.000000G2    0.004400B2
      0.049740R0   0.141040X0   0.000000G10   0.002770B10   0.000000G20   0.002770B20
  3XT   2212 ROCKYRVR 23   13.8KV -   212 ROCKY RIVER   115.KV 12Y-3X
      0.014970R    0.366000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014970R0   0.364200X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
  2XT   2212 ROCKYRVR 23   13.8KV -   212 ROCKY RIVER   115.KV 12Y-2X
      0.014800R    0.369000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014800R0   0.366000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   208 ROCKY RVR U1  13.8KV
    L   2212 ROCKYRVR 23   13.8KV -   208 ROCKY RVR U1  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   209 ROCKY RVR U2  13.8KV
    L   2212 ROCKYRVR 23   13.8KV -   209 ROCKY RVR U2  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   210 ROCKY RVR U3  13.8KV
    L   2212 ROCKYRVR 23   13.8KV -   210 ROCKY RVR U3  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS  2212 ROCKYRVR 23   13.8KV
    L   2212 ROCKYRVR 23   13.8KV -   210 ROCKY RVR U3  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    L   2212 ROCKYRVR 23   13.8KV -   209 ROCKY RVR U2  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
    L   2212 ROCKYRVR 23   13.8KV -   208 ROCKY RVR U1  13.8KV BUS TIE
      0.000000R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000000R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  3XT   2212 ROCKYRVR 23   13.8KV -   212 ROCKY RIVER   115.KV 12Y-3X
      0.014970R    0.366000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014970R0   0.364200X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
  2XT   2212 ROCKYRVR 23   13.8KV -   212 ROCKY RIVER   115.KV 12Y-2X
      0.014800R    0.369000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
      0.014800R0   0.366000X0   0.000000B0
              0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   120 ROWAYTNJCT86  115.KV
   1L    120 ROWAYTNJCT86  115.KV -     0 ely jct       115.KV 1867-0
      0.000620R    0.006090X    0.000000G1    0.000430B1    0.000000G2    0.000430B2
      0.002640R0   0.014910X0   0.000000G10   0.000330B10   0.000000G20   0.000330B20
   1L    120 ROWAYTNJCT86  115.KV -   134 FLAX HILL     115.KV 1867-1
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      0.001040R    0.006780X    0.000000G1    0.000440B1    0.000000G2    0.000440B2
      0.003850R0   0.016440X0   0.000000G10   0.000320B10   0.000000G20   0.000320B20
   2L    110 GLENBROOK     115.KV -   120 ROWAYTNJCT86  115.KV 1867-2
      0.002490R    0.023110X    0.000000G1    0.001810B1    0.000000G2    0.001810B2
      0.015580R0   0.062900X0   0.000000G10   0.001080B10   0.000000G20   0.001080B20

BUS   119 ROWAYTNJCT88  115.KV
   0L    119 ROWAYTNJCT88  115.KV -      0 ely jct2      115.KV 1880-0
      0.000640R    0.006160X    0.000000G1    0.000430B1    0.000000G2    0.000430B2
      0.002730R0   0.015510X0   0.000000G10   0.000290B10   0.000000G20   0.000290B20
   1L    119 ROWAYTNJCT88  115.KV -   135 NORWALK       115.KV 1880-1
      0.003610R    0.023530X    0.000000G1    0.001540B1    0.000000G2    0.001540B2
      0.013190R0   0.058570X0   0.000000G10   0.001050B10   0.000000G20   0.001050B20
   2L    110 GLENBROOK     115.KV -   119 ROWAYTNJCT88  115.KV 1880-2
      0.002080R    0.022030X    0.000000G1    0.001910B1    0.000000G2    0.001910B2
      0.008870R0   0.060750X0   0.000000G10   0.001100B10   0.000000G20   0.001100B20

BUS     0 RR 1ph model  23.9KV
   1T      0 RR 1ph model  23.9KV -      0 Devon RR      115.KV RR 1ph model
      0.003850R    0.218300X    0.000000B    23.90PTAP  115.00STAP GD GD-CONFIG
      0.003850R0   0.218300X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 RR 3ph model  27.6KV
   1T      0 Devon RR      115.KV -      0 RR 3ph model  27.6KV RR 3ph model
      0.003850R    0.163600X    0.000000B   199.19PTAP   47.80STAP DD GG-CONFIG
      0.003850R0   0.163600X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Rt58/Hoyte    345.KV
   1L      0 Rt58/Hoyte    345.KV -      0 Archers Lane  345.KV 345P1-1
      0.000130R    0.002320X    0.000000G1    0.021360B1    0.000000G2    0.021360B2
      0.001830R0   0.006650X0   0.000000G10   0.013110B10   0.000000G20   0.013110B20
   2L    207 PLUMTREE      345.KV -      0 Rt58/Hoyte    345.KV 345P1-0
      0.000080R    0.000610X    0.000000G1    0.110790B1    0.000000G2    0.110790B2
      0.000450R0   0.000500X0   0.000000G10   0.110790B10   0.000000G20   0.110790B20
   1L    207 PLUMTREE      345.KV -      0 Rt58/Hoyte    345.KV 345P1-00
      0.000080R    0.000610X    0.000000G1    0.110790B1    0.000000G2    0.110790B2
      0.000450R0   0.000500X0   0.000000G10   0.110790B10   0.000000G20   0.110790B20

BUS   258 S. NAUG 80    115.KV
   0L    258 S. NAUG 80    115.KV -      0 Devon Ring 1  115.KV 1580
      0.038830R    0.141810X    0.000000G1    0.008890B1    0.000000G2    0.008890B2
      0.145070R0   0.357360X0   0.000000G10   0.005620B10   0.000000G20   0.005620B20
   0L    257 S. NAUG 85    115.KV -   258 S. NAUG 80    115.KV
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1X    258 S. NAUG 80    115.KV -  2257 S. NAUGATUCK  13.8KV -  7258 S. NAUG TER1   4.8KV 21L-1X
       0.028647RPS    0.345000XPS    0.110847RPT    0.664286XPT    0.105296RST    0.284286XST    0.000000B
       0.025500RPS0   0.305000XPS0   0.056500RPT0   0.571500XPT0   0.027000RST0   0.266500XST0   0.000000B0
       117.2PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3

BUS   257 S. NAUG 85    115.KV
   1L    232 BUNKERHILL58  115.KV -   257 S. NAUG 85    115.KV 1585
      0.018240R    0.077070X    0.000000G1    0.004960B1    0.000000G2    0.004960B2
      0.082480R0   0.199350X0   0.000000G10   0.003260B10   0.000000G20   0.003260B20
   0L    257 S. NAUG 85    115.KV -   258 S. NAUG 80    115.KV
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2X    257 S. NAUG 85    115.KV -  2257 S. NAUGATUCK  13.8KV -  7257 S. NAUG TER2   4.8KV 21L-2X
       0.033229RPS    0.341111XPS    0.152400RPT    0.650000XPT    0.148578RST    0.252857XST    0.000000B
       0.033229RPS0   0.341111XPS0   0.152400RPT0   0.650000XPT0   0.148575RST0   0.252857XST0   0.000000B0
       117.1PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3

BUS  7258 S. NAUG TER1   4.8KV
   1X    258 S. NAUG 80    115.KV -  2257 S. NAUGATUCK  13.8KV -  7258 S. NAUG TER1   4.8KV 21L-1X
       0.028647RPS    0.345000XPS    0.110847RPT    0.664286XPT    0.105296RST    0.284286XST    0.000000B
       0.025500RPS0   0.305000XPS0   0.056500RPT0   0.571500XPT0   0.027000RST0   0.266500XST0   0.000000B0
       117.2PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3

BUS  7257 S. NAUG TER2   4.8KV
   2X    257 S. NAUG 85    115.KV -  2257 S. NAUGATUCK  13.8KV -  7257 S. NAUG TER2   4.8KV 21L-2X
       0.033229RPS    0.341111XPS    0.152400RPT    0.650000XPT    0.148578RST    0.252857XST    0.000000B
       0.033229RPS0   0.341111XPS0   0.152400RPT0   0.650000XPT0   0.148575RST0   0.252857XST0   0.000000B0
       117.1PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3

BUS  2257 S. NAUGATUCK  13.8KV
   2X    257 S. NAUG 85    115.KV -  2257 S. NAUGATUCK  13.8KV -  7257 S. NAUG TER2   4.8KV 21L-2X
       0.033229RPS    0.341111XPS    0.152400RPT    0.650000XPT    0.148578RST    0.252857XST    0.000000B
       0.033229RPS0   0.341111XPS0   0.152400RPT0   0.650000XPT0   0.148575RST0   0.252857XST0   0.000000B0
       117.1PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3
   1X    258 S. NAUG 80    115.KV -  2257 S. NAUGATUCK  13.8KV -  7258 S. NAUG TER1   4.8KV 21L-1X
       0.028647RPS    0.345000XPS    0.110847RPT    0.664286XPT    0.105296RST    0.284286XST    0.000000B
       0.025500RPS0   0.305000XPS0   0.056500RPT0   0.571500XPT0   0.027000RST0   0.266500XST0   0.000000B0
       117.2PTAP    13.8STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2         0.2XG2           0RGN           0XGN           0RG3           0XG3

BUS   189 SACK PH SHFT  115.KV
   0L    189 SACK PH SHFT  115.KV -   296 MIX AVE       115.KV 84004
      0.002300R    0.004660X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.008800R0   0.005800X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0P    189 SACK PH SHFT  115.KV -   295 SACKETT       115.KV SACKETT PS
      0.001500R    0.042000X    0.000000B     0.00Deg.
      0.001500R0   0.042000X0   0.000000B0
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BUS   295 SACKETT       115.KV
   0L    187 GRAND AVE.    115.KV -   295 SACKETT       115.KV 8400
      0.002450R    0.022150X    0.000000G1    0.001570B1    0.000000G2    0.001570B2
      0.024090R0   0.074560X0   0.000000G10   0.000920B10   0.000000G20   0.000920B20
   0P    189 SACK PH SHFT  115.KV -   295 SACKETT       115.KV SACKETT PS
      0.001500R    0.042000X    0.000000B     0.00Deg.
      0.001500R0   0.042000X0   0.000000B0

BUS  2217 SANDY HOOK     23.KV
    T   2217 SANDY HOOK     23.KV -   217 SANDY HOOK    115.KV 37F-1X
      0.019800R    0.610900X    0.000000B    23.00PTAP  112.75STAP GD GD-CONFIG
      0.019800R0   0.610300X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   217 SANDY HOOK    115.KV
   1L    217 SANDY HOOK    115.KV -   261 STEVENSON     115.KV 1876-1
      0.001600R    0.015100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.017800R0   0.047600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    260 NEWTOWN       115.KV -   217 SANDY HOOK    115.KV 1876-0
      0.002154R    0.020284X    0.000000G1    0.002670B1    0.000000G2    0.002670B2
      0.023900R0   0.063809X0   0.000000G10   0.001700B10   0.000000G20   0.001700B20
    T   2217 SANDY HOOK     23.KV -   217 SANDY HOOK    115.KV 37F-1X
      0.019800R    0.610900X    0.000000B    23.00PTAP  112.75STAP GD GD-CONFIG
      0.019800R0   0.610300X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   126 SASCO CREEK   115.KV
   1L    160 ELY AVE       115.KV -   126 SASCO CREEK   115.KV 1890-1
      0.004160R    0.038060X    0.000000G1    0.003050B1    0.000000G2    0.003050B2
      0.018320R0   0.100340X0   0.000000G10   0.001620B10   0.000000G20   0.001620B20
   0L    126 SASCO CREEK   115.KV -   146 ASHCREEK      115.KV 1430
      0.002240R    0.023960X    0.000000G1    0.001980B1    0.000000G2    0.001980B2
      0.011290R0   0.062120X0   0.000000G10   0.001060B10   0.000000G20   0.001060B20

BUS    13 SCOVILL RCK   345.KV
   0L     13 SCOVILL RCK   345.KV -   470 MANCHSTER     345.KV 353
      0.000830R    0.012480X    0.000000G1    0.070750B1    0.000000G2    0.070750B2
      0.010800R0   0.030910X0   0.000000G10   0.051190B10   0.000000G20   0.051190B20
   0L     13 SCOVILL RCK   345.KV -     0 CRS SOUN CBL  345.KV 387
      0.001370R    0.017670X    0.000000G1    0.133440B1    0.000000G2    0.133440B2
      0.018560R0   0.051430X0   0.000000G10   0.085840B10   0.000000G20   0.085840B20
   0L     13 SCOVILL RCK   345.KV -    15 MIDDLETOWN    345.KV 384
      0.000140R    0.002150X    0.000000G1    0.011930B1    0.000000G2    0.011930B2
      0.001890R0   0.005000X0   0.000000G10   0.008810B10   0.000000G20   0.008810B20
   0L     12 HADDAM NECK   345.KV -    13 SCOVILL RCK   345.KV 376
      0.000220R    0.002600X    0.000000G1    0.022050B1    0.000000G2    0.022050B2
      0.002730R0   0.006530X0   0.000000G10   0.015170B10   0.000000G20   0.015170B20

BUS  3242 SGTN A         4.8KV
   1X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  3242 SGTN A         4.8KV 4C-12X
      0.035296RPS    0.338889XPS    0.160969RPT    0.644286XPT    0.160133RST    0.255143XST    0.000000B
      0.035296RPS0   0.338890XPS0   0.160969RPT0   0.644286XPT0   0.160133RST0   0.255140XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   241 SGTN RING 1   115.KV
   1L    241 SGTN RING 1   115.KV -   242 SGTN RING 2   115.KV tietest
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    241 SGTN RING 1   115.KV -   300 LUCCINI J300  115.KV 1355-0
      0.005710R    0.025950X    0.000000G1    0.001760B1    0.000000G2    0.001760B2
      0.025780R0   0.066440X0   0.000000G10   0.001110B10   0.000000G20   0.001110B20
   0L    241 SGTN RING 1   115.KV -   280 BLACKROCK 83  115.KV 1830
      0.013050R    0.038030X    0.000000G1    0.002190B1    0.000000G2    0.002190B2
      0.041910R0   0.095330X0   0.000000G10   0.001440B10   0.000000G20   0.001440B20
   1L    241 SGTN RING 1   115.KV -   278 RESEV RD JCT  115.KV 1670-1
      0.006410R    0.029170X    0.000000G1    0.001970B1    0.000000G2    0.001970B2
      0.032920R0   0.076500X0   0.000000G10   0.001300B10   0.000000G20   0.001300B20
   1L    241 SGTN RING 1   115.KV -   273 GLENLAKE JCT  115.KV 1610-1
      0.022610R    0.104190X    0.000000G1    0.006900B1    0.000000G2    0.006900B2
      0.100840R0   0.239210X0   0.000000G10   0.004570B10   0.000000G20   0.004570B20
   0L    241 SGTN RING 1   115.KV -   271 WALLNGFRDSUB  115.KV 1208
      0.008300R    0.075440X    0.000000G1    0.005710B1    0.000000G2    0.005710B2
      0.075490R0   0.200260X0   0.000000G10   0.003730B10   0.000000G20   0.003730B20
   0L    221 BERLIN        115.KV -   241 SGTN RING 1   115.KV 1771
      0.012510R    0.057930X    0.000000G1    0.003800B1    0.000000G2    0.003800B2
      0.059840R0   0.159480X0   0.000000G10   0.002400B10   0.000000G20   0.002400B20
  5XX   2241 SOUTHINGTON   13.8KV -   241 SGTN RING 1   115.KV -  7241 SGTN TER5       1.KV 4C-5X
      0.021248RPS    0.442800XPS    0.021248RPT    0.442800XPT    0.021248RST    0.442800XST    0.000000B
      0.021248RPS0   0.388800XPS0   0.021248RPT0   0.388800XPT0   0.021248RST0   0.388800XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1       1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3
  1XX    250 SOUTHINGTON   345.KV -   241 SGTN RING 1   115.KV -  7250 SGTN TER1     13.2KV 4C-1X
      0.000662RPS    0.028875XPS    0.014773RPT    0.207111XPT    0.014500RST    0.165778XST    0.000000B
      0.000821RPS0   0.028800XPS0   0.014773RPT0   0.207111XPT0   0.014500RST0   0.165778XST0   0.000000B0
      345.0PTAP   115.0STAP    13.2TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  4XT    250 SOUTHINGTON   345.KV -   241 SGTN RING 1   115.KV 4C-4X
      0.000682R    0.029375X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000682R0   0.027778X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   242 SGTN RING 2   115.KV
   1L    241 SGTN RING 1   115.KV -   242 SGTN RING 2   115.KV tietest
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    242 SGTN RING 2   115.KV -   281 BLACKROCK 82  115.KV 1820
      0.013280R    0.038560X    0.000000G1    0.002240B1    0.000000G2    0.002240B2
      0.041660R0   0.097930X0   0.000000G10   0.001420B10   0.000000G20   0.001420B20
   1L    242 SGTN RING 2   115.KV -   251 LUCCINI J251  115.KV 1690-1
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      0.004850R    0.014350X    0.000000G1    0.003220B1    0.000000G2    0.003220B2
      0.025640R0   0.050280X0   0.000000G10   0.001690B10   0.000000G20   0.001690B20
   0L    242 SGTN RING 2   115.KV -    245 UTECHALT      115.KV 1810-0
      0.002740R    0.015690X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
      0.016400R0   0.043960X0   0.000000G10   0.000750B10   0.000000G20   0.000750B20
   0L    242 SGTN RING 2   115.KV -    243 UAC TAP       115.KV 1800-0
      0.001630R    0.015630X    0.000000G1    0.001130B1    0.000000G2    0.001130B2
      0.015430R0   0.042070X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20
   0L    240 CANAL         115.KV -    242 SGTN RING 2   115.KV 1950
      0.001880R    0.011800X    0.000000G1    0.000810B1    0.000000G2    0.000810B2
      0.013270R0   0.038420X0   0.000000G10   0.000510B10   0.000000G20   0.000510B20
   0L    238 TODD          115.KV -    242 SGTN RING 2   115.KV 1910
      0.005210R    0.032650X    0.000000G1    0.002330B1    0.000000G2    0.002330B2
      0.036710R0   0.106280X0   0.000000G10   0.001460B10   0.000000G20   0.001460B20
   1X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  3242 SGTN A         4.8KV 4C-12X
      0.035296RPS    0.338889XPS    0.160969RPT    0.644286XPT    0.160133RST    0.255143XST    0.000000B
      0.035296RPS0   0.338890XPS0   0.160969RPT0   0.644286XPT0   0.160133RST0   0.255140XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3
   0X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  7242 SGTN TER11     4.8KV 4C-11X
      0.031236RPS    0.342222XPS    0.135592RPT    0.651429XPT    0.153594RST    0.260000XST    0.000000B
      0.031236RPS0   0.342222XPS0   0.135592RPT0   0.651429XPT0   0.153594RST0   0.260000XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3
  3XX    250 SOUTHINGTON   345.KV -    242 SGTN RING 2   115.KV -  8250 SGTN TER3     34.5KV 4C-3X
      0.000821RPS    0.027792XPS    0.001583RPT    0.087750XPT    0.001292RST    0.052895XST    0.000000B
      0.000458RPS0   0.022292XPS0   0.001583RPT0   0.087750XPT0   0.001292RST0   0.050458XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3
  2XT    242 SGTN RING 2   115.KV -    250 SOUTHINGTON   345.KV 4C-2X
      0.000729R    0.027458X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      0.000729R0   0.027458X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  7250 SGTN TER1     13.2KV
  1XX    250 SOUTHINGTON   345.KV -    241 SGTN RING 1   115.KV -  7250 SGTN TER1     13.2KV 4C-1X
      0.000662RPS    0.028875XPS    0.014773RPT    0.207111XPT    0.014500RST    0.165778XST    0.000000B
      0.000821RPS0   0.028800XPS0   0.014773RPT0   0.207111XPT0   0.014500RST0   0.165778XST0   0.000000B0
      345.0PTAP   115.0STAP    13.2TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3

BUS  7242 SGTN TER11     4.8KV
   0X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  7242 SGTN TER11     4.8KV 4C-11X
      0.031236RPS    0.342222XPS    0.135592RPT    0.651429XPT    0.153594RST    0.260000XST    0.000000B
      0.031236RPS0   0.342222XPS0   0.135592RPT0   0.651429XPT0   0.153594RST0   0.260000XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3

BUS  8250 SGTN TER3     34.5KV
  3XX    250 SOUTHINGTON   345.KV -    242 SGTN RING 2   115.KV -  8250 SGTN TER3     34.5KV 4C-3X
      0.000821RPS    0.027792XPS    0.001583RPT    0.087750XPT    0.001292RST    0.052895XST    0.000000B
      0.000458RPS0   0.022292XPS0   0.001583RPT0   0.087750XPT0   0.001292RST0   0.050458XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3

BUS  7241 SGTN TER5       1.KV
  5XX   2241 SOUTHINGTON   13.8KV -    241 SGTN RING 1   115.KV -  7241 SGTN TER5       1.KV 4C-5X
      0.021248RPS    0.442800XPS    0.021248RPT    0.442800XPT    0.021248RST    0.442800XST    0.000000B
      0.021248RPS0   0.388800XPS0   0.021248RPT0   0.388800XPT0   0.021248RST0   0.388800XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1          0XG1      1e+008RG2      1e+008XG2          0RGN          0XGN          0RG3          0XG3

BUS  2227 SHAWS HILL    13.8KV
   0T   2227 SHAWS HILL    13.8KV -   227 SHAWS HILL    115.KV 24H-1X
      0.021516R    0.388000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021516R0   0.381200X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   227 SHAWS HILL    115.KV
   0L    227 SHAWS HILL    115.KV -   231 BUNKERHILL66  115.KV 1272
      0.001040R    0.012020X    0.000000G1    0.000890B1    0.000000G2    0.000890B2
      0.011080R0   0.032660X0   0.000000G10   0.000550B10   0.000000G20   0.000550B20
   0L    227 SHAWS HILL    115.KV -     0 Frost bridge  115.KV 1445
      0.000810R    0.009330X    0.000000G1    0.000680B1    0.000000G2    0.000680B2
      0.008320R0   0.025050X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0T   2227 SHAWS HILL    13.8KV -   227 SHAWS HILL    115.KV 24H-1X
      0.021516R    0.388000X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.021516R0   0.381200X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS  7201 SHEPAUG        6.6KV
  11X    201 SHEPAUG       115.KV -   203 SHEPAUG        69.KV -  7201 SHEPAUG        6.6KV 13A-11X
      0.006481RPS    0.090200XPS    0.024441RPT    0.406103XPT    0.023832RST    0.287559XST    0.000000B
      0.006481RPS0   0.090200XPS0   0.024441RPT0   0.406103XPT0   0.023832RST0   0.287559XST0   0.000000B0
      110.7PTAP    69.0STAP     6.6TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3

BUS     0 Shepaug       13.8KV
  21T      0 Shepaug       13.8KV -   203 SHEPAUG        69.KV 13A-21X
      0.000000R    2.196200X    0.000000B    13.80PTAP   69.00STAP GE GD-CONFIG
      0.000000R0   2.196200X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   203 SHEPAUG        69.KV
  11X    201 SHEPAUG       115.KV -   203 SHEPAUG        69.KV -  7201 SHEPAUG        6.6KV 13A-11X
      0.006481RPS    0.090200XPS    0.024441RPT    0.406103XPT    0.023832RST    0.287559XST    0.000000B
      0.006481RPS0   0.090200XPS0   0.024441RPT0   0.406103XPT0   0.023832RST0   0.287559XST0   0.000000B0
      110.7PTAP    69.0STAP     6.6TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3
  1XT    203 SHEPAUG        69.KV -     0 Shepaug Gen   13.8KV 13A-1X
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      0.000000R    0.137000X    0.000000B    69.00PTAP   13.80STAP GE GD-CONFIG
      0.000000R0   0.119600X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
 21T     0 Shepaug       13.8KV -   203 SHEPAUG       69.KV 13A-21X
      0.000000R    2.196200X    0.000000B    13.80PTAP   69.00STAP GE GD-CONFIG
      0.000000R0   2.196200X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   201 SHEPAUG       115.KV
   1L    201 SHEPAUG       115.KV -     0 STONY HL TP1  115.KV 1887-0
      0.012380R    0.036670X    0.000000G1    0.002040B1    0.000000G2    0.002040B2
      0.041020R0   0.100150X0   0.000000G10   0.001310B10   0.000000G20   0.001310B20
   0L    201 SHEPAUG       115.KV -   202 BATES ROCK    115.KV 1622
      0.004950R    0.032090X    0.000000G1    0.002110B1    0.000000G2    0.002110B2
      0.034080R0   0.084390X0   0.000000G10   0.001390B10   0.000000G20   0.001390B20
 11X    201 SHEPAUG       115.KV -   203 SHEPAUG       69.KV -  7201 SHEPAUG       6.6KV 13A-11X
      0.006481RPS    0.090200XPS    0.024441RPT    0.406103XPT    0.023832RST    0.287559XST    0.000000B
      0.006481RPS0   0.090200XPS0   0.024441RPT0   0.406103XPT0   0.023832RST0   0.287559XST0   0.000000B0
      110.7PTAP    69.0STAP     6.6TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN          0RG3          0XG3

BUS    0 Shepaug Gen   13.8KV
 1XT    203 SHEPAUG        69.KV -     0 Shepaug Gen   13.8KV 13A-1X
      0.000000R    0.137000X    0.000000B    69.00PTAP   13.80STAP GE GD-CONFIG
      0.000000R0   0.119600X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS    0 so norwalk    27.6KV
   1L   2135 NORWALK       27.6KV -     0 so norwalk    27.6KV 44 line
      0.084970R    0.325300X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.275600R0   0.762500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1T     0 so norwalk g  13.8KV -     0 so norwalk    27.6KV #1stepup
      0.050000R    0.650000X    0.000000B    13.80PTAP   27.60STAP GD GD-CONFIG
      0.050000R0   0.650000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T     0 so norwalk b   4.8KV -     0 so norwalk    27.6KV so norw t2
      0.219500R    2.414000X    0.000000B     4.80PTAP   27.60STAP GD GD-CONFIG
      0.219500R0   2.414000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN
   1T     0 so norwalk a   4.8KV -     0 so norwalk    27.6KV so norw t1
      0.218500R    2.404000X    0.000000B     4.80PTAP   27.60STAP GD GD-CONFIG
      0.218500R0   2.404000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS    0 so norwalk a   4.8KV
   1T     0 so norwalk a   4.8KV -     0 so norwalk    27.6KV so norw t1
      0.218500R    2.404000X    0.000000B     4.80PTAP   27.60STAP GD GD-CONFIG
      0.218500R0   2.404000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS    0 so norwalk b   4.8KV
   1T     0 so norwalk b   4.8KV -     0 so norwalk    27.6KV so norw t2
      0.219500R    2.414000X    0.000000B     4.80PTAP   27.60STAP GD GD-CONFIG
      0.219500R0   2.414000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS    0 so norwalk g  13.8KV
   1T     0 so norwalk g  13.8KV -     0 so norwalk    27.6KV #1stepup
      0.050000R    0.650000X    0.000000B    13.80PTAP   27.60STAP GD GD-CONFIG
      0.050000R0   0.650000X0   0.000000B0
             0RG1          0XG1          0RG2          0XG2          0RGN          0XGN

BUS   102 SOUTH END 43  115.KV
   0L    102 SOUTH END 43  115.KV -     0 1977tap       115.KV 1977-1
      0.000790R    0.007350X    0.000000G1    0.000570B1    0.000000G2    0.000570B2
      0.002880R0   0.020150X0   0.000000G10   0.000320B10   0.000000G20   0.000320B20
   0L    102 SOUTH END 43  115.KV -   104 SOUTH END 75  115.KV
      0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    102 SOUTH END 43  115.KV -   103 SOUTH END 45  115.KV
      0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X    102 SOUTH END 43  115.KV -  2102 SOUTH END A1  13.2KV -  7102 SOUTH END T2  7.97KV 1G-2X
      0.016351RPS    0.360000XPS    0.061321RPT    0.593651XPT    0.059426RST    0.152381XST    0.000000B
      0.016351RPS0   0.355556XPS0   0.061321RPT0   0.581481XPT0   0.059426RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
             0RG1          0XG1          0RG2        1.12XG2          0RGN          0XGN          0RG3          0XG3

BUS   103 SOUTH END 45  115.KV
   0L    103 SOUTH END 45  115.KV -   110 GLENBROOK     115.KV 1450
      0.000790R    0.007460X    0.000000G1    0.000580B1    0.000000G2    0.000580B2
      0.002810R0   0.018370X0   0.000000G10   0.000340B10   0.000000G20   0.000340B20
   0L    102 SOUTH END 43  115.KV -   103 SOUTH END 45  115.KV
      0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X   2103 SOUTH END A3  13.2KV -   103 SOUTH END 45  115.KV -  7103 SOUTH END T3    1.KV 1G-3X
      0.023850RPS    0.521600XPS    0.023850RPT    0.521600XPT    0.023850RST    0.521600XST    0.000000B
      0.023850RPS0   0.477600XPS0   0.023850RPT0   0.477600XPT0   0.023850RST0   0.477600XST0   0.000000B0
       13.2PTAP   112.8STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1          0XG1      1e+008RG2      1e+008XG2          0RGN          0XGN          0RG3          0XG3

BUS   104 SOUTH END 75  115.KV
   0L    104 SOUTH END 75  115.KV -   105 TOMAC         115.KV 1750-0
      0.001160R    0.009800X    0.000000G1    0.000740B1    0.000000G2    0.000740B2
      0.003950R0   0.025250X0   0.000000G10   0.000450B10   0.000000G20   0.000450B20
   0L    102 SOUTH END 43  115.KV -   104 SOUTH END 75  115.KV
      0.000100R    0.000500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0X    104 SOUTH END 75  115.KV -  2102 SOUTH END A1  13.2KV -  7104 SOUTH END T1  7.97KV 1G-1X
      0.016700RPS    0.363333XPS    0.061678RPT    0.600000XPT    0.060195RST    0.160847XST    0.000000B
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      0.016700RPS0   0.355556XPS0   0.061678RPT0   0.581481XPT0   0.060195RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2        1.12XG2           0RGN           0XGN           0RG3           0XG3

BUS  2102 SOUTH END A1  13.2KV
   0X    102 SOUTH END 43  115.KV -  2102 SOUTH END A1  13.2KV -  7102 SOUTH END T2  7.97KV 1G-2X
      0.016351RPS    0.360000XPS    0.061321RPT    0.593651XPT    0.059426RST    0.152381XST    0.000000B
      0.016351RPS0   0.355556XPS0   0.061321RPT0   0.581481XPT0   0.059426RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2        1.12XG2           0RGN           0XGN           0RG3           0XG3
   0X    104 SOUTH END 75  115.KV -  2102 SOUTH END A1  13.2KV -  7104 SOUTH END T1  7.97KV 1G-1X
      0.016700RPS    0.363333XPS    0.061678RPT    0.600000XPT    0.060195RST    0.160847XST    0.000000B
      0.016700RPS0   0.355556XPS0   0.061678RPT0   0.581481XPT0   0.060195RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2        1.12XG2           0RGN           0XGN           0RG3           0XG3

BUS  2103 SOUTH END A3  13.2KV
   0X   2103 SOUTH END A3  13.2KV -   103 SOUTH END 45  115.KV -  7103 SOUTH END T3    1.KV 1G-3X
      0.023850RPS    0.521600XPS    0.023850RPT    0.521600XPT    0.023850RST    0.521600XST    0.000000B
      0.023850RPS0   0.477600XPS0   0.023850RPT0   0.477600XPT0   0.023850RST0   0.477600XST0   0.000000B0
       13.2PTAP   112.8STAP     1.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  7104 SOUTH END T1  7.97KV
   0X    104 SOUTH END 75  115.KV -  2102 SOUTH END A1  13.2KV -  7104 SOUTH END T1  7.97KV 1G-1X
      0.016700RPS    0.363333XPS    0.061678RPT    0.600000XPT    0.060195RST    0.160847XST    0.000000B
      0.016700RPS0   0.355556XPS0   0.061678RPT0   0.581481XPT0   0.060195RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2        1.12XG2           0RGN           0XGN           0RG3           0XG3

BUS  7102 SOUTH END T2  7.97KV
   0X    102 SOUTH END 43  115.KV -  2102 SOUTH END A1  13.2KV -  7102 SOUTH END T2  7.97KV 1G-2X
      0.016351RPS    0.360000XPS    0.061321RPT    0.593651XPT    0.059426RST    0.152381XST    0.000000B
      0.016351RPS0   0.355556XPS0   0.061321RPT0   0.581481XPT0   0.059426RST0   0.159259XST0   0.000000B0
      112.8PTAP    13.2STAP     8.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2        1.12XG2           0RGN           0XGN           0RG3           0XG3

BUS  7103 SOUTH END T3    1.KV
   0X   2103 SOUTH END A3  13.2KV -   103 SOUTH END 45  115.KV -  7103 SOUTH END T3    1.KV 1G-3X
      0.023850RPS    0.521600XPS    0.023850RPT    0.521600XPT    0.023850RST    0.521600XST    0.000000B
      0.023850RPS0   0.477600XPS0   0.023850RPT0   0.477600XPT0   0.023850RST0   0.477600XST0   0.000000B0
       13.2PTAP   112.8STAP     1.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  2241 SOUTHINGTON   13.8KV
  5XX   2241 SOUTHINGTON   13.8KV -   241 SGTN RING 1   115.KV -  7241 SGTN TER5       1.KV 4C-5X
      0.021248RPS    0.442800XPS    0.021248RPT    0.442800XPT    0.021248RST    0.442800XST    0.000000B
      0.021248RPS0   0.388800XPS0   0.021248RPT0   0.388800XPT0   0.021248RST0   0.388800XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  2242 SOUTHINGTON   27.6KV
   1X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  3242 SGTN A          4.8KV 4C-12X
      0.035296RPS    0.338889XPS    0.160969RPT    0.644286XPT    0.160133RST    0.255143XST    0.000000B
      0.035296RPS0   0.338890XPS0   0.160969RPT0   0.644286XPT0   0.160133RST0   0.255140XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   0X    242 SGTN RING 2   115.KV -  2242 SOUTHINGTON   27.6KV -  7242 SGTN TER11     4.8KV 4C-11X
      0.031236RPS    0.342222XPS    0.135592RPT    0.651429XPT    0.153594RST    0.260000XST    0.000000B
      0.031236RPS0   0.342222XPS0   0.135592RPT0   0.651429XPT0   0.153594RST0   0.260000XST0   0.000000B0
      111.4PTAP    27.6STAP     4.8TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   250 SOUTHINGTON   345.KV
   1L    228 FROST BRIDGE  345.KV -   250 SOUTHINGTON   345.KV 329
      0.000940R    0.015070X    0.000000G1    0.076590B1    0.000000G2    0.076590B2
      0.012390R0   0.039340X0   0.000000G10   0.058420B10   0.000000G20   0.058420B20
   0L      0 MERIDEN TAP   345.KV -   250 SOUTHINGTON   345.KV 362W
      0.000170R    0.001980X    0.000000G1    0.017030B1    0.000000G2    0.017030B2
      0.002300R0   0.005560X0   0.000000G10   0.011460B10   0.000000G20   0.011460B20
   0L     29 MILLSTONE     345.KV -   250 SOUTHINGTON   345.KV 348-0
      0.002270R    0.026620X    0.000000G1    0.230550B1    0.000000G2    0.230550B2
      0.028860R0   0.070260X0   0.000000G10   0.155380B10   0.000000G20   0.155380B20
  3XX    250 SOUTHINGTON   345.KV -   242 SGTN RING 2   115.KV -  8250 SGTN TER3      34.5KV 4C-3X
      0.000821RPS    0.027792XPS    0.001583RPT    0.087750XPT    0.001292RST    0.052895XST    0.000000B
      0.000458RPS0   0.022292XPS0   0.001583RPT0   0.087750XPT0   0.001292RST0   0.050458XST0   0.000000B0
      345.0PTAP   115.0STAP    34.5TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  1XX    250 SOUTHINGTON   345.KV -   241 SGTN RING 1   115.KV -  7250 SGTN TER1     13.2KV 4C-1X
      0.000662RPS    0.028875XPS    0.014773RPT    0.207111XPT    0.014500RST    0.165778XST    0.000000B
      0.000821RPS0   0.028800XPS0   0.014773RPT0   0.207111XPT0   0.014500RST0   0.165778XST0   0.000000B0
      345.0PTAP   115.0STAP    13.2TTAP  GGD GGD-CONFIG
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
  4XT    250 SOUTHINGTON   345.KV -   241 SGTN RING 1   115.KV 4C-4X
      0.000682R    0.029375X    0.000000B   345.00PTAP  115.00STAP GG GG-CONFIG
      0.000682R0   0.027778X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  2XT    242 SGTN RING 2   115.KV -   250 SOUTHINGTON   345.KV 4C-2X
      0.000729R    0.027458X    0.000000B   115.00PTAP  345.00STAP GG GG-CONFIG
      0.000729R0   0.027458X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 ST1 (10)       16.KV
    T      0 BRGPRT ENERG  115.KV -     0 ST1 (10)       16.KV STEAMTURB
      0.002000R    0.101000X    0.000000B   115.00PTAP   16.00STAP GD GD-CONFIG
      0.002000R0   0.101000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 statcom a     14.6KV
  4XT    110 GLENBROOK     115.KV -     0 statcom a     14.6KV 1K-4X satcmb
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      0.001840R    0.053330X    0.000000B   115.00PTAP   14.60STAP GD GD-CONFIG
      0.001840R0   0.053330X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 statcom b     14.6KV
   1T    110 GLENBROOK     115.KV -     0 statcom b     14.6KV 1K-4X satcmb
      0.001840R    0.053330X    0.000000B   115.00PTAP   14.60STAP GE GD-CONFIG
      0.001840R0   0.053330X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   226 STEVENSON      6.9KV
  1XX    261 STEVENSON     115.KV -  2261 STEVENSON     27.6KV -   226 STEVENSON      6.9KV 14A-1X
      0.022010RPS    0.442500XPS    0.015050RPT    0.254400XPT    0.018810RST    0.155700XST    0.000000B
      0.033570RPS0   0.399000XPS0   0.019460RPT0   0.228900XPT0   0.018690RST0   0.155600XST0   0.000000B0
      114.3PTAP    28.6STAP     6.4TTAP  GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2261 STEVENSON     27.6KV
  1XX    261 STEVENSON     115.KV -  2261 STEVENSON     27.6KV -   226 STEVENSON      6.9KV 14A-1X
      0.022010RPS    0.442500XPS    0.015050RPT    0.254400XPT    0.018810RST    0.155700XST    0.000000B
      0.033570RPS0   0.399000XPS0   0.019460RPT0   0.228900XPT0   0.018690RST0   0.155600XST0   0.000000B0
      114.3PTAP    28.6STAP     6.4TTAP  GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   261 STEVENSON     115.KV
   1L    286 BALDWIN JCTA  115.KV -   261 STEVENSON     115.KV 1990-1
      0.010940R    0.033270X    0.000000G1    0.007040B1    0.000000G2    0.007040B2
      0.056460R0   0.113290X0   0.000000G10   0.003650B10   0.000000G20   0.003650B20
   1L    217 SANDY HOOK    115.KV -   261 STEVENSON     115.KV 1876-1
      0.001600R    0.015100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.017800R0   0.047600X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L    261 STEVENSON     115.KV -   263 ANSONIA TAP   115.KV 1560-2
      0.005010R    0.027090X    0.000000G1    0.002010B1    0.000000G2    0.002010B2
      0.027140R0   0.074480X0   0.000000G10   0.001180B10   0.000000G20   0.001180B20
  1XX    261 STEVENSON     115.KV -  2261 STEVENSON     27.6KV -   226 STEVENSON      6.9KV 14A-1X
      0.022010RPS    0.442500XPS    0.015050RPT    0.254400XPT    0.018810RST    0.155700XST    0.000000B
      0.033570RPS0   0.399000XPS0   0.019460RPT0   0.228900XPT0   0.018690RST0   0.155600XST0   0.000000B0
      114.3PTAP    28.6STAP     6.4TTAP  GGD GGD-CONFIG
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS   199 STONY HILL    115.KV
   2L    199 STONY HILL    115.KV -     0 STONY HL TP2  115.KV 1770-2
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   2L      0 STONY HL TP1  115.KV -   199 STONY HILL    115.KV 1887-2
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0T   3199 STONYHILL A2  13.8KV -   199 STONY HILL    115.KV 48C-2X
      0.015931R    0.394286X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.015931R0   0.388214X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2199 STONYHILL A1  13.8KV -   199 STONY HILL    115.KV 48C-1X
      0.015791R    0.392857X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.015791R0   0.386786X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 STONY HL TP1  115.KV
   1L    201 SHEPAUG       115.KV -     0 STONY HL TP1  115.KV 1887-0
      0.012380R    0.036670X    0.000000G1    0.002040B1    0.000000G2    0.002040B2
      0.041020R0   0.100150X0   0.000000G10   0.001310B10   0.000000G20   0.001310B20
   2L      0 STONY HL TP1  115.KV -   199 STONY HILL    115.KV 1887-2
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L      0 STONY HL TP1  115.KV -   211 W. BROOKFLD   115.KV 1887-1
      0.005400R    0.027900X    0.000000G1    0.002540B1    0.000000G2    0.002540B2
      0.032230R0   0.093810X0   0.000000G10   0.001540B10   0.000000G20   0.001540B20

BUS     0 STONY HL TP2  115.KV
   2L    199 STONY HILL    115.KV -     0 STONY HL TP2  115.KV 1770-2
     0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   1L      0 STONY HL TP2  115.KV -   202 BATES ROCK    115.KV 1770-1
     0.017610R    0.070480X    0.000000G1    0.004260B1    0.000000G2    0.004260B2
      0.077840R0   0.188110X0   0.000000G10   0.002750B10   0.000000G20   0.002750B20
   0L    206 PLUMTREE      115.KV -     0 STONY HL TP2  115.KV 1770-0
      0.002490R    0.018890X    0.000000G1    0.001970B1    0.000000G2    0.001970B2
      0.021020R0   0.065500X0   0.000000G10   0.001180B10   0.000000G20   0.001180B20

BUS  2199 STONYHILL A1  13.8KV
   0T   2199 STONYHILL A1  13.8KV -   199 STONY HILL    115.KV 48C-1X
      0.015791R    0.392857X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.015791R0   0.386786X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3199 STONYHILL A2  13.8KV
   0T   3199 STONYHILL A2  13.8KV -   199 STONY HILL    115.KV 48C-2X
      0.015931R    0.394286X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
      0.015931R0   0.388214X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Temp Gen      13.8KV
   1T    101 WATERSIDE     115.KV -     0 Temp Gen      13.8KV glntempgen
      0.008900R    0.289800X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
      0.008900R0   0.289800X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 test wally    115.KV
   1L    252 NWALLINGFORD  115.KV -     0 test wally    115.KV highside tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
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   0L    301 COLONY        115.KV -     0 test wally    115.KV 1588
       0.005120R    0.015170X    0.000000G1    0.000850B1    0.000000G2    0.000850B2
       0.010990R0   0.031890X0   0.000000G10   0.000560B10   0.000000G20   0.000560B20
   1T      0 low side      13.8KV -     0 test wally    115.KV 2x
       0.034300R    0.616700X    0.000000B    13.80PTAP  115.00STAP GE GD-CONFIG
       0.034300R0   0.616700X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   406 THOMASTON     115.KV
   0L    406 THOMASTON     115.KV -   407 CAMPVILLE     115.KV 1921
       0.003250R    0.031200X    0.000000G1    0.002260B1    0.000000G2    0.002260B2
       0.029170R0   0.096540X0   0.000000G10   0.001330B10   0.000000G20   0.001330B20
   0L    249 CHIPPEN HILL  115.KV -   406 THOMASTON     115.KV 1835
       0.005830R    0.036090X    0.000000G1    0.002760B1    0.000000G2    0.002760B2
       0.035860R0   0.130270X0   0.000000G10   0.001590B10   0.000000G20   0.001590B20
  2xT   2406 THOMASTON A2  13.2KV -   406 THOMASTON     115.KV 2B-2X
       0.040200R    0.624000X    0.000000B    13.20PTAP  112.75STAP GE GD-CONFIG
       0.040200R0   0.602000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  3xT   3406 THOMASTON A3  13.2KV -   406 THOMASTON     115.KV 2B-3X
       0.029556R    0.667333X    0.000000B    13.20PTAP  112.75STAP GE GD-CONFIG
       0.029556R0   0.666667X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2406 THOMASTON A2  13.2KV
  2xT   2406 THOMASTON A2  13.2KV -   406 THOMASTON     115.KV 2B-2X
       0.040200R    0.624000X    0.000000B    13.20PTAP  112.75STAP GE GD-CONFIG
       0.040200R0   0.602000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3406 THOMASTON A3  13.2KV
  3xT   3406 THOMASTON A3  13.2KV -   406 THOMASTON     115.KV 2B-3X
       0.029556R    0.667333X    0.000000B    13.20PTAP  112.75STAP GE GD-CONFIG
       0.029556R0   0.666667X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 three          21.KV
   1T      0 MERIDEN GEN   345.KV -     0 three          21.KV three
       0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
       0.000750R0   0.065000X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2238 TODD          13.8KV
  1xX   2238 TODD          13.8KV -   238 TODD          115.KV -  7238 TODD TER1       1.KV 30L-1X
       0.016440RPS    0.391600XPS    0.016440RPT    0.391600XPT    0.016440RST    0.391600XST    0.000000B
       0.016440RPS0   0.344800XPS0   0.016440RPT0   0.344800XPT0   0.016440RST0   0.344800XST0   0.000000B0
        13.8PTAP   115.0STAP     1.0TTAP  GGD GGD-CONFIG
                0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS   238 TODD          115.KV
   0L    238 TODD          115.KV -   242 SGTN RING 2   115.KV 1910
      0.005210R    0.032650X    0.000000G1    0.002330B1    0.000000G2    0.002330B2
       0.036710R0   0.106280X0   0.000000G10   0.001460B10   0.000000G20   0.001460B20
   0L    236 NOERA TAP 16  115.KV -   238 TODD          115.KV 1163-0
      0.002030R    0.012740X    0.000000G1    0.000900B1    0.000000G2    0.000900B2
       0.014320R0   0.041470X0   0.000000G10   0.000570B10   0.000000G20   0.000570B20
  1xX   2238 TODD          13.8KV -   238 TODD          115.KV -  7238 TODD TER1       1.KV 30L-1X
       0.016440RPS    0.391600XPS    0.016440RPT    0.391600XPT    0.016440RST    0.391600XST    0.000000B
       0.016440RPS0   0.344800XPS0   0.016440RPT0   0.344800XPT0   0.016440RST0   0.344800XST0   0.000000B0
        13.8PTAP   115.0STAP     1.0TTAP  GGD GGD-CONFIG
                0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  7238 TODD TER1       1.KV
  1xX   2238 TODD          13.8KV -   238 TODD          115.KV -  7238 TODD TER1       1.KV 30L-1X
       0.016440RPS    0.391600XPS    0.016440RPT    0.391600XPT    0.016440RST    0.391600XST    0.000000B
       0.016440RPS0   0.344800XPS0   0.016440RPT0   0.344800XPT0   0.016440RST0   0.344800XST0   0.000000B0
        13.8PTAP   115.0STAP     1.0TTAP  GGD GGD-CONFIG
                0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  2105 TOMAC         27.6KV
  4xT   2105 TOMAC         27.6KV -   105 TOMAC         115.KV 12H-4X
       0.010555R    0.410935X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
       0.010555R0   0.410935X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   105 TOMAC         115.KV
   1L    105 TOMAC         115.KV -   100 COS COB       115.KV 1750-1
       0.001100R    0.010340X    0.000000G1    0.000790B1    0.000000G2    0.000790B2
       0.003890R0   0.025460X0   0.000000G10   0.000480B10   0.000000G20   0.000480B20
   0L    104 SOUTH END 75  115.KV -   105 TOMAC         115.KV 1750-0
       0.001160R    0.009800X    0.000000G1    0.000740B1    0.000000G2    0.000740B2
       0.003950R0   0.025250X0   0.000000G10   0.000450B10   0.000000G20   0.000450B20
  4xT   2105 TOMAC         27.6KV -   105 TOMAC         115.KV 12H-4X
       0.010555R    0.410935X    0.000000B    27.60PTAP  110.00STAP GD GD-CONFIG
       0.010555R0   0.410935X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 tranxerg      200.KV
   1T      0 CRS SOUN CBL  345.KV -     0 tranxerg      200.KV transengrdc
       0.001200R    0.051200X    0.000000B   345.00PTAP  200.00STAP GD GD-CONFIG
       0.001200R0   0.051200X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   268 TRAP FALLS    115.KV
   0L    268 TRAP FALLS    115.KV -     0 Devon Ring 1  115.KV 1545
       0.004170R    0.025610X    0.000000G1    0.001860B1    0.000000G2    0.001860B2
       0.013720R0   0.059520X0   0.000000G10   0.001130B10   0.000000G20   0.001130B20
   0L    263 ANSONIA TAP   115.KV -   268 TRAP FALLS    115.KV 1560-0
       0.003840R    0.020700X    0.000000G1    0.001540B1    0.000000G2    0.001540B2
       0.021000R0   0.057100X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
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BUS   204 TRIANGLE      115.KV
  65L    204 TRIANGLE      115.KV -    206 PLUMTREE      115.KV 1165
       0.002180R    0.010140X    0.000000G1    0.000660B1    0.000000G2    0.000660B2
       0.011170R0   0.033510X0   0.000000G10   0.000430B10   0.000000G20   0.000430B20
   0L    204 TRIANGLE      115.KV -    206 PLUMTREE      115.KV 1060
       0.003090R    0.010520X    0.000000G1    0.000640B1    0.000000G2    0.000640B2
       0.012310R0   0.033650X0   0.000000G10   0.000460B10   0.000000G20   0.000460B20
   0L    204 TRIANGLE      115.KV -    205 MIDDLE RIVER  115.KV 1337
       0.002940R    0.006520X    0.000000G1    0.054500B1    0.000000G2    0.054500B2
       0.028040R0   0.023390X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  1xT   2204 TRIANGLE A1   13.8KV -    204 TRIANGLE      115.KV 11A-1X
       0.018430R    0.408000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
       0.018430R0   0.408000X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  3xT   4204 TRIANGLE A3   13.8KV -    204 TRIANGLE      115.KV 11A-3X
       0.017386R    0.415600X    0.000000B    13.80PTAP  109.25STAP GE GD-CONFIG
       0.017386R0   0.408400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
  2xT   3204 TRIANGLE A2   13.8KV -    204 TRIANGLE      115.KV 11A-2X
       0.014332R    0.338667X    0.000000B    13.80PTAP  116.44STAP GE GD-CONFIG
       0.014332R0   0.338667X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2204 TRIANGLE A1   13.8KV
  1xT   2204 TRIANGLE A1   13.8KV -    204 TRIANGLE      115.KV 11A-1X
       0.018430R    0.408000X    0.000000B    13.80PTAP  110.00STAP GE GD-CONFIG
       0.018430R0   0.408000X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3204 TRIANGLE A2   13.8KV
  2xT   3204 TRIANGLE A2   13.8KV -    204 TRIANGLE      115.KV 11A-2X
       0.014332R    0.338667X    0.000000B    13.80PTAP  116.44STAP GE GD-CONFIG
       0.014332R0   0.338667X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  4204 TRIANGLE A3   13.8KV
  3xT   4204 TRIANGLE A3   13.8KV -    204 TRIANGLE      115.KV 11A-3X
       0.017386R    0.415600X    0.000000B    13.80PTAP  109.25STAP GE GD-CONFIG
       0.017386R0   0.408400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   143 TRUMBULL 71   115.KV
   2L    143 TRUMBULL 71   115.KV -     0 Barnum 71     115.KV 1710--2
       0.003400R    0.021660X    0.000000G1    0.001470B1    0.000000G2    0.001470B2
       0.019040R0   0.061390X0   0.000000G10   0.000870B10   0.000000G20   0.000870B20
   0L    143 TRUMBULL 71   115.KV -     0 Devon Ring 1  115.KV 1710-0
       0.005240R    0.023780X    0.000000G1    0.001620B1    0.000000G2    0.001620B2
       0.021300R0   0.065530X0   0.000000G10   0.000990B10   0.000000G20   0.000990B20
   1L    142 OLD TOWN      115.KV -    143 TRUMBULL 71   115.KV 1710-1
       0.001590R    0.015580X    0.000000G1    0.001310B1    0.000000G2    0.001310B2
       0.019040R0   0.056150X0   0.000000G10   0.000750B10   0.000000G20   0.000750B20

BUS     0 TRUMBULL 73   115.KV
   1L      0 TRUMBULL 73   115.KV -   149 WESTON 73     115.KV 1730-1
       0.015030R    0.068170X    0.000000G1    0.005030B1    0.000000G2    0.005030B2
       0.086510R0   0.234340X0   0.000000G10   0.002950B10   0.000000G20   0.002950B20
   2L      0 Barnum 73     115.KV -     0 TRUMBULL 73   115.KV 1730-2
       0.003400R    0.021660X    0.000000G1    0.001470B1    0.000000G2    0.001470B2
       0.019040R0   0.061390X0   0.000000G10   0.000870B10   0.000000G20   0.000870B20
   0L      0 TRUMBULL 73   115.KV -     0 Devon Ring 1  115.KV 1730-0
       0.005110R    0.020460X    0.000000G1    0.002140B1    0.000000G2    0.002140B2
       0.020440R0   0.057640X0   0.000000G10   0.001250B10   0.000000G20   0.001250B20

BUS     0 two           21.KV
   1T      0 MERIDEN GEN   345.KV -     0 two            21.KV two
       0.000750R    0.065000X    0.000000B   345.00PTAP   21.00STAP GD GD-CONFIG
       0.000750R0   0.065000X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   243 UAC TAP       115.KV
   1L    243 UAC TAP       115.KV -   246 FORESTVILLE   115.KV 1800-1
       0.001890R    0.017690X    0.000000G1    0.001340B1    0.000000G2    0.001340B2
       0.018680R0   0.057300X0   0.000000G10   0.000830B10   0.000000G20   0.000830B20
   0L    243 UAC TAP       115.KV -   244 UTECH         115.KV 1860
       0.002700R    0.007470X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.009430R0   0.026810X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    242 SGTN RING 2   115.KV -   243 UAC TAP       115.KV 1800-0
       0.001630R    0.015630X    0.000000G1    0.001130B1    0.000000G2    0.001130B2
       0.015430R0   0.042070X0   0.000000G10   0.000790B10   0.000000G20   0.000790B20

BUS     0 ug tap        115.KV
   0L      0 ug tap        115.KV -   206 PLUMTREE      115.KV 1270
       0.003080R    0.010520X    0.000000G1    0.000640B1    0.000000G2    0.000640B2
       0.012070R0   0.033900X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   0L    205 MIDDLE RIVER  115.KV -     0 ug tap        115.KV 1270-1
       0.002920R    0.006480X    0.000000G1    0.054200B1    0.000000G2    0.054200B2
       0.027880R0   0.023260X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS     0 Unit 10       13.8KV
  0.T      0 Devon Ring 2  115.KV -     0 Unit 10       13.8KV Unit 10 stup
       0.054600R    0.664500X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
       0.054600R0   0.664500X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Unit 6J-1     17.1KV
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-1     17.1KV 6J-1X
       0.001800R    0.055400X    0.000000B   115.00PTAP   17.10STAP GD GD-CONFIG
       0.001800R0   0.055400X0   0.000000B0
               0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
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BUS     0 Unit 6J-10    13.8KV
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-10    13.8KV 6J-10X
       0.037500R    0.623100X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
       0.037500R0   0.623100X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Unit 6J-2      19.KV
   1T    121 NORWALK HARB  115.KV -     0 Unit 6J-2      19.KV 6J-2X
       0.002000R    0.053500X    0.000000B   115.00PTAP   19.00STAP GD GD-CONFIG
       0.002000R0   0.053500X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Unit 7        13.2KV
   1T      0 Devon Ring 2  115.KV -     0 Unit 7        13.2KV Unit 7 stpup
       0.003600R    0.110900X    0.000000B   115.00PTAP   13.20STAP GD GD-CONFIG
       0.009900R0   0.081420X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 Unit 8        13.2 KV
   1T      0 Devon Ring 2  115.KV -     0 Unit 8        13.2KV Unit 8 stpup
       0.003200R    0.101400X    0.000000B   115.00PTAP   13.20STAP GD GD-CONFIG
       0.003200R0   0.101400X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   244 UTECH          115.KV
   0L    243 UAC TAP       115.KV -   244 UTECH         115.KV 1860
       0.002700R    0.007470X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.009430R0   0.02681 0X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   245 UTECHALT      115.KV
   3L    245 UTECHALT      115.KV -   247 CHIPPEN TAP   115.KV 1810-3
       0.003520R    0.021360X    0.000000G1    0.001530B1    0.000000G2    0.001530B2
       0.023860R0   0.068300X0   0.000000G10   0.000970B10   0.000000G20   0.000970B20
   0L    242 SGTN RING 2   115.KV -   245 UTECHALT      115.KV 1810-0
       0.002740R    0.015690X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
       0.016400R0   0.043960X0   0.000000G10   0.000750B10   0.000000G20   0.000750B20

BUS   211 W. BROOKFLD   115.KV
   0L      0 STONY HL TP1  115.KV -   211 W. BROOKFLD   115.KV 1887-1
       0.005400R    0.027900X    0.000000G1    0.002540B1    0.000000G2    0.002540B2
       0.032230R0   0.093810X0   0.000000G10   0.001540B10   0.000000G20   0.001540B20
   0L    211 W. BROOKFLD   115.KV -   212 ROCKY RIVER   115.KV 1618
       0.005467R    0.043110X    0.000000G1    0.004400B1    0.000000G2    0.004400B2
       0.049740R0   0.141040X0   0.000000G10   0.002770B10   0.000000G20   0.002770B20
   0T   3211 W.BROOKFLDA2  13.8KV -   211 W. BROOKFLD   115.KV 14H-2X
       0.036084R    0.603333X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.036084R0   0.593333X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T   2211 W.BROOKFLDA1  13.8KV -   211 W. BROOKFLD   115.KV 14H-1X
       0.043490R    0.654667X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.043490R0   0.642667X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   178 W. RIVER 88   115.KV
   1L    178 W. RIVER 88   115.KV -   187 GRAND AVE.    115.KV 89003B
       0.000900R    0.004500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.007600R0   0.007000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    178 W. RIVER 88   115.KV -   187 GRAND AVE.    115.KV 88003A
       0.000900R    0.004500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.007600R0   0.007000X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    178 W. RIVER 88   115.KV -   180 WATER ST      115.KV 8700
       0.000400R    0.003500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.005000R0   0.001700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    177 ELMWEST 89    115.KV -   178 W. RIVER 88   115.KV 89003B
       0.000710R    0.005980X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
       0.002830R0   0.015930X0   0.000000G10   0.000270B10   0.000000G20   0.000270B20
   0L    176 ELMWEST 88    115.KV -   178 W. RIVER 88   115.KV 88003A
       0.000710R    0.005980X    0.000000G1    0.000520B1    0.000000G2    0.000520B2
       0.002820R0   0.015980X0   0.000000G10   0.000270B10   0.000000G20   0.000270B20

BUS  2211 W.BROOKFLDA1  13.8KV
   0T   2211 W.BROOKFLDA1  13.8KV -   211 W. BROOKFLD   115.KV 14H-1X
       0.043490R    0.654667X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.043490R0   0.642667X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  3211 W.BROOKFLDA2  13.8KV
   0T   3211 W.BROOKFLDA2  13.8KV -   211 W. BROOKFLD   115.KV 14H-2X
       0.036084R    0.603333X    0.000000B    13.80PTAP  112.75STAP GE GD-CONFIG
       0.036084R0   0.593333X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   271 WALLNGFRDSUB  115.KV
   2L    271 WALLNGFRDSUB  115.KV -   284 WALREC TAP    115.KV 1630-2
       0.000510R    0.004780X    0.000000G1    0.000250B1    0.000000G2    0.000250B2
       0.005940R0   0.015030X0   0.000000G10   0.000160B10   0.000000G20   0.000160B20
   0L    271 WALLNGFRDSUB  115.KV -     0 Devon Ring 2  115.KV 1640
       0.055030R    0.175020X    0.000000G1    0.009560B1    0.000000G2    0.009560B2
       0.177460R0   0.384430X0   0.000000G10   0.006660B10   0.000000G20   0.006660B20
   0L    241 SGTN RING 1   115.KV -   271 WALLNGFRDSUB  115.KV 1208
       0.008300R    0.075440X    0.000000G1    0.005710B1    0.000000G2    0.005710B2
       0.075490R0   0.200260X0   0.000000G10   0.003730B10   0.000000G20   0.003730B20
   1T      0 WALLY BUS V   13.8KV -   271 WALLNGFRDSUB  115.KV 13M-4X
       0.026510R    0.450660X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
       0.026510R0   0.450660X0   0.000000B0
                0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 WALLY BUS Z   13.8KV -   271 WALLNGFRDSUB  115.KV 13M-3X
       0.016220R    0.340740X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
       0.016220R0   0.340740X0   0.000000B0
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              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 WALLY BUS T   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-2X
        0.016220R    0.340740X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.016220R0   0.340740X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T      0 WALLY BUS W   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-1X
        0.002410R    0.433330X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.002410R0   0.433330X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    271 WALLNGFRDSUB  115.KV -     0 G3/G4         13.8KV 13M-G4/G5X
        0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
        0.003320R0   0.112780X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    271 WALLNGFRDSUB  115.KV -     0 G1/G2         13.8KV 13M-2G/3GX
        0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
        0.003320R0   0.112780X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   1T    271 WALLNGFRDSUB  115.KV -     0 G5            13.8KV 13M-G1X
        0.003320R    0.112780X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
        0.003320R0   0.112780X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 WALLY BUS T   13.8KV
   1T      0 WALLY BUS T   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-2X
        0.016220R    0.340740X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.016220R0   0.340740X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 WALLY BUS V   13.8KV
   1T      0 WALLY BUS V   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-4X
        0.026510R    0.450660X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.026510R0   0.450660X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 WALLY BUS W   13.8KV
   1T      0 WALLY BUS W   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-1X
        0.002410R    0.433330X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.002410R0   0.433330X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 WALLY BUS Z   13.8KV
   1T      0 WALLY BUS Z   13.8KV -    271 WALLNGFRDSUB  115.KV 13M-3X
        0.016220R    0.340740X    0.000000B    13.80PTAP  115.00STAP GD GD-CONFIG
        0.016220R0   0.340740X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   284 WALREC TAP    115.KV
   3L    274 NO. HAVEN     115.KV -    284 WALREC TAP    115.KV 1630-3
        0.001070R    0.009970X    0.000000G1    0.000700B1    0.000000G2    0.000700B2
        0.007150R0   0.026430X0   0.000000G10   0.000420B10   0.000000G20   0.000420B20
   2L    271 WALLNGFRDSUB  115.KV -    284 WALREC TAP    115.KV 1630-2
        0.000510R    0.004780X    0.000000G1    0.000250B1    0.000000G2    0.000250B2
        0.005940R0   0.015030X0   0.000000G10   0.000160B10   0.000000G20   0.000160B20
  1XT      0 walrecgen     4.16KV -    284 WALREC TAP    115.KV 42R-1X
        0.053760R    0.845290X    0.000000B     4.16PTAP  115.00STAP GD GD-CONFIG
        0.053760R0   0.845290X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS     0 walrecgen     4.16KV
  1XT      0 walrecgen     4.16KV -    284 WALREC TAP    115.KV 42R-1X
        0.053760R    0.845290X    0.000000B     4.16PTAP  115.00STAP GD GD-CONFIG
        0.053760R0   0.845290X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   180 WATER ST      115.KV
    L      0 BROADWAY      115.KV -    180 WATER ST      115.KV 9500
        0.000760R    0.002950X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.004710R0   0.006500X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    180 WATER ST      115.KV -    187 GRAND AVE.    115.KV 8500
        0.000300R    0.003000X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.005000R0   0.001700X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    178 W. RIVER 88   115.KV -    180 WATER ST      115.KV 8700
        0.000400R    0.003500X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
        0.005000R0   0.00176 X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20

BUS   101 WATERSIDE     115.KV
   0L    101 WATERSIDE     115.KV -    110 GLENBROOK     115.KV 1440
        0.001520R    0.014330X    0.000000G1    0.001110B1    0.000000G2    0.001110B2
        0.005380R0   0.035290X0   0.000000G10   0.000660B10   0.000000G20   0.000660B20
   0L    100 COS COB       115.KV -    101 WATERSIDE     115.KV 1740
        0.001410R    0.013220X    0.000000G1    0.001010B1    0.000000G2    0.001010B2
        0.004970R0   0.032540X0   0.000000G10   0.000620B10   0.000000G20   0.000620B20
  3xX   3101 WATERSIDE A3  13.8KV -    101 WATERSIDE     115.KV -  8101 WATERSIDE T3  13.8KV 22M-3X
        0.018840RPS    0.375040XPS    0.018840RPT    0.375040XPT    0.018840RST    0.375040XST    0.000000B
        0.000000RPS0   0.050000XPS0   0.000000RPT0   0.050000XPT0   0.000000RST0   0.050000XST0   0.000000B0
         13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3
   0X   2101 WATERSIDE A2  13.8KV -    101 WATERSIDE     115.KV -  7101 WATERSIDE T2    1.KV 22M-2X
        0.017800RPS    0.390400XPS    0.017800RPT    0.390400XPT    0.017800RST    0.390400XST    0.000000B
        0.000000RPS0   0.051200XPS0   0.000000RPT0   0.051200XPT0   0.000000RST0   0.051200XST0   0.000000B0
         13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
              0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3
   1T    101 WATERSIDE     115.KV -     0 Temp Gen      13.8KV glntempgen
        0.008900R    0.289800X    0.000000B   115.00PTAP   13.80STAP GD GD-CONFIG
        0.008900R0   0.289800X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS  2101 WATERSIDE A2  13.8KV
   0X   2101 WATERSIDE A2  13.8KV -    101 WATERSIDE     115.KV -  7101 WATERSIDE T2    1.KV 22M-2X
        0.017800RPS    0.390400XPS    0.017800RPT    0.390400XPT    0.017800RST    0.390400XST    0.000000B
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      0.000000RPS0   0.051200XPS0   0.000000RPT0   0.051200XPT0   0.000000RST0   0.051200XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  3101 WATERSIDE A3  13.8KV
  3xX   3101 WATERSIDE A3  13.8KV -   101 WATERSIDE     115.KV -  8101 WATERSIDE T3  13.8KV 22M-3X
      0.018840RPS    0.375040XPS    0.018840RPT    0.375040XPT    0.018840RST    0.375040XST    0.000000B
      0.000000RPS0   0.050000XPS0   0.000000RPT0   0.050000XPT0   0.000000RST0   0.050000XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  7101 WATERSIDE T2    1.KV
   0X   2101 WATERSIDE A2  13.8KV -   101 WATERSIDE     115.KV -  7101 WATERSIDE T2    1.KV 22M-2X
      0.017800RPS    0.390400XPS    0.017800RPT    0.390400XPT    0.017800RST    0.390400XST    0.000000B
      0.000000RPS0   0.051200XPS0   0.000000RPT0   0.051200XPT0   0.000000RST0   0.051200XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  8101 WATERSIDE T3  13.8KV
  3xX   3101 WATERSIDE A3  13.8KV -   101 WATERSIDE     115.KV -  8101 WATERSIDE T3  13.8KV 22M-3X
      0.018840RPS    0.375040XPS    0.018840RPT    0.375040XPT    0.018840RST    0.375040XST    0.000000B
      0.000000RPS0   0.050000XPS0   0.000000RPT0   0.050000XPT0   0.000000RST0   0.050000XST0   0.000000B0
       13.8PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  2149 WESTON       27.6KV
  2xX    149 WESTON 73     115.KV -  2149 WESTON        27.6KV -  7149 WESTON T2     5.04KV 21M-2X
      0.019401RPS    0.248889XPS    0.052203RPT    0.428926XPT    0.052298RST    0.170248XST    0.000000B
      0.019133RPS0   0.225000XPS0   0.035000RPT0   0.353330XPT0   0.012330RST0   0.145000XST0   0.000000B0
      115.0PTAP    27.6STAP     5.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3
   0X   2149 WESTON        27.6KV -   150 WESTON 63     115.KV -  7150 WESTON T1       1.KV 21M-1X
      0.017867RPS    0.333333XPS    0.017867RPT    0.333333XPT    0.017867RST    0.333333XST    0.000000B
      0.017867RPS0   0.303667XPS0   0.017867RPT0   0.303667XPT0   0.017867RST0   0.303667XST0   0.000000B0
       27.6PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS   150 WESTON 63     115.KV
   3L    149 WESTON 73     115.KV -   150 WESTON 63     115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    135 NORWALK       115.KV -   150 WESTON 63     115.KV 1637-0
      0.008300R    0.035730X    0.000000G1    0.002500B1    0.000000G2    0.002500B2
      0.035310R0   0.103640X0   0.000000G10   0.001550B10   0.000000G20   0.001550B20
   0X   2149 WESTON        27.6KV -   150 WESTON 63     115.KV -  7150 WESTON T1       1.KV 21M-1X
      0.017867RPS    0.333333XPS    0.017867RPT    0.333333XPT    0.017867RST    0.333333XST    0.000000B
      0.017867RPS0   0.303667XPS0   0.017867RPT0   0.303667XPT0   0.017867RST0   0.303667XST0   0.000000B0
       27.6PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS   149 WESTON 73     115.KV
   1L      0 TRUMBULL 73   115.KV -   149 WESTON 73     115.KV 1730-1
      0.015030R    0.068170X    0.000000G1    0.005030B1    0.000000G2    0.005030B2
      0.086510R0   0.234340X0   0.000000G10   0.002950B10   0.000000G20   0.002950B20
   3L    149 WESTON 73     115.KV -   150 WESTON 63     115.KV tie
      0.000100R    0.000100X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.000100R0   0.000100X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
  2xX    149 WESTON 73     115.KV -  2149 WESTON        27.6KV -  7149 WESTON T2     5.04KV 21M-2X
      0.019401RPS    0.248889XPS    0.052203RPT    0.428926XPT    0.052298RST    0.170248XST    0.000000B
      0.019133RPS0   0.225000XPS0   0.035000RPT0   0.353330XPT0   0.012330RST0   0.145000XST0   0.000000B0
      115.0PTAP    27.6STAP     5.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  7150 WESTON T1       1.KV
   0X   2149 WESTON        27.6KV -   150 WESTON 63     115.KV -  7150 WESTON T1       1.KV 21M-1X
      0.017867RPS    0.333333XPS    0.017867RPT    0.333333XPT    0.017867RST    0.333333XST    0.000000B
      0.017867RPS0   0.303667XPS0   0.017867RPT0   0.303667XPT0   0.017867RST0   0.303667XST0   0.000000B0
       27.6PTAP   115.5STAP     1.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1      1e+008RG2      1e+008XG2           0RGN           0XGN           0RG3           0XG3

BUS  7149 WESTON T2     5.04KV
  2xX    149 WESTON 73     115.KV -  2149 WESTON        27.6KV -  7149 WESTON T2     5.04KV 21M-2X
      0.019401RPS    0.248889XPS    0.052203RPT    0.428926XPT    0.052298RST    0.170248XST    0.000000B
      0.019133RPS0   0.225000XPS0   0.035000RPT0   0.353330XPT0   0.012330RST0   0.145000XST0   0.000000B0
      115.0PTAP    27.6STAP     5.0TTAP  GGD GGD-CONFIG
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN           0RG3           0XG3

BUS  2192 WOODMONT      13.8KV
   0T    193 WOODMONT 89   115.KV -  2192 WOODMONT      13.8KV
      0.014500R    0.394000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN
   0T    192 WOODMONT 88   115.KV -  2192 WOODMONT      13.8KV
      0.013000R    0.401000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   192 WOODMONT 88   115.KV
   0L      0 ALLINGS 88    115.KV -   192 WOODMONT 88   115.KV 88003A
      0.001650R    0.013910X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
      0.006570R0   0.037160X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    172 MILVON 88     115.KV -   192 WOODMONT 88   115.KV 88055A
      0.003570R    0.021060X    0.000000G1    0.001690B1    0.000000G2    0.001690B2
      0.010360R0   0.054450X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
   0T    192 WOODMONT 88   115.KV -  2192 WOODMONT      13.8KV
      0.013000R    0.401000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
      0.000000R0 9999.000000X0   0.000000B0
             0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

BUS   193 WOODMONT 89   115.KV
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   0L      0 ALLINGS 89    115.KV -   193 WOODMONT 89   115.KV 89003B
       0.001650R    0.013910X    0.000000G1    0.000000B1    0.000000G2    0.000000B2
       0.006570R0   0.037040X0   0.000000G10   0.000000B10   0.000000G20   0.000000B20
   0L    173 MILVON 89     115.KV -   193 WOODMONT 89   115.KV 89005B
       0.003570R    0.021060X    0.000000G1    0.001690B1    0.000000G2    0.001690B2
       0.010360R0   0.054450X0   0.000000G10   0.000900B10   0.000000G20   0.000900B20
   0T    193 WOODMONT 89   115.KV -  2192 WOODMONT      13.8KV
       0.014500R    0.394000X    0.000000B   115.00PTAP   13.80STAP GG GG-CONFIG
       0.000000R0 9999.000000X0   0.000000B0
              0RG1           0XG1           0RG2           0XG2           0RGN           0XGN

                                              -- Mutual Coupling Data --

MUTUAL GROUP WITH 13 LINES

      272 BRANFORD      115.KV --   274 NO. HAVEN     115.KV  0L 1655          WITH
      271 WALLNGFRDSUB  115.KV --   284 WALREC TAP    115.KV  2L 1630-2
          RM=    0.0040  XM=    0.0133 per-unit
      272 BRANFORD      115.KV --   274 NO. HAVEN     115.KV  0L 1655          WITH
       13 SCOVILL RCK   345.KV --     0 CRS SOUN CBL  345.KV  0L 387
          RM=   -0.0121  XM=   -0.0142 per-unit
       29 MILLSTONE     345.KV --   471 CARD          345.KV  0L 383           WITH
      470 MANCHSTER     345.KV --   471 CARD          345.KV  0L 368
          RM=    0.0005  XM=    0.0006 per-unit
       29 MILLSTONE     345.KV --   471 CARD          345.KV  0L 383           WITH
       29 MILLSTONE     345.KV --   470 MANCHSTER     345.KV  0L 310
          RM=    0.0134  XM=    0.0150 per-unit
       29 MILLSTONE     345.KV --   471 CARD          345.KV  0L 383           WITH
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0
          RM=    0.0033  XM=    0.0024 per-unit
       29 MILLSTONE     345.KV --   471 CARD          345.KV  0L 383           WITH
       24 MONTVILLE     345.KV --    29 MILLSTONE     345.KV  0L 371
          RM=   -0.0040  XM=   -0.0052 per-unit
      470 MANCHSTER     345.KV --   471 CARD          345.KV  0L 368           WITH
       29 MILLSTONE     345.KV --   470 MANCHSTER     345.KV  0L 310
          RM=   -0.0099  XM=   -0.0128 per-unit
       29 MILLSTONE     345.KV --   470 MANCHSTER     345.KV  0L 310           WITH
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0
          RM=    0.0039  XM=    0.0060 per-unit
       29 MILLSTONE     345.KV --   470 MANCHSTER     345.KV  0L 310           WITH
       24 MONTVILLE     345.KV --    29 MILLSTONE     345.KV  0L 371
          RM=   -0.0038  XM=   -0.0039 per-unit
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0         WITH
       24 MONTVILLE     345.KV --    29 MILLSTONE     345.KV  0L 371
          RM=   -0.0035  XM=   -0.0029 per-unit
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0         WITH
       13 SCOVILL RCK   345.KV --     0 CRS SOUN CBL  345.KV  0L 387
          RM=    0.0035  XM=    0.0038 per-unit
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0         WITH
       12 HADDAM NECK   345.KV --    24 MONTVILLE     345.KV  0L 364
          RM=   -0.0073  XM=   -0.0080 per-unit
       24 MONTVILLE     345.KV --    29 MILLSTONE     345.KV  0L 371           WITH
       12 HADDAM NECK   345.KV --    24 MONTVILLE     345.KV  0L 364
          RM=   -0.0016  XM=   -0.0019 per-unit
      292 EAST SHORE    115.KV --   225 BRANFORD RR   115.KV  0L 1460-0        WITH
       13 SCOVILL RCK   345.KV --     0 CRS SOUN CBL  345.KV  0L 387
          RM=   -0.0049  XM=   -0.0105 per-unit
      272 BRANFORD      115.KV --   225 BRANFORD RR   115.KV  0L 1537-0        WITH
      272 BRANFORD      115.KV --   274 NO. HAVEN     115.KV  0L 1655
          RM=    0.0133  XM=    0.0189 per-unit
      272 BRANFORD      115.KV --   225 BRANFORD RR   115.KV  0L 1537-0        WITH
       13 SCOVILL RCK   345.KV --     0 CRS SOUN CBL  345.KV  0L 387
          RM=    0.0051  XM=    0.0108 per-unit
      272 BRANFORD      115.KV --   225 BRANFORD RR   115.KV  0L 1537-0        WITH
      292 EAST SHORE    115.KV --   225 BRANFORD RR   115.KV  0L 1460-0
          RM=    0.0009  XM=    0.0024 per-unit
       29 MILLSTONE     345.KV --   250 SOUTHINGTON   345.KV  0L 348-0         WITH
        0 MERIDEN TAP   345.KV --   250 SOUTHINGTON   345.KV  0L 362W
          RM=    0.0016  XM=    0.0019 per-unit
       13 SCOVILL RCK   345.KV --     0 CRS SOUN CBL  345.KV  0L 387           WITH
        0 MERIDEN TAP   345.KV --   250 SOUTHINGTON   345.KV  0L 362W
          RM=    0.0009  XM=    0.0008 per-unit
        0 MERIDEN TAP   345.KV --   250 SOUTHINGTON   345.KV  0L 362W          WITH
       12 HADDAM NECK   345.KV --    13 SCOVILL RCK   345.KV  0L 376
          RM=    0.0005  XM=    0.0006 per-unit

MUTUAL GROUP WITH 2 LINES

       13 SCOVILL RCK   345.KV --   470 MANCHSTER     345.KV  0L 353           WITH
       13 SCOVILL RCK   345.KV --    15 MIDDLETOWN    345.KV  0L 384
          RM=    0.0015  XM=    0.0018 per-unit

MUTUAL GROUP WITH 15 LINES

      119 ROWAYTNJCT88  115.KV --     0 ely jct2      115.KV  0L 1880-0        WITH
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0
          RM=    0.0001  XM=    0.0004 per-unit
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0        WITH
      110 GLENBROOK     115.KV --   120 ROWAYTNJCT86  115.KV  2L 1867-2
          RM=    0.0057  XM=    0.0175 per-unit
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0        WITH
      110 GLENBROOK     115.KV --   119 ROWAYTNJCT88  115.KV  2L 1880-2
          RM=    0.0068  XM=    0.0340 per-unit
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0        WITH
      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1
          RM=    0.0005  XM=    0.0016 per-unit
      110 GLENBROOK     115.KV --   120 ROWAYTNJCT86  115.KV  2L 1867-2        WITH
      110 GLENBROOK     115.KV --   119 ROWAYTNJCT88  115.KV  2L 1880-2
          RM=    0.0057  XM=    0.0175 per-unit
      110 GLENBROOK     115.KV --   120 ROWAYTNJCT86  115.KV  2L 1867-2        WITH
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      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1
          RM=    0.0016  XM=    0.0092 per-unit
      110 GLENBROOK     115.KV --   119 ROWAYTNJCT88  115.KV  2L 1880-2        WITH
      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1
          RM=    0.0005  XM=    0.0016 per-unit
      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1        WITH
      103 SOUTH END 45  115.KV --   110 GLENBROOK     115.KV  0L 1450
          RM=    0.0009  XM=    0.0030 per-unit
      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1        WITH
      101 WATERSIDE     115.KV --   110 GLENBROOK     115.KV  0L 1440
          RM=    0.0010  XM=    0.0032 per-unit
      103 SOUTH END 45  115.KV --   110 GLENBROOK     115.KV  0L 1450          WITH
      101 WATERSIDE     115.KV --   110 GLENBROOK     115.KV  0L 1440
          RM=    0.0021  XM=    0.0119 per-unit
      119 ROWAYTNJCT88  115.KV --     0 ely jct2      115.KV  0L 1880-0        WITH
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2
          RM=    0.0000  XM=    0.0000 per-unit
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2        WITH
      110 GLENBROOK     115.KV --   120 ROWAYTNJCT86  115.KV  2L 1867-2
          RM=    0.0004  XM=    0.0014 per-unit
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2        WITH
      110 GLENBROOK     115.KV --   119 ROWAYTNJCT88  115.KV  2L 1880-2
          RM=    0.0005  XM=    0.0027 per-unit
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2        WITH
      102 SOUTH END 43  115.KV --     0 1977tap       115.KV  0L 1977-1
          RM=    0.0001  XM=    0.0003 per-unit
      146 ASHCREEK      115.KV --   147 RESCO TAP     115.KV  1L 91001         WITH
      126 SASCO CREEK   115.KV --   146 ASHCREEK      115.KV  0L 1430
          RM=   -0.0004  XM=   -0.0014 per-unit
      104 SOUTH END 75  115.KV --   105 TOMAC         115.KV  0L 1750-0        WITH
      101 WATERSIDE     115.KV --   110 GLENBROOK     115.KV  0L 1440
          RM=   -0.0020  XM=   -0.0100 per-unit
      105 TOMAC         115.KV --   100 COS COB       115.KV  1L 1750-1        WITH
      100 COS COB       115.KV --   101 WATERSIDE     115.KV  0L 1740
          RM=   -0.0028  XM=   -0.0134 per-unit
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0        WITH
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0
          RM=    0.0025  XM=    0.0071 per-unit
      110 GLENBROOK     115.KV --   120 ROWAYTNJCT86  115.KV  2L 1867-2        WITH
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0
          RM=    0.0016  XM=    0.0092 per-unit
      110 GLENBROOK     115.KV --   119 ROWAYTNJCT88  115.KV  2L 1880-2        WITH
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0
          RM=    0.0025  XM=    0.0075 per-unit
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0        WITH
      103 SOUTH END 45  115.KV --   110 GLENBROOK     115.KV  0L 1450
          RM=    0.0009  XM=    0.0030 per-unit
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0        WITH
      101 WATERSIDE     115.KV --   110 GLENBROOK     115.KV  0L 1440
          RM=    0.0010  XM=    0.0032 per-unit
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2        WITH
        0 1977tap       115.KV --   115 DARIEN        115.KV  1L 1977-0
          RM=    0.0001  XM=    0.0003 per-unit
        0 ely jct2      115.KV --   121 NORWALK HARB  115.KV  0L 1880-00       WITH
      110 GLENBROOK     115.KV --   160 ELY AVE       115.KV  0L 1890-0
          RM=    0.0018  XM=    0.0076 per-unit
        0 ely jct2      115.KV --   121 NORWALK HARB  115.KV  0L 1880-00       WITH
      160 ELY AVE       115.KV --   121 NORWALK HARB  115.KV  2L 1890-2
          RM=    0.0001  XM=    0.0006 per-unit

MUTUAL GROUP WITH 3 LINES

      119 ROWAYTNJCT88  115.KV --   135 NORWALK       115.KV  1L 1880-1        WITH
      134 FLAX HILL     115.KV --   135 NORWALK       115.KV  0L 1389
          RM=    0.0069  XM=    0.0233 per-unit
      119 ROWAYTNJCT88  115.KV --   135 NORWALK       115.KV  1L 1880-1        WITH
      120 ROWAYTNJCT86  115.KV --   134 FLAX HILL     115.KV  1L 1867-1
          RM=    0.0028  XM=    0.0100 per-unit

MUTUAL GROUP WITH 3 LINES

      130 RDGFLDTAP47   115.KV --   132 RIDGEFIELD47  115.KV  1L 1470-1        WITH
      131 RDGFLDTAP56   115.KV --   133 RIDGEFIELD56  115.KV  1L 1565-1
          RM=    0.0187  XM=    0.0410 per-unit
      130 RDGFLDTAP47   115.KV --   132 RIDGEFIELD47  115.KV  1L 1470-1        WITH
      131 RDGFLDTAP56   115.KV --   137 PEACEABLE 56  115.KV  2L 1565-2
          RM=   -0.0010  XM=   -0.0024 per-unit

MUTUAL GROUP WITH 3 LINES

        0 Barnum 73     115.KV --   145 PEQUONOCK     115.KV  2L 1730-2        WITH
      143 TRUMBULL 71   115.KV --     0 Barnum 71     115.KV  2L 1710--2
          RM=    0.0029  XM=    0.0062 per-unit
        0 Barnum 73     115.KV --   145 PEQUONOCK     115.KV  2L 1730-2        WITH
        0 Barnum 71     115.KV --   145 PEQUONOCK     115.KV  2L 1710-2
          RM=    0.0010  XM=    0.0021 per-unit

MUTUAL GROUP WITH 2 LINES

      145 PEQUONOCK     115.KV --   190 E.MAINTAP 88  115.KV  0L 8809A         WITH
      145 PEQUONOCK     115.KV --   191 E.MAINTAP 89  115.KV  0L 8909B
          RM=    0.0005  XM=    0.0014 per-unit

MUTUAL GROUP WITH 4 LINES

      156 BARNUM 89     115.KV --   171 DEVON TIE 89  115.KV  0L 89006B        WITH
      157 BARNUM 88     115.KV --   170 DEVON TIE 88  115.KV  0L 88066A
          RM=    0.0018  XM=    0.0048 per-unit
      151 BAIRD 88      115.KV --   157 BARNUM 88     115.KV  0L 88006A        WITH
      152 BAIRD 89      115.KV --   156 BARNUM 89     115.KV  0L 89006B
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          RM=    0.0018  XM=    0.0048 per-unit

MUTUAL GROUP WITH 2 LINES

      151 BAIRD 88      115.KV --   181 CONGRESS 88   115.KV  0L 8809A         WITH
      152 BAIRD 89      115.KV --   182 CONGRESS 89   115.KV  0L 8909B
          RM=    0.0030  XM=    0.0082 per-unit

MUTUAL GROUP WITH 2 LINES

      170 DEVON TIE 88  115.KV --   172 MILVON 88     115.KV  0L 88005A        WITH
      171 DEVON TIE 89  115.KV --   173 MILVON 89     115.KV  0L 89005B
          RM=    0.0018  XM=    0.0047 per-unit

MUTUAL GROUP WITH 2 LINES

      170 DEVON TIE 88  115.KV --     0 Devon Ring 2  115.KV  0L 1780          WITH
      171 DEVON TIE 89  115.KV --     0 Devon Ring 2  115.KV  0L 1790
          RM=    0.0003  XM=    0.0005 per-unit

MUTUAL GROUP WITH 2 LINES

      172 MILVON 88     115.KV --   192 WOODMONT 88   115.KV  0L 88055A        WITH
      173 MILVON 89     115.KV --   193 WOODMONT 89   115.KV  0L 89005B
          RM=    0.0054  XM=    0.0144 per-unit

MUTUAL GROUP WITH 2 LINES

      176 ELMWEST 88    115.KV --   178 W. RIVER 88   115.KV  0L 88003A        WITH
      177 ELMWEST 89    115.KV --   178 W. RIVER 88   115.KV  0L 89003B
          RM=    0.0018  XM=    0.0046 per-unit

MUTUAL GROUP WITH 4 LINES

      176 ELMWEST 88    115.KV --     0 ALLINGS 88    115.KV  0L 88003A        WITH
      177 ELMWEST 89    115.KV --     0 ALLINGS 89    115.KV  0L 89003B
          RM=    0.0017  XM=    0.0044 per-unit
        0 ALLINGS 88    115.KV --   192 WOODMONT 88   115.KV  0L 88003A        WITH
      177 ELMWEST 89    115.KV --     0 ALLINGS 89    115.KV  0L 89003B
          RM=    0.0013  XM=    0.0035 per-unit
        0 ALLINGS 88    115.KV --   192 WOODMONT 88   115.KV  0L 88003A        WITH
        0 ALLINGS 89    115.KV --   193 WOODMONT 89   115.KV  0L 89003B
          RM=    0.0041  XM=    0.0106 per-unit

MUTUAL GROUP WITH 2 LINES

      181 CONGRESS 88   115.KV --   190 E.MAINTAP 88  115.KV  0L 8809A         WITH
      182 CONGRESS 89   115.KV --   191 E.MAINTAP 89  115.KV  0L 8909B
          RM=    0.0005  XM=    0.0013 per-unit

MUTUAL GROUP WITH 2 LINES

      274 NO. HAVEN     115.KV --   297 QUINNIPIAC    115.KV  0L 8600          WITH
      187 GRAND AVE.    115.KV --   295 SACKETT       115.KV  0L 8400
          RM=   -0.0385  XM=   -0.0904 per-unit

MUTUAL GROUP WITH 9 LINES

      212 ROCKY RIVER   115.KV --   213 BULLS BRIDGE  115.KV  0L 1555          WITH
      239 LONG MTN      345.KV --     0 PLEASANT VAL  345.KV  0L 398
          RM=    0.0045  XM=    0.0060 per-unit
      212 ROCKY RIVER   115.KV --   213 BULLS BRIDGE  115.KV  0L 1555          WITH
      207 PLUMTREE      345.KV --   239 LONG MTN      345.KV  0L 321
          RM=    0.0042  XM=    0.0061 per-unit
      207 PLUMTREE      345.KV --   239 LONG MTN      345.KV  0L 321           WITH
      211 W. BROOKFLD   115.KV --   212 ROCKY RIVER   115.KV  0L 1618
          RM=    0.0117  XM=    0.0225 per-unit
        0 STONY HL TP2  115.KV --   202 BATES ROCK    115.KV  1L 1770-1        WITH
      201 SHEPAUG       115.KV --   202 BATES ROCK    115.KV  0L 1622
          RM=    0.0287  XM=    0.0384 per-unit
      201 SHEPAUG       115.KV --     0 STONY HL TP1  115.KV  1L 1887-0        WITH
        0 STONY HL TP2  115.KV --   202 BATES ROCK    115.KV  1L 1770-1
          RM=   -0.0284  XM=   -0.0533 per-unit
      206 PLUMTREE      115.KV --     0 STONY HL TP2  115.KV  0L 1770-0        WITH
      207 PLUMTREE      345.KV --   239 LONG MTN      345.KV  0L 321
          RM=    0.0017  XM=    0.0040 per-unit
      206 PLUMTREE      115.KV --     0 STONY HL TP2  115.KV  0L 1770-0        WITH
      201 SHEPAUG       115.KV --     0 STONY HL TP1  115.KV  1L 1887-0
          RM=   -0.0035  XM=   -0.0067 per-unit
        0 STONY HL TP1  115.KV --   211 W. BROOKFLD   115.KV  0L 1887-1        WITH
      207 PLUMTREE      345.KV --   239 LONG MTN      345.KV  0L 321
          RM=   -0.0018  XM=   -0.0042 per-unit
        0 STONY HL TP1  115.KV --   211 W. BROOKFLD   115.KV  0L 1887-1        WITH
      211 W. BROOKFLD   115.KV --   212 ROCKY RIVER   115.KV  0L 1618
          RM=   -0.0074  XM=   -0.0140 per-unit
        0 STONY HL TP1  115.KV --   211 W. BROOKFLD   115.KV  0L 1887-1        WITH
      206 PLUMTREE      115.KV --     0 STONY HL TP2  115.KV  0L 1770-0
          RM=   -0.0035  XM=   -0.0067 per-unit

MUTUAL GROUP WITH 4 LINES

      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV 65L 1165          WITH
      205 MIDDLE RIVER  115.KV --     0 ug tap        115.KV  0L 1270-1
          RM=    0.0027  XM=    0.0059 per-unit
      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV 65L 1165          WITH
      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV  0L 1060
          RM=    0.0091  XM=    0.0220 per-unit
      205 MIDDLE RIVER  115.KV --     0 ug tap        115.KV  0L 1270-1        WITH
      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV  0L 1060
          RM=    0.0027  XM=    0.0066 per-unit
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      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV 65L 1165          WITH
        0 ug tap        115.KV --   206 PLUMTREE      115.KV  0L 1270
          RM=    0.0063  XM=    0.0137 per-unit
        0 ug tap        115.KV --   206 PLUMTREE      115.KV  0L 1270          WITH
      204 TRIANGLE      115.KV --   206 PLUMTREE      115.KV  0L 1060
          RM=    0.0064  XM=    0.0154 per-unit

MUTUAL GROUP WITH 5 LINES

        0 Frost bridge  115.KV --   407 CAMPVILLE     115.KV  0L 1191          WITH
      406 THOMASTON     115.KV --   407 CAMPVILLE     115.KV  0L 1921
          RM=    0.0181  XM=    0.0255 per-unit
        0 Frost bridge  115.KV --   407 CAMPVILLE     115.KV  0L 1191          WITH
      228 FROST BRIDGE  345.KV --   239 LONG MTN      345.KV  0L 352
          RM=    0.0032  XM=    0.0028 per-unit
        0 Frost bridge  115.KV --   407 CAMPVILLE     115.KV  0L 1191          WITH
      218 CARMEL HILL   115.KV --     0 Frost bridge  115.KV  0L 1238
          RM=   -0.0100  XM=   -0.0106 per-unit
      228 FROST BRIDGE  345.KV --   239 LONG MTN      345.KV  0L 352           WITH
      218 CARMEL HILL   115.KV --     0 Frost bridge  115.KV  0L 1238
          RM=   -0.0126  XM=   -0.0141 per-unit
      228 FROST BRIDGE  345.KV --   239 LONG MTN      345.KV  0L 352           WITH
      212 ROCKY RIVER   115.KV --   218 CARMEL HILL   115.KV  0L 1813
          RM=   -0.0117  XM=   -0.0140 per-unit

MUTUAL GROUP WITH 6 LINES

      242 SGTN RING 2   115.KV --   281 BLACKROCK 82  115.KV  0L 1820          WITH
      278 RESEV RD JCT  115.KV --   279 BLACKROCK 67  115.KV  2L 1670-2
          RM=    0.0028  XM=    0.0048 per-unit
      242 SGTN RING 2   115.KV --   281 BLACKROCK 82  115.KV  0L 1820          WITH
      241 SGTN RING 1   115.KV --   280 BLACKROCK 83  115.KV  0L 1830
          RM=    0.0281  XM=    0.0466 per-unit
      242 SGTN RING 2   115.KV --   281 BLACKROCK 82  115.KV  0L 1820          WITH
      241 SGTN RING 1   115. KV --   278 RESEV RD JCT  115.KV  1L 1670-1
          RM=    0.0252  XM=    0.0300 per-unit
      242 SGTN RING 2   115.KV --   281 BLACKROCK 82  115.KV  0L 1820          WITH
      221 BERLIN        115.KV --   241 SGTN RING 1   115.KV  0L 1771
          RM=   -0.0243  XM=   -0.0266 per-unit
      278 RESEV RD JCT  115.KV --   279 BLACKROCK 67  115.KV  2L 1670-2        WITH
      241 SGTN RING 1   115.KV --   280 BLACKROCK 83  115.KV  0L 1830
          RM=    0.0025  XM=    0.0061 per-unit
      241 SGTN RING 1   115.KV --   280 BLACKROCK 83  115.KV  0L 1830          WITH
      241 SGTN RING 1   115.KV --   278 RESEV RD JCT  115.KV  1L 1670-1
          RM=    0.0261  XM=    0.0357 per-unit
      241 SGTN RING 1   115.KV --   280 BLACKROCK 83  115.KV  0L 1830          WITH
      221 BERLIN        115.KV --   241 SGTN RING 1   115.KV  0L 1771
          RM=   -0.0251  XM=   -0.0300 per-unit
      241 SGTN RING 1   115.KV --   278 RESEV RD JCT  115.KV  1L 1670-1        WITH
      221 BERLIN        115.KV --   241 SGTN RING 1   115.KV  0L 1771
          RM=   -0.0259  XM=   -0.0403 per-unit
      221 BERLIN        115.KV --   278 RESEV RD JCT  115.KV  0L 1670-0        WITH
      221 BERLIN        115.KV --   241 SGTN RING 1   115.KV  0L 1771
          RM=    0.0219  XM=    0.0437 per-unit

MUTUAL GROUP WITH 12 LINES

      277 BALDWIN JCTB  115.KV --   230 BUNKERHILL57  115.KV  0L 1575-0        WITH
      286 BALDWIN JCTA  115.KV --     0 Frost bridge  115.KV  0L 1990-0
          RM=   -0.0135  XM=   -0.0163 per-unit
      286 BALDWIN JCTA  115.KV --     0 Frost bridge  115.KV  0L 1990-0        WITH
        0 Frost bridge  115.KV --   233 FREIGHT       115.KV  0L 1721
          RM=    0.0185  XM=    0.0276 per-unit
      286 BALDWIN JCTA  115.KV --     0 Frost bridge  115.KV  0L 1990-0        WITH
      227 SHAWS HILL    115.KV --   231 BUNKERHILL66  115.KV  0L 1272
          RM=    0.0101  XM=    0.0132 per-unit
      286 BALDWIN JCTA  115.KV --     0 Frost bridge  115.KV  0L 1990-0        WITH
      227 SHAWS HILL    115.KV --     0 Frost bridge  115.KV  0L 1445
          RM=    0.0074  XM=    0.0098 per-unit
      264 DERBY TAP     115.KV --     0 Devon Ring 1  115.KV  0L 1570-0        WITH
      268 TRAP FALLS    115.KV --     0 Devon Ring 1  115.KV  0L 1545
          RM=    0.0190  XM=    0.0308 per-unit
      264 DERBY TAP     115.KV --     0 Devon Ring 1  115.KV  0L 1570-0        WITH
      263 ANSONIA TAP   115.KV --   268 TRAP FALLS    115.KV  0L 1560-0
          RM=    0.0173  XM=    0.0283 per-unit
      264 DERBY TAP     115.KV --     0 Devon Ring 1  115.KV  0L 1570-0        WITH
      258 S. NAUG 80    115.KV --     0 Devon Ring 1  115.KV  0L 1580
          RM=    0.0347  XM=    0.0392 per-unit
      268 TRAP FALLS    115.KV --     0 Devon Ring 1  115.KV  0L 1545          WITH
      258 S. NAUG 80    115.KV --     0 Devon Ring 1  115.KV  0L 1580
          RM=    0.0172  XM=    0.0166 per-unit
      263 ANSONIA TAP   115.KV --   268 TRAP FALLS    115.KV  0L 1560-0        WITH
      258 S. NAUG 80    115.KV --     0 Devon Ring 1  115.KV  0L 1580
          RM=    0.0162  XM=    0.0179 per-unit
      259 BEACON FALLS  115.KV --   264 DERBY TAP     115.KV  2L 1570-2        WITH
      261 STEVENSON     115.KV --   263 ANSONIA TAP   115.KV  2L 1560-2
          RM=    0.0225  XM=    0.0364 per-unit
      259 BEACON FALLS  115.KV --   264 DERBY TAP     115.KV  2L 1570-2        WITH
      258 S. NAUG 80    115.KV --     0 Devon Ring 1  115.KV  0L 1580
          RM=    0.0553  XM=    0.0773 per-unit
      261 STEVENSON     115.KV --   263 ANSONIA TAP   115.KV  2L 1560-2        WITH
      258 S. NAUG 80    115.KV --     0 Devon Ring 1  115.KV  0L 1580
          RM=    0.0212  XM=    0.0235 per-unit
        0 Frost bridge  115.KV --   233 FREIGHT       115.KV  0L 1721          WITH
      231 BUNKERHILL66  115.KV --   233 FREIGHT       115.KV  0L 1668
          RM=    0.0107  XM=    0.0250 per-unit
        0 Frost bridge  115.KV --   233 FREIGHT       115.KV  0L 1721          WITH
      227 SHAWS HILL    115.KV --   231 BUNKERHILL66  115.KV  0L 1272
          RM=    0.0104  XM=    0.0166 per-unit
        0 Frost bridge  115.KV --   233 FREIGHT       115.KV  0L 1721          WITH
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      227 SHAWS HILL    115.KV --     0 Frost bridge  115.KV  0L 1445
          RM=   -0.0078  XM=   -0.0125 per-unit

MUTUAL GROUP WITH 6 LINES

      246 FORESTVILLE   115.KV --   248 BRISTOL       115.KV  0L 1825          WITH
      247 CHIPPEN TAP   115.KV --   248 BRISTOL       115.KV  1L 1810-1
          RM=    0.0087  XM=    0.0173 per-unit
      246 FORESTVILLE   115.KV --   248 BRISTOL       115.KV  0L 1825          WITH
      245 UTECHALT      115.KV --   247 CHIPPEN TAP   115.KV  3L 1810-3
          RM=    0.0104  XM=    0.0185 per-unit
      246 FORESTVILLE   115.KV --   248 BRISTOL       115.KV  0L 1825          WITH
      243 UAC TAP       115.KV --   246 FORESTVILLE   115.KV  1L 1800-1
          RM=   -0.0071  XM=   -0.0154 per-unit
      245 UTECHALT      115.KV --   247 CHIPPEN TAP   115.KV  3L 1810-3        WITH
      243 UAC TAP       115.KV --   246 FORESTVILLE   115.KV  1L 1800-1
          RM=    0.0097  XM=    0.0207 per-unit
      242 SGTN RING 2   115.KV --   243 UAC TAP       115.KV  0L 1800-0        WITH
      242 SGTN RING 2   115.KV --   245 UTECHALT      115.KV  0L 1810-0
          RM=    0.0137  XM=    0.0258 per-unit

MUTUAL GROUP WITH 2 LINES

        0 Frost bridge  115.KV --   236 NOERA TAP 16  115.KV  2L 1163-2        WITH
        0 Frost bridge  115.KV --   237 NOERA TAP 55  115.KV  2L 1550-2
          RM=    0.0159  XM=    0.0309 per-unit

MUTUAL GROUP WITH 2 LINES

      234 NOERA116      115.KV --   236 NOERA TAP 16  115.KV  1L 1163-1        WITH
      235 NOERA155      115.KV --   237 NOERA TAP 55  115.KV  1L 1550-1
          RM=    0.0090  XM=    0.0174 per-unit

MUTUAL GROUP WITH 4 LINES

      238 TODD          115.KV --   242 SGTN RING 2   115.KV  0L 1910          WITH
      240 CANAL         115.KV --   242 SGTN RING 2   115.KV  0L 1950
          RM=    0.0125  XM=    0.0220 per-unit
      238 TODD          115.KV --   242 SGTN RING 2   115.KV  0L 1910          WITH
      237 NOERA TAP 55  115.KV --   240 CANAL         115.KV  0L 1550-0
          RM=    0.0201  XM=    0.0392 per-unit
      237 NOERA TAP 55  115.KV --   240 CANAL         115.KV  0L 1550-0        WITH
      236 NOERA TAP 16  115.KV --   238 TODD          115.KV  0L 1163-0
          RM=    0.0121  XM=    0.0237 per-unit

MUTUAL GROUP WITH 9 LINES

      271 WALLNGFRDSUB  115.KV --     0 Devon Ring 2  115.KV  0L 1640          WITH
      269 JUNE ST       115.KV --   273 GLENLAKE JCT  115.KV  0L 1610-0
          RM=   -0.0115  XM=   -0.0113 per-unit
      271 WALLNGFRDSUB  115.KV --     0 Devon Ring 2  115.KV  0L 1640          WITH
      241 SGTN RING 1   115.KV --   273 GLENLAKE JCT  115.KV  1L 1610-1
          RM=    0.0297  XM=    0.0291 per-unit
      271 WALLNGFRDSUB  115.KV --     0 Devon Ring 2  115.KV  0L 1640          WITH
      241 SGTN RING 1   115.KV --   271 WALLNGFRDSUB  115.KV  0L 1208
          RM=   -0.0149  XM=   -0.0377 per-unit
      241 SGTN RING 1   115.KV --   300 LUCCINI J300  115.KV  0L 1355-0        WITH
      242 SGTN RING 2   115.KV --   251 LUCCINI J251  115.KV  1L 1690-1
          RM=    0.0183  XM=    0.0161 per-unit
      241 SGTN RING 1   115.KV --   300 LUCCINI J300  115.KV  0L 1355-0        WITH
      241 SGTN RING 1   115.KV --   273 GLENLAKE JCT  115.KV  1L 1610-1
          RM=    0.0202  XM=    0.0325 per-unit
      241 SGTN RING 1   115.KV --   300 LUCCINI J300  115.KV  0L 1355-0        WITH
      241 SGTN RING 1   115.KV --   271 WALLNGFRDSUB  115.KV  0L 1208
          RM=    0.0195  XM=    0.0216 per-unit
      242 SGTN RING 2   115.KV --   251 LUCCINI J251  115.KV  1L 1690-1        WITH
      241 SGTN RING 1   115.KV --   273 GLENLAKE JCT  115.KV  1L 1610-1
          RM=    0.0190  XM=    0.0180 per-unit
      242 SGTN RING 2   115.KV --   251 LUCCINI J251  115.KV  1L 1690-1        WITH
      241 SGTN RING 1   115.KV --   271 WALLNGFRDSUB  115.KV  0L 1208
          RM=    0.0203  XM=    0.0251 per-unit
      241 SGTN RING 1   115.KV --   273 GLENLAKE JCT  115.KV  1L 1610-1        WITH
      241 SGTN RING 1   115.KV --   271 WALLNGFRDSUB  115.KV  0L 1208
          RM=    0.0457  XM=    0.0540 per-unit
      300 LUCCINI J300  115.KV --   301 COLONY        115.KV  1L 1355-1        WITH
      241 SGTN RING 1   115.KV --   273 GLENLAKE JCT  115.KV  1L 1610-1
          RM=    0.0076  XM=    0.0122 per-unit
      300 LUCCINI J300  115.KV --   301 COLONY        115.KV  1L 1355-1        WITH
      241 SGTN RING 1   115.KV --   271 WALLNGFRDSUB  115.KV  0L 1208
          RM=    0.0073  XM=    0.0081 per-unit
      301 COLONY        115.KV --     0 test wally    115.KV  0L 1588          WITH
      252 NWALLINGFORD  115.KV --   290 E. MERIDEN    115.KV  0L 1466
          RM=   -0.0001  XM=   -0.0005 per-unit

MUTUAL GROUP WITH 2 LINES

      247 CHIPPEN TAP   115.KV --   249 CHIPPEN HILL  115.KV  2L 1810-2        WITH
      249 CHIPPEN HILL  115.KV --   406 THOMASTON     115.KV  0L 1835
          RM=   -0.0044  XM=   -0.0145 per-unit

MUTUAL GROUP WITH 2 LINES

      251 LUCCINI J251  115.KV --   299 HANOVER 60    115.KV  2L 1690-2        WITH
      298 HANOVER 63    115.KV --   300 LUCCINI J300  115.KV  2L 1355-2
          RM=   -0.0036  XM=   -0.0071 per-unit

MUTUAL GROUP WITH 2 LINES

      277 BALDWIN JCTB  115.KV --   262 BALDWIN 57    115.KV  2L 1575-2        WITH
      286 BALDWIN JCTA  115.KV --   256 BALDWIN 99    115.KV  2L 1990-2
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          RM=   -0.0146  XM=   -0.0264 per-unit

MUTUAL GROUP WITH 3 LINES

      264 DERBY TAP     115.KV --   265 INDIAN WELL   115.KV  1L 1570-1        WITH
      263 ANSONIA TAP   115.KV --   266 ANSONIA       115.KV  1L 1560-1
          RM=    0.0071  XM=    0.0151 per-unit
      265 INDIAN WELL   115.KV --   266 ANSONIA       115.KV  0L 1594          WITH
      263 ANSONIA TAP   115.KV --   266 ANSONIA       115.KV  1L 1560-1
          RM=    0.0045  XM=    0.0204 per-unit
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GEPHSE1DATA.OUT

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                                    -- ASPEN Batch Short Circuit Module (Tm) --
                                        VERSION 2001D     SERIAL NO. 1002

DATE AND TIME:     Sat Apr 19 07:36:54 2003


NAME OF THIS FILE: \\Nu-east-1\TRANSENG\DEPTDATA\t_drive\DEPT\PROT\ASPEN\WORKING\MJM\gephse1data.OUT

BASE MVA = 100.

BASE CASE HAS:
                 794 BUSES
                 120 GENERATORS
                   0 LOADS
                  31 SHUNTS
                   0 SWITCHED SHUNTS
                 487 LINES
                 310 2-W TRANSFORMERS
                 101 3-W TRANSFORMERS
                  11 PHASE SHIFTERS
                   0 SWITCHES
                 458 BREAKERS
                  66 MUTUAL GROUPS

FILE COMMENTS:
   NYISO SYSTEM EQUIVALENT BASED ON 9-19-2002 NYISO FULL SYSTEM.  INCLUDES UPGRADE
   D NORTHPORT (LONG ISLAND) PHASE SHIFT REGULATOR.

PREFAULT VOLTAGE PROFILE: FLAT BUS VOLTAGES
GENERATOR IMPEDANCE: SUBTRANSIENT
IGNORE PHASE SHIFT                          [X]
IGNORE LOADS                                [X]
IGNORE TRANSMISSION LINE G+jB               [X]
ACTIVATE OUT-OF-SERVICE EQUIPMENT           [ ]
FAULT TAP BUSES                             [ ]
IN X-ONLY NETWORK WHEN X=0 USE X=0.0001 P.U.
IN R-ONLY NETWORK WHEN R=0 USE R IN METHOD 2
  WITH:  RC= 0.0001

FAULTS APPLIED TO ALL BUSES
     WITH BUS NUMBERS BETWEEN     0 AND 99999, INCLUSIVE, AND
     WITH NOMINAL KV BETWEEN   0.00 AND 9999.00, INCLUSIVE, AND
     WITH BUS NAME BETWEEN  AND zzzzzzzzzzz, INCLUSIVE.

A TOTAL OF 2163 FAULTS SIMULATED.

PAGE     2

OUT-OF-SERVICE EQUIPMENT:
GENTR on    16 MIDDLETOWN    115.kV
GENTR on    31 THAMES        115.kV
GENTR on    59 SCRRA          69.kV
GENTR on  2135 NORWALK       27.6kV
GENTR on     0 PLEASANT VAL  345.kV
GENTR on   549 CABOT 6.6B     6.6kV
GENTR on   597 ROTTERDAM     230.kV
GENTR on  1504 ALPS          345.kV
GENTR on   583 INDECK        115.kV
GENTR on   595 ADAMS         115.kV
GENTR on     0 Millstone 1   22.8kV
GENTR on     0 Temp Gen      13.8kV
SHUNT on    16 MIDDLETOWN    115.kV
SHUNT on    31 THAMES        115.kV
SHUNT on    59 SCRRA          69.kV
SHUNT on    25 MILLS U1 RSS  345.kV
LINE         0 NWHARBOR      138.kV -   123 NORPORT CA    138.kV 0L
LINE         0 NWHARBOR      138.kV -   123 NORPORT CA    138.kV 1L
LINE       123 NORPORT CA    138.kV -   124 NORPORT PH    138.kV 0L
LINE       123 NORPORT CA    138.kV -   124 NORPORT PH    138.kV 1L
LINE       124 NORPORT PH    138.kV -   125 NORTHPORT     138.kV 0L
LINE       136 NORWALK TRNU  27.6kV -  2135 NORWALK       27.6kV 0L
LINE         0 PLEASANT VAL  345.kV -  1504 ALPS          345.kV NL
LINE        29 MILLSTONE     345.kV -    25 MILLS U1 RSS  345.kV  L
LINE       423 FALLSVILG 89   69.kV -   418 FALLSVILG 93   69.kV 0L
LINE      2281 BLACKROCK A3  14.4kV -   282 BLACK RKTRNU  14.4kV 1L
LINE         0 sagreact2     115.kV -   566 SOUTH AGAWAM  115.kV 1L
LINE         0 sagreact1     115.kV -   566 SOUTH AGAWAM  115.kV 1L
LINE       241 SGTN RING 1   115.kV -   242 SGTN RING 2   115.kV 1L
LINE       538 PODICK 32     115.kV -  1514 PODICK 13     115.kV 1L
LINE       541 AMHERST 44    115.kV -   539 AMHERST 34    115.kV 1L
LINE       113 CEDAR HTS 79  115.kV -     0 CEDAR HTS 75  115.kV 1L
LINE       256 BALDWIN 99    115.kV -   262 BALDWIN 57    115.kV 1L
LINE       298 HANOVER 63    115.kV -   299 HANOVER 60    115.kV 1L
2-W XFMR   125 NORTHPORT     138.kV -     0 PLEASANT VAL  345.kV NT
2-W XFMR     0 PLEASANT VAL  345.kV -   597 ROTTERDAM     230.kV NT
2-W XFMR   540 MONTAGUE      115.kV -   537 MONTAGUE       69.kV 0T
2-W XFMR   597 ROTTERDAM     230.kV -  1504 ALPS          345.kV NT
2-W XFMR    29 MILLSTONE     345.kV -     0 Millstone 1   22.8kV 1T
2-W XFMR   101 WATERSIDE     115.kV -     0 Temp Gen      13.8kV 1T
2-W XFMR   121 NORWALK HARB  115.kV -     0 NWHARBOR      138.kV NXT
P. SHFTR   124 NORPORT PH    138.kV -   123 NORPORT CA    138.kV 1P
3-W XFMR   280 BLACKROCK 83  115.kV -   282 BLACK RKTRNU  14.4kV -  2280 BLACKROCK A2   4.8kV 1X
3-W XFMR   408 TORR TERM     115.kV -   417 TORR TERM      69.kV -  8408 TORR TERM      6.6kV SXX
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	BUS		3LG(A)	2LG(A)	1LG(A)	Z+(Ohm)	Zo(Ohm)		
0	11U-SS	0.48kV	60353.13	60904.97	61312.12	0.0004	0.0046	0.0004	0.0044
0	12U-SS	0.48kV	60171.43	60839.57	61326.50	0.0004	0.0046	0.0004	0.0043
0	13U-SS	0.48kV	60172.35	60715.58	61118.24	0.0004	0.0046	0.0004	0.0044
0	14U-SS	0.48kV	59786.15	60440.99	60920.93	0.0004	0.0046	0.0004	0.0044
0	1X Bus	13.8kV	10465.29	10652.02	10787.17	0.0267	0.7609	0.0206	0.6928
0	21S Sta serv	4.16kV	19613.36	16985.21	0.01	0.0049	0.1224	0.	-1E+6
0	24Bfeeder	13.8kV	14873.31	14013.77	12613.71	0.0305	0.5348	0.043	0.8224
0	2X Bus	13.8kV	10465.20	10651.85	10787.07	0.0269	0.7609	0.0208	0.6928
0	6J-21S	4.16kV	17057.46	14771.98	0.01	0.0091	0.1405	0.	-1E+6
595	ADAMS	115.kV	11501.28	10685.50	7204.93	0.7113	5.7289	4.9244	15.449
0	AES	345.kV	20851.18	20527.44	17786.25	0.7013	9.527	3.5585	14.157
0	aes gen	20.kV	75622.47	68515.38	51853.33	0.0042	0.1526	0.0073	0.3626
550	AGAWAM	115.kV	30377.65	28882.69	24281.66	0.2354	2.1729	0.8247	3.7443
2550	AGAWAM A5	13.8kV	10267.02	10354.19	10418.79	0.0342	0.7753	0.0307	0.7414
3550	AGAWAM A6	13.8kV	10324.42	10418.96	10435.05	0.0395	0.7707	0.0289	0.7465
0	ALLINGS 88	115.kV	26165.79	24610.31	19746.86	0.2618	2.5239	1.0454	4.91
0	ALLINGS 89	115.kV	26165.79	24626.59	19893.97	0.2618	2.5239	1.0128	4.8396
1504	ALPS	345.kV	14917.35	14242.37	11381.95	0.9384	13.32	5.8881	25.286
0	ALPS EQ	345.kV	14960.78	14286.45	11413.34	0.8993	13.283	5.8281	25.233
506	ALTRSCO	115.kV	16137.07	15708.28	14847.04	0.5139	4.0822	0.4906	5.165
516	ALTRSCO U1	13.8kV	31377.87	27174.00	1.25	0.002	0.2539	0.	19046
517	ALTRSCO U2	13.8kV	31316.35	27120.73	1.25	0.002	0.2544	0.	19046
518	ALTRSCO U3	13.8kV	31284.72	27093.33	1.25	0.002	0.2547	0.	19046
519	ALTRSCO U4	13.8kV	39143.12	33898.91	1.25	0.0013	0.2035	0.	19046
539	AMHERST 34	115.kV	4492.36	4044.16	2860.88	4.2126	14.167	12.114	38.187
541	AMHERST 44	115.kV	2823.88	2580.19	1884.98	9.5071	21.504	20.395	55.037
2541	AMHERST A3	13.8kV	7020.46	7767.27	7860.81	0.2091	1.1155	0.0574	0.7723
2539	AMHERST A4	13.8kV	7917.97	8416.86	8578.14	0.1255	0.9984	0.0583	0.7723
266	ANSONIA	115.kV	14514.57	13160.55	9421.20	0.984	4.4673	3.0964	11.586
146	ASHCREEK	115.kV	24403.38	22776.00	18672.72	0.2376	2.7103	0.7735	5.1703
2534	ASHFIELD	23.kV	3581.41	3684.47	3712.53	0.3759	3.6887	0.2312	3.308
530	ASHFIELD 23	115.kV	6779.66	6130.77	4592.53	3.4776	9.1551	8.315	22.284
2151	BAIRD	13.8kV	22546.61	19524.35	2.46	0.0096	0.3532	0.0063	9706.8
151	BAIRD 88	115.kV	34727.91	32766.76	28171.79	0.197	1.9017	0.5141	3.2041
152	BAIRD 89	115.kV	34727.91	32772.18	28186.22	0.197	1.9017	0.5141	3.2004
262	BALDWIN 57	115.kV	8800.47	8146.62	5824.97	1.6554	7.3607	6.5921	18.005
256	BALDWIN 99	115.kV	10669.62	9814.26	6963.50	1.584	6.0179	5.7861	15.128
2256	BALDWIN A2	13.8kV	8466.26	8696.71	8806.23	0.0662	0.9387	0.0425	0.8311
2262	BALDWIN A3	13.8kV	9121.99	9498.76	9713.99	0.0715	0.8705	0.0467	0.7122
7256	BALDWIN TER2	1.kV	116834.98	101180.36	0.00	0.0003	0.0049	0.	-5E+7
7262	BALDWIN TER3	1.kV	125884.02	109016.40	0.00	0.0004	0.0046	0.	-5E+7
7477	BARB HILL	6.6kV	72925.60	63152.31	0.00	0.0042	0.0521	2E-18	-5E+7
495	BARB HILL	69.kV	6975.42	7346.31	7564.53	0.4547	5.6929	0.4083	4.3574
476	BARB HILL 10	115.kV	13694.22	13164.32	11193.93	0.7061	4.7967	2.1433	7.8397
477	BARB HILL 63	115.kV	13581.07	13044.61	11113.09	0.7435	4.8319	2.1713	7.8803
478	BARB HILL 76	115.kV	13744.83	13222.38	11188.97	0.6898	4.7811	2.1902	7.8762
2157	BARNUM	13.8kV	18118.53	15689.96	2.46	0.014	0.4395	0.0056	9706.8
157	BARNUM 88	115.kV	38486.30	36590.02	32100.28	0.1689	1.7169	0.4314	2.7186
156	BARNUM 89	115.kV	38486.30	36598.07	32120.32	0.1689	1.7169	0.4314	2.7147
2202	BATES RCK A1	13.8kV	8574.15	8885.59	9061.50	0.0587	0.9274	0.0364	0.7785
3202	BATES RCK A2	13.8kV	9124.69	9465.78	9658.20	0.0614	0.871	0.0391	0.7275
202	BATES ROCK	115.kV	7382.17	6911.68	5120.52	1.4933	8.8692	6.55	19.973
2259	BEACON A1	13.8kV	10777.72	11225.43	11471.88	0.056	0.7371	0.0348	0.6041
3259	BEACON A2	13.8kV	9378.90	9677.13	9745.65	0.0571	0.8476	0.0227	0.7536
259	BEACON FALLS	115.kV	8999.05	8365.03	6272.71	1.4729	7.2295	5.2736	16.209
44	BEAN HILL	115.kV	11578.91	11054.87	8614.63	0.7997	5.6781	3.7201	11.144
7598	BEARSW TERT	1.kV	5.77	5.00	0.00	1E-5	100.	0.	-1E+6
599	BEARSWMP 15	115.kV	23304.75	21602.95	18389.14	0.1724	2.8438	0.2744	5.1264
598	BEARSWMP 23	230.kV	13171.96	13607.67	13954.30	0.4896	10.069	0.409	8.3756
0	BERK POWER	21.kV	104790.21	88694.52	15.16	0.0034	0.1157	2400.	-5.683
7525	BERK TER	34.5kV	7007.65	6068.82	0.00	0.096	2.8408	3E-20	-5E+7
2526	BERKSHIRE	23.kV	4082.57	4120.16	4150.39	0.1392	3.2496	0.1254	3.0906
526	BERKSHIRE	115.kV	18830.26	17700.22	14629.42	0.3302	3.5105	1.1101	6.4787
525	BERKSHIRE	345.kV	13497.47	12805.22	9915.70	1.1385	14.713	7.4078	30.054
2221	BERLIN	14.4kV	18505.30	19317.01	19914.55	0.028	0.4484	0.0219	0.3532
221	BERLIN	115.kV	22632.70	21395.95	15926.31	0.3966	2.9067	2.1177	6.3466
7221	BERLIN TER 1	1.kV	161195.03	139594.72	0.00	0.0002	0.0036	0.	-5E+7
8221	BERLIN TER 2	1.kV	157147.78	136089.94	0.00	0.0002	0.0037	1E-18	-5E+7
282	BLACK RKTRNU	14.4kV	11462.89	13779.21	14293.00	0.0771	0.7212	0.0356	0.2922
287	BLACK ROCK	69.kV	6308.72	6275.95	6029.03	0.8702	6.2544	0.5973	7.1749
2279	BLACKRK A1A2	14.4kV	11459.63	10687.50	8480.04	0.0771	0.7214	0.0356	1.4922
279	BLACKROCK 67	115.kV	14185.97	13415.21	11252.49	0.8903	4.5949	2.2648	8.0388
281	BLACKROCK 82	115.kV	9159.29	8530.38	7418.44	1.9334	6.9864	3.2522	11.914
280	BLACKROCK 83	115.kV	9361.20	8701.04	7258.28	1.8694	6.8418	3.91	12.666
3279	BLACKROCK A1	4.8kV	19092.44	16534.08	0.00	0.0374	0.1402	0.	-5E+7
2280	BLACKROCK A2	4.8kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
2281	BLACKROCK A3	14.4kV	8236.15	8590.32	8821.04	0.1302	1.001	0.0971	0.8028
503	BLANDFORD	115.kV	7111.58	6640.86	4825.77	1.6662	9.1863	7.4509	21.466
2503	BLANDFORD A1	23.kV	3079.82	3142.35	3181.11	0.3749	4.2953	0.3011	3.8882
3503	BLANDFORD A2	23.kV	3379.73	3441.30	3486.95	0.6033	3.8824	0.5304	3.5268
7281	BLK RCK TER3	1.kV	118601.03	102709.82	0.00	0.0006	0.0048	0.	-5E+7
8281	BLK RCK TER4	7.2kV	60458.92	52355.90	0.00	0.0095	0.0681	0.	-5E+7
2442	BLOOMFLD 1	23.kV	20828.04	19237.24	15947.29	0.0404	0.6363	0.0578	1.2216
2441	BLOOMFLD 2	23.kV	20822.07	19231.57	15942.03	0.0404	0.6365	0.0578	1.222
2443	BLOOMFLD 3	23.kV	20822.18	19231.67	15942.07	0.0404	0.6365	0.0578	1.222
442	BLOOMFLD 56	115.kV	21149.83	20361.32	17572.88	0.4343	3.1091	1.2484	4.9151
441	BLOOMFLD 77	115.kV	21118.19	20325.74	17500.23	0.4379	3.1133	1.2715	4.9487
443	BLOOMFLD 79	115.kV	20591.61	19786.70	17190.21	0.5095	3.1839	1.3043	4.9819
2294	BOKUM	27.6kV	10904.54	11723.24	12109.50	0.1217	1.4562	0.0593	1.0233
294	BOKUM	115.kV	8528.45	7848.55	4960.43	1.1096	7.7057	7.914	23.438
272	BRANFORD	115.kV	14046.55	13171.38	9618.33	0.5267	4.6974	3.1769	10.858
2272	BRANFORD R1	23.kV	8030.19	8219.06	8346.40	0.0813	1.6516	0.0603	1.4637
3272	BRANFORD R2	23.kV	8831.41	9060.73	9215.50	0.0815	1.5014	0.0605	1.3135
225	BRANFORD RR	115.kV	19893.51	18803.60	15895.01	0.3101	3.3231	0.9891	5.7716
0	brdgphbr 2	18.4kV	76056.85	68759.42	51142.55	0.0052	0.1396	0.0099	0.3436

0	brdgphbr 3	20.2kV	132640.90	119783.55	86955.69	0.0026	0.0879	0.0028	0.2265
0	brdgphbr jet	13.68kV	27422.82	27558.10	27669.71	0.008	0.2879	0.0074	0.2802
560	BRECKWOOD	115.kV	19995.82	19863.77	13758.45	0.5027	3.2822	4.9135	6.6348
2560	BRECKWOOD A1	13.8kV	5806.59	5862.96	5905.99	0.0687	1.3704	0.0615	1.3013
3560	BRECKWOOD A2	13.8kV	6014.93	6058.42	6087.75	0.0807	1.3221	0.0735	1.2749
4560	BRECKWOOD A3	13.8kV	6015.65	6059.28	6088.48	0.0781	1.3221	0.0708	1.2749
0	BRGPRT ENERG	115.kV	50432.91	51168.05	51288.72	0.1002	1.3127	0.122	1.2417
248	BRISTOL	115.kV	14082.87	13024.84	8314.42	0.6719	4.6665	4.9378	13.783
4248	BRISTOL A1	4.8kV	18251.37	15805.99	0.00	0.0152	0.1511	9E-19	-5E+7
2248	BRISTOL A1	13.8kV	10696.18	9432.46	4899.96	0.0422	0.7437	0.11	3.3868
5248	BRISTOL A2	4.8kV	18166.81	15732.76	0.00	0.0156	0.1517	3E-24	-5E+7
3248	BRISTOL A2	13.8kV	10736.88	9467.68	4905.57	0.0427	0.7408	0.1122	3.3868
0	BROADWAY	115.kV	35305.27	34994.65	29981.46	0.1828	1.8717	0.8736	2.7765
2083	BROOKLYN	23.kV	4703.00	5047.89	5229.76	0.189	2.8172	0.1008	1.9679
83	BROOKLYN	115.kV	3412.22	3168.15	2202.28	2.1209	19.342	13.842	49.933
2047	BUDDINGTON	34.5kV	17982.18	20013.48	20655.31	0.0708	1.1054	0.0078	0.6782
66	BUDDINGTON	69.kV	7223.57	6671.21	3981.06	0.7183	5.4679	6.8812	17.908
68	BUDDINGTON28	115.kV	10163.27	9510.62	6350.72	0.7674	6.4876	6.2346	17.41
47	BUDDINGTON41	115.kV	9306.15	8652.29	5844.02	1.168	7.0383	6.8784	18.737
3213	BULLS BRIDGE	4.8kV	17740.78	15363.88	0.00	0.0361	0.152	0.	-5E+7
2213	BULLS BRIDGE	27.6kV	5709.88	7473.03	7563.36	0.2935	2.7753	0.0762	0.7351
213	BULLS BRIDGE	115.kV	5159.91	4693.45	3179.06	2.8248	12.554	11.162	35.249
230	BUNKERHILL57	115.kV	20176.75	19155.73	14179.04	0.4003	3.2662	2.4411	7.1337
232	BUNKERHILL58	115.kV	20173.75	19152.56	14178.62	0.4008	3.2667	2.4406	7.1331
231	BUNKERHILL66	115.kV	20245.90	19226.32	14216.25	0.3898	3.2562	2.4308	7.1234
2232	BUNKERHILLA3	13.8kV	9461.77	9647.69	9796.90	0.0389	0.8412	0.0329	0.7549
2230	BUNKERHILLA4	13.8kV	9653.98	9811.45	9933.49	0.0385	0.8244	0.0325	0.7549
288	BURRITT	69.kV	5605.48	5381.08	4818.58	1.3016	6.9866	1.3067	10.518
0	BUS 1X	115.kV	23240.78	22681.70	20353.50	0.2489	2.846	0.7727	4.0104
0	BUS2X	115.kV	23240.84	22681.68	20353.82	0.2489	2.846	0.7725	4.0103
1510	CABOT 6.6A	6.6kV	40589.66	35151.65	2.60	0.0031	0.0938	0.	4393.8
549	CABOT 6.6B	6.6kV	24825.58	21499.55	0.02	0.0059	0.1534	0.	-5E+5
2407	CAMPVILLE	27.6kV	10373.74	10849.38	11064.21	0.1221	1.5312	0.0639	1.2471
407	CAMPVILLE	115.kV	14507.94	13545.17	10111.63	0.972	4.4721	3.6082	9.9541
2240	CANAL	23.kV	6041.57	6110.73	6160.34	0.0862	2.1963	0.0722	2.0695
429	CANTON	115.kV	9658.51	8838.31	6124.97	1.5791	6.6904	6.1235	17.785
0	CANTON B1	23.kV	5625.53	5811.11	5889.24	0.1509	2.3557	0.0783	2.0423
2429	CANTON B2	23.kV	5665.84	5908.30	6035.18	0.1779	2.3369	0.1053	1.9107
2050	CARD	23.kV	6056.02	6120.46	6173.15	0.1127	2.1898	0.1021	2.0652
0	CARD	115.kV	20066.29	21214.90	21630.24	0.2538	3.299	0.3134	2.5699
471	CARD	345.kV	21370.05	20769.40	17100.06	0.6163	9.3004	4.4493	15.803
51	CARD 800	69.kV	9200.37	9411.92	9529.28	0.2557	4.3224	0.2843	3.8701
52	CARD 900	69.kV	9200.30	9397.98	9501.99	0.2561	4.3224	0.2895	3.9058
50	Card Auto	115.kV	20088.94	21237.87	21673.88	0.2487	3.2957	0.3023	2.5599
7471	CARD TERT 5X	34.5kV	91014.22	78737.20	0.00	0.0122	0.2185	0.	-5E+7
7050	CARD TERT 8X	6.69kV	5946.03	5149.36	0.00	0.0325	0.6488	0.	-5E+7
8050	CARD TERT 9X	6.69kV	5953.65	5155.96	0.00	0.0321	0.648	0.	-5E+7
2218	CARMEL HILL	23.kV	3559.62	3613.93	3649.49	0.059	3.73	0.0303	3.4547
218	CARMEL HILL	115.kV	10308.98	9541.49	6518.90	0.6893	6.4035	4.6793	17.14
575	CARP. HILL	115.kV	18260.79	18177.29	17455.51	0.2206	3.6293	0.4896	4.1134
1501	CARP. HILL	345.kV	17564.05	16451.89	12259.48	0.7857	11.313	5.6958	25.559
71501	CARPHILL TER	13.2kV	0.43	0.00	0.02	0.0017	17734	0.	-1E+6
448	CDEC	115.kV	25719.58	25672.60	21811.88	0.3467	2.5581	1.4649	3.755
450	CDEC UNIT 1	13.8kV	39011.99	33784.46	1.25	0.0085	0.2041	0.	19046
451	CDEC UNIT 2	13.8kV	21573.30	18682.74	1.25	0.0088	0.3692	0.	19046
0	CEDAR HTS 75	115.kV	16335.42	17064.53	13973.48	0.9697	3.9471	4.0774	5.0209
113	CEDAR HTS 79	115.kV	16446.97	17194.89	14113.44	0.9565	3.922	4.0046	4.9614
2113	CEDAR HTS A2	13.2kV	10357.50	10735.92	11002.65	0.0522	0.7339	0.0396	0.605
2112	CEDAR HTS A3	13.2kV	10344.04	10701.60	10952.60	0.0517	0.7349	0.0392	0.6126
7113	CEDAR HTS T2	1.kV	136728.32	118404.23	0.00	0.0003	0.0042	0.	-5E+7
7112	CEDAR HTS T3	1.kV	136541.82	118242.73	0.00	0.0003	0.0042	0.	-5E+7
0	CedHtsFdr	13.2kV	10331.34	10706.28	10973.17	0.054	0.7357	0.0413	0.6067
553	CHICOPEE	115.kV	20586.18	19409.71	15403.34	0.3695	3.204	1.5423	6.3153
2553	CHICOPEE #2	13.8kV	9892.13	10074.34	10218.84	0.0325	0.8048	0.0272	0.7276
3553	CHICOPEE #3	13.8kV	9808.38	9917.68	10008.67	0.0707	0.8092	0.0651	0.7607
249	CHIPPEN HILL	115.kV	11635.19	10699.91	7046.17	0.8643	5.6406	5.0885	16.151
2249	CHIPPENHL A1	13.8kV	11438.24	11900.22	12215.68	0.0487	0.6949	0.0356	0.5624
3249	CHIPPENHL A2	13.8kV	11222.67	11686.93	12017.75	0.0543	0.7079	0.0413	0.5675
7249	CHIPPENHL T1	1.kV	157848.19	136698.13	0.00	0.0003	0.0036	0.	-5E+7
8249	CHIPPENHL T2	1.kV	154873.40	134121.98	0.00	0.0003	0.0037	0.	-5E+7
554	CLINTON	115.kV	24265.25	24094.85	19721.82	0.3682	2.7113	1.8846	4.3214
2554	CLINTON A1	13.8kV	9780.91	9877.98	9949.00	0.0604	0.8124	0.0548	0.7713
3554	CLINTON A2	13.8kV	10061.35	10188.55	10295.21	0.0666	0.7891	0.061	0.7353
4554	CLINTON A3	13.8kV	9866.47	9964.40	10037.58	0.0646	0.8049	0.059	0.7639
1528	COBBLE MT	69.kV	4061.66	4313.45	4318.06	2.1793	9.5629	1.0635	8.0129
301	COLONY	115.kV	11270.37	10635.02	8423.75	1.0847	5.7904	3.6509	11.332
0	COMPO	115.kV	13996.79	13009.05	10183.61	0.4274	4.7243	1.7278	9.9358
2181	CONGRESS	13.8kV	18074.85	15652.75	1.74	0.0149	0.4405	9892.4	9513.8
181	CONGRESS 88	115.kV	43385.41	42259.01	39766.67	0.1318	1.5247	0.2456	1.9301
182	CONGRESS 89	115.kV	43385.41	42260.34	39769.13	0.1318	1.5247	0.2456	1.9298
18	CONN YANK1-1	4.16kV	22430.34	19424.85	0.01	0.0062	0.1069	0.	-1E+6
19	CONN YANK1-3	4.16kV	22339.35	19346.06	0.01	0.0062	0.1073	0.	-1E+6
254	CONN YANK20	115.kV	9292.76	9088.63	8179.04	0.915	7.086	2.335	9.8192
255	CONN YANK77	115.kV	9295.32	9091.34	8181.24	0.9147	7.0841	2.3353	9.8166
100	COS COB	115.kV	16235.36	15415.70	13770.20	0.3905	4.0709	0.826	6.2212
2100	COS COB A1	27.6kV	6171.69	6305.41	6407.17	0.1371	2.5783	0.1125	2.2937
3100	COS COB A2A3	27.6kV	9826.16	10167.35	10392.80	0.0749	1.6199	0.0504	1.3548
0	COSCOBGEN	13.8kV	41971.57	35460.07	14.94	0.0058	0.1897	1600.	-2.408
533	CUMBERLAND	115.kV	7914.47	7300.05	5713.33	2.555	7.9906	4.5891	17.506
2533	CUMBERLANDA1	13.8kV	9376.63	9758.11	9883.78	0.0747	0.8464	0.0364	0.7183
3533	CUMBERLANDA2	13.8kV	8812.75	9146.48	9260.05	0.0978	0.8988	0.057	0.7713
115	DARIEN	115.kV	18634.97	17971.57	16707.26	0.3391	3.5468	0.6037	4.7542
2115	DARIEN A1	13.2kV	10124.82	9142.29	6591.58	0.0327	0.752	0.0453	1.9627
3115	DARIEN A2	13.2kV	10143.20	9142.21	6540.16	0.0296	0.7508	0.0451	1.9927
7115	DARIEN TERT1	12.47kV	7696.01	6664.74	0.00	0.0068	0.9355	0.	-5E+7
8115	DARIEN TERT2	12.47kV	7686.94	6656.88	0.00	0.0068	0.9366	0.	-5E+7
0	DEVON 11U	13.8kV	44621.01	38638.34	0.10	0.005	0.1785	0.0082	2E+5
0	DEVON 12U	13.8kV	36948.32	31995.89	0.10	0.0061	0.2156	0.0082	2E+5
0	DEVON 13U	13.8kV	44963.23	38934.57	0.10	0.0052	0.1771	0.0082	2E+5
0	DEVON 14U	13.8kV	37124.34	32148.28	0.10	0.0063	0.2145	0.0082	2E+5

0	Devon Ring 1	115.kV	51425.53	51520.60	50554.89	0.105	1.2868	0.1674	1.3395
0	Devon Ring 2	115.kV	52364.95	52014.61	50331.74	0.1118	1.263	0.1882	1.4046
0	Devon RR	115.kV	49000.90	48094.64	45137.92	0.1409	1.3476	0.2834	1.6757
170	DEVON TIE 88	115.kV	51513.41	51042.68	48914.23	0.1154	1.2837	0.2142	1.4749
171	DEVON TIE 89	115.kV	51513.41	51042.88	48914.57	0.1154	1.2837	0.2142	1.4749
492	DEXTER	13.8kV	35522.58	30763.24	1.23	0.0044	0.2242	0.	19412
491	DEXTER	115.kV	8745.28	8441.28	8049.36	1.1932	7.4978	1.5057	9.4402
2017	DOOLEY	13.2kV	10112.56	10316.43	10383.51	0.0453	0.7523	0.0272	0.6942
17	DOOLEY	115.kV	10764.57	10323.42	8414.25	0.9048	6.1012	3.3986	10.888
2521	DOREEN	23.kV	13096.69	12792.19	12406.98	0.0462	1.0129	0.0573	1.1816
521	DOREEN	115.kV	17632.04	16946.39	15381.82	0.3584	3.7485	0.7785	5.3656
43	DUDLEY	115.kV	9242.11	8691.40	6681.88	1.6271	6.9973	5.5576	14.482
7223	E N BRIT T1	1.kV	196684.26	170327.58	0.00	0.0002	0.0029	0.	-5E+7
8223	E N BRIT T2	1.kV	196667.93	170313.44	0.00	0.0002	0.0029	2E-18	-5E+7
2462	E. HARTFORD	23.kV	19627.06	20252.96	20691.85	0.0334	0.6757	0.0245	0.5715
462	E. HARTFORD	115.kV	26086.46	24949.60	19840.97	0.215	2.5361	1.2603	4.8216
7290	E. MER. TER1	1.kV	124889.85	108153.63	0.00	0.0003	0.0046	0.	-5E+7
8290	E. MER. TER2	1.kV	124200.54	107556.71	0.00	0.0003	0.0046	1E-34	-5E+7
290	E. MERIDEN	115.kV	8701.54	8196.62	6492.47	1.527	7.4759	4.887	14.677
558	E. SPGFLD	115.kV	24123.84	23224.52	17204.73	0.2722	2.7388	2.203	5.7645
2558	E. SPGFLD A7	13.8kV	10192.56	10253.20	10230.75	0.0394	0.7807	0.0282	0.7724
3558	E. SPGFLD A8	13.8kV	10755.34	10869.34	10953.57	0.0292	0.7402	0.0251	0.7001
190	E.MAINTAP 88	115.kV	47300.32	46951.77	45803.80	0.118	1.3987	0.1739	1.5285
191	E.MAINTAP 89	115.kV	47300.32	46952.59	45805.12	0.118	1.3987	0.1739	1.5284
2290	E.MERIDEN A1	13.8kV	9049.95	9521.42	9805.98	0.0593	0.8784	0.0375	0.6757
3290	E.MERIDEN A2	13.8kV	9000.00	9449.07	9726.43	0.064	0.883	0.0422	0.6856
2223	E.NEWBRITAIN	13.8kV	22981.18	23805.33	24128.72	0.0242	0.3458	0.0121	0.297
223	E.NEWBRITAIN	115.kV	14872.29	14143.21	11316.24	0.6253	4.4204	2.4529	8.3639
292	EAST SHORE	115.kV	41915.02	43257.94	43669.62	0.1123	1.5801	0.1443	1.3801
291	EAST SHORE	345.kV	12268.81	12452.52	12365.88	1.0297	16.202	1.6413	15.739
502	ELM	115.kV	12105.31	11245.93	8417.06	0.7047	5.4394	3.0764	12.35
2176	ELMWEST	13.8kV	17607.66	15247.19	2.51	0.0158	0.4522	0.0122	9522.
176	ELMWEST 88	115.kV	30142.98	28780.29	23707.48	0.2115	2.1925	0.9133	3.9033
177	ELMWEST 89	115.kV	30142.98	28787.46	23720.97	0.2115	2.1925	0.9142	3.8983
3480	ENFIELD	4.8kV	26856.26	23257.87	0.00	0.016	0.1019	0.	-5E+7
2480	ENFIELD	23.kV	3440.05	3501.28	3549.44	0.4483	3.834	0.3953	3.4808
2479	ENFIELD	27.6kV	9169.42	12114.84	11946.45	0.1393	1.7322	0.1506	0.5139
479	ENFIELD 10	115.kV	8569.70	8244.47	7521.02	1.2797	7.6413	2.3117	10.748
480	ENFIELD 30	115.kV	8572.19	8245.31	7534.47	1.2743	7.6399	2.2696	10.712
7479	ENFIELD TER1	4.8kV	25974.04	22493.87	0.00	0.017	0.1053	0.	-5E+7
0	English	13.68kV	49405.18	49448.59	49485.25	0.0024	0.1598	0.0023	0.1591
0	ESHOREGEN	13.8kV	243104.14	210408.69	0.13	0.0014	0.0327	0.	2E+5
72	EXETER	115.kV	4192.72	3937.93	3306.75	2.9798	15.553	7.0432	27.709
544	FAIRMONT N.	115.kV	17728.29	16749.31	13104.57	0.489	3.7131	2.0994	7.4534
545	FAIRMONT S.	115.kV	19508.18	18613.85	15120.36	0.3639	3.3839	1.591	6.195
423	FALLSVILG 89	69.kV	2765.68	2495.08	1853.33	4.8491	13.563	11.972	33.608
418	FALLSVILG 93	69.kV	2169.65	1984.20	1262.78	3.7417	17.976	19.977	54.619
7418	FALLSVILG T5	4.36kV	12840.21	11119.93	0.00	0.0219	0.1948	0.	-5E+7
419	FALLSVILLAGE	6.6kV	15833.17	13711.96	2.62	0.0248	0.2394	0.	4355.9
2418	FALLSVILLAGE	13.2kV	5582.25	6911.28	7129.72	0.1906	1.3519	0.0648	0.4718
2431	FARMINGTON	23.kV	13636.89	14553.45	15008.61	0.0848	0.9701	0.0452	0.7053
431	FARMINGTON	115.kV	12658.17	11869.39	9098.05	0.8161	5.1814	3.2346	10.98
0	feeders	23.kV	4081.88	4119.44	4149.67	0.1397	3.2502	0.1259	3.0912
2034	FLANDERS A1	23.kV	5795.97	6017.41	6132.36	0.1353	2.2871	0.0738	1.9129
2035	FLANDERS A2	23.kV	5535.74	5667.97	5732.88	0.1338	2.3951	0.0838	2.1499
34	FLANDERS150	115.kV	9379.65	8731.25	5887.53	0.7792	7.0356	5.945	18.917
35	FLANDERS160	115.kV	9377.60	8730.02	5888.16	0.7818	7.0369	5.9529	18.908
134	FLAX HILL	115.kV	24576.72	24061.91	21628.26	0.3146	2.6832	0.8615	3.718
2134	FLAX HILL A2	13.8kV	9777.82	9879.27	9957.94	0.0418	0.8138	0.0373	0.7697
3134	FLAX HILL A3	13.8kV	9861.31	9967.52	10050.32	0.0408	0.8069	0.0363	0.7615
2246	FORESTVIL A1	13.8kV	21990.57	22651.69	23105.23	0.0263	0.3614	0.02	0.3092
3246	FORESTVIL A3	13.8kV	9514.25	10762.83	11218.72	0.0391	0.8365	0.031	0.4547
7246	FORESTVIL T1	1.kV	164445.45	142411.67	0.00	0.0002	0.0035	0.	-5E+7
8246	FORESTVIL T2	1.kV	165362.23	143205.55	0.00	0.0002	0.0035	0.	-5E+7
9246	FORESTVIL T3	12.47kV	10529.04	9118.29	0.00	0.0319	0.683	0.	-5E+7
246	FORESTVILLE	115.kV	14397.71	13434.96	9217.32	0.5628	4.577	3.8806	11.866
0	Fort Hill 3G	115.kV	18685.37	17945.31	14498.71	0.5211	3.5149	2.077	6.3479
565	FRANCONIA	115.kV	9533.34	8911.52	6262.85	0.7016	6.9291	5.1219	17.257
2565	FRANCONIA A2	13.8kV	9598.77	9870.91	9999.78	0.0458	0.8288	0.0259	0.7297
3565	FRANCONIA A3	13.8kV	8401.07	8586.75	8730.89	0.0646	0.9462	0.0545	0.839
233	FREIGHT	115.kV	17749.84	16497.05	10485.07	0.4237	3.7165	3.9094	10.956
2233	FREIGHT A1	13.8kV	12100.08	12310.72	12026.16	0.0475	0.6567	0.	0.6717
3233	FREIGHT A3	13.8kV	6292.93	6358.06	6170.70	0.0889	1.263	0.	1.3435
7233	FREIGHT TER1	1.kV	98933.92	85678.15	0.00	0.0004	0.0058	0.	-5E+7
8233	FREIGHT TER2	1.kV	98767.62	85534.13	0.00	0.0004	0.0058	0.	-5E+7
9233	FREIGHT TER3	1.kV	86842.99	75207.35	0.00	0.0005	0.0066	0.	-5E+7
2586	FRENCH KING	13.8kV	8591.00	8958.85	9095.24	0.1025	0.9217	0.0585	0.7713
585	FRENCHKING27	115.kV	3569.13	3265.01	2633.51	5.3872	17.805	11.257	36.744
409	FRNKLN DR 73	115.kV	10574.32	9861.01	7969.82	1.26	6.1512	3.3235	11.996
410	FRNKLN DR 78	115.kV	10573.05	9860.09	7969.44	1.2597	6.152	3.323	11.996
7410	FRNKLN DR T4	4.16kV	27419.92	23746.18	0.00	0.0273	0.0832	2E-23	-5E+7
7409	FRNKLN DR T5	4.16kV	27029.94	23408.46	0.00	0.0276	0.0845	0.	-5E+7
2409	FRNKLN DRIVE	13.2kV	24629.54	21573.66	7050.06	0.0267	0.3083	0.0291	2.6254
0	Frost bridge	115.kV	34270.30	33468.42	30244.55	0.2199	1.9249	0.5685	2.6565
7228	FROST BRIDGE	34.5kV	14012.23	12134.29	0.00	0.0576	1.4203	0.	-5E+7
228	FROST BRIDGE	345.kV	17237.64	16661.84	13739.50	0.868	11.523	5.0089	19.907
229	frst brdg tp	115.kV	34211.40	33404.51	30229.50	0.2214	1.9281	0.5632	2.6538
2078	FRYBROOK 1	23.kV	4940.46	5209.84	5371.39	0.183	2.6816	0.115	2.0377
78	FRYBROOK 15	115.kV	4696.98	4372.23	3089.28	1.5559	14.05	9.7578	35.078
81	FRYBROOK 16	115.kV	5124.49	4836.48	3558.72	1.3557	12.885	8.7358	29.016
2081	FRYBROOK 2	23.kV	4988.79	5236.60	5392.34	0.1743	2.6561	0.1151	2.061
0	G1/G2	13.8kV	71435.71	68696.33	65743.64	0.0026	0.1115	0.0017	0.1271
0	G3/G4	13.8kV	71435.71	68696.33	65743.64	0.0026	0.1115	0.0017	0.1271
0	G5	13.2kV	60722.56	55604.30	45124.87	0.0038	0.1254	0.007	0.2556
0	G5	13.8kV	50976.08	46866.84	41229.41	0.0045	0.1562	0.0034	0.2542
0	G6	22.kV	150593.62	139887.94	118727.03	0.0031	0.0843	0.0024	0.1522
62	GALES FERRY	69.kV	9997.69	9801.90	8408.68	0.5621	3.9448	1.9269	5.9915
2062	GALES FRY A1	13.8kV	6897.19	7114.51	7261.75	0.1087	1.15	0.0841	0.9776
3062	GALES FRY A2	13.8kV	6887.69	7104.42	7251.22	0.1087	1.1516	0.0841	0.9792
2524	GE 14E	13.8kV	16401.82	14204.36	0.25	0.008	0.4857	0.	95311

524	GE 71	115.kV	15483.18	15046.67	14235.52	0.6692	4.2357	0.709	5.37
523	GE 81	115.kV	15483.18	15046.67	14235.52	0.6692	4.2357	0.709	5.37
0	Gen #10	13.2kV	15884.11	14668.11	12188.46	0.0179	0.4795	0.0215	0.916
0	Gen #2	13.2kV	79362.21	78217.60	76372.70	0.003	0.096	0.0021	0.1073
0	Gen #3	20.9kV	71655.37	66110.18	53389.96	0.0078	0.1682	0.0049	0.3413
0	Glenbrook	13.2kV	23221.06	20427.88	9172.10	0.0203	0.3276	0.0305	1.8365
110	GLENBROOK	115.kV	25680.03	27283.46	28296.06	0.2397	2.5744	0.1706	1.8548
0	Glenbrook 3X	7.26kV	14193.09	12291.09	0.00	0.0317	0.2936	0.	-5E+7
2110	Glenbrook 3X	13.2kV	12018.00	10546.42	4529.53	0.0357	0.6331	0.0769	3.7791
7110	GLENBROOK T1	7.26kV	25533.07	22110.83	0.00	0.0034	0.1641	0.	-5E+7
8110	GLENBROOK T2	7.26kV	22140.69	19173.30	0.00	0.0047	0.1893	0.	-5E+7
187	GRAND AVE.	115.kV	40495.77	39747.15	35471.12	0.1261	1.6347	0.4772	2.2914
293	GREEN HILL	115.kV	7896.77	7216.22	4581.59	1.172	8.3258	7.5343	25.675
2293	GREEN HILL 2	23.kV	5518.08	5702.70	5812.73	0.1512	2.4017	0.1	2.0377
3293	GREEN HILL 3	23.kV	5532.80	5718.56	5829.06	0.1501	2.3954	0.0989	2.0314
0	GT1 (11)	16.kV	93755.42	87828.08	77609.98	0.0018	0.0985	0.002	0.16
0	GT2 (12)	16.kV	93755.42	87828.08	77609.98	0.0018	0.0985	0.002	0.16
1524	GUNN	115.kV	12439.11	11555.03	8536.83	0.5743	5.3066	2.906	12.359
21524	GUNN A1	23.kV	3649.28	3708.36	3750.90	0.5303	3.6	0.5052	3.3045
31524	GUNN A2	23.kV	4084.69	4140.83	4184.65	0.2157	3.2438	0.1905	3.0118
2253	HADDAM	23.kV	5685.96	5849.13	5932.25	0.1406	2.3312	0.0861	2.0428
253	HADDAM	115.kV	9317.76	8883.34	7251.89	1.0201	7.0523	3.6416	12.764
12	HADDAM NECK	345.kV	23810.83	23720.71	20553.31	0.513	8.3496	3.3768	12.016
4298	HANOVER	4.8kV	6521.58	5647.79	0.00	0.0281	0.424	0.	-5E+7
0	HANOVER 23A	23.kV	5699.91	6155.24	6403.41	0.1092	2.3271	0.0598	1.5606
299	HANOVER 60	115.kV	17335.57	16192.63	12075.59	0.8819	3.7271	3.2008	8.2732
298	HANOVER 63	115.kV	12715.56	11976.75	9495.67	0.9639	5.1318	3.1733	10.078
3299	HANOVER A2	13.8kV	9679.90	10058.50	10326.40	0.0527	0.8214	0.0395	0.6673
3298	HANOVER A3	13.8kV	9480.71	9889.67	10160.30	0.0543	0.8386	0.038	0.6706
8299	HANOVER TER2	1.kV	133583.14	115684.19	0.00	0.0003	0.0043	0.	-5E+7
7298	HANOVER TER3	1.kV	130833.95	113300.34	0.00	0.0003	0.0044	0.	-5E+7
0	HANOVER TER5	13.2kV	6846.38	5928.96	0.00	0.0528	1.1119	0.	-5E+7
588	HARRIMAN	115.kV	11290.21	10738.59	9922.64	0.9059	5.8106	1.2979	8.2102
140	HAWTHORNE	115.kV	15130.42	13998.50	9519.77	0.6907	4.3335	3.8475	11.587
555	HOLYOKE	115.kV	17275.03	16255.24	12478.48	0.4304	3.8192	2.1089	8.0403
0	HOOSICK EQ	115.kV	4121.36	3820.53	3134.46	2.6799	15.886	4.0922	31.068
467	HOPEWELL	115.kV	13957.09	13444.56	10661.68	0.7674	4.6948	3.2623	8.6644
2467	HOPEWELL 2	23.kV	5596.17	5693.89	5760.36	0.1442	2.3685	0.117	2.1668
3467	HOPEWELL 3	23.kV	5887.55	6001.96	6068.94	0.1091	2.2528	0.0771	2.0518
583	INDECK	115.kV	9033.39	8379.60	6801.10	1.8819	7.105	3.0767	14.267
0	indian tert	1.kV	65787.55	56973.33	0.00	0.0004	0.0088	0.	-5E+7
265	INDIAN WELL	115.kV	14715.29	13732.43	11309.60	0.9143	4.4184	2.2216	8.2968
0	indians	34.5kV	3700.97	3205.09	0.00	0.2766	5.3749	1E-38	-5E+7
551	INGLESIDE	115.kV	13929.69	12866.45	9166.63	0.5734	4.7318	2.976	11.866
2551	INGLESIDE A1	13.8kV	7606.53	7704.68	7775.89	0.06	1.0457	0.0518	0.9776
3551	INGLESIDE A2	13.8kV	7634.35	7733.25	7804.96	0.0598	1.0419	0.0515	0.9738
269	JUNE ST	115.kV	11730.93	11178.14	8890.00	0.8028	5.6026	3.2933	10.653
0	LAKE ROAD	345.kV	22236.90	21365.99	20328.75	0.4907	8.944	1.4222	11.1
0	Lake Road 1	20.9kV	118493.53	90283.44	15.08	0.0014	0.1018	2400.	-5.684
0	Lake Road 2	20.9kV	118471.28	90458.79	15.08	0.0022	0.1018	2400.	-5.684
0	Lake Road 3	20.9kV	118471.28	100420.10	15.08	0.0022	0.1018	2400.	-5.684
60	LISBON	4.16kV	30760.65	26689.86	202.16	0.0029	0.078	35.63	0.4886
58	LISBON	115.kV	11420.10	10632.42	7199.75	0.7587	5.7642	5.1338	15.324
239	LONG MTN	345.kV	16108.98	15338.06	11692.39	0.8693	12.334	6.9196	25.694
0	low side	13.8kV	11795.15	12204.95	12404.52	0.0522	0.6735	0.032	0.5751
2570	LUDLOW	13.8kV	10081.87	10135.85	10186.08	0.0584	0.7881	0.0569	0.7639
570	LUDLOW	115.kV	41415.27	41775.58	40399.95	0.0997	1.6001	0.2363	1.7091
1500	LUDLOW	345.kV	22450.11	21882.43	19497.26	0.5544	8.855	2.2239	12.747
71500	LUDLOW TER1	34.5kV	14096.72	12207.46	0.00	0.0467	1.4122	2E-20	-5E+7
81500	LUDLOW TER3	34.5kV	14104.84	12214.48	0.00	0.0471	1.4114	0.	-5E+7
2469	MANCHESTER 1	23.kV	22844.97	20414.20	12363.91	0.0402	0.5799	0.039	2.06
3469	MANCHESTER 2	23.kV	22851.97	20420.33	12365.93	0.0402	0.5797	0.039	2.0598
4469	MANCHESTER 3	23.kV	22845.11	20414.33	12363.91	0.0402	0.5799	0.039	2.06
469	MANCHSTER	115.kV	39805.85	40000.31	36794.79	0.1044	1.6647	0.4327	2.0439
470	MANCHSTER	345.kV	25797.39	25307.24	21169.12	0.4626	7.7073	3.4343	12.449
2053	MANSFIELD	27.6kV	4133.87	4459.46	4647.73	0.3506	3.8387	0.2411	2.5646
53	MANSFIELD	69.kV	5447.60	5133.47	3645.62	0.6263	7.2859	5.3509	17.537
3053	MANSFIELD A1	13.8kV	5684.39	5966.42	6151.94	0.0898	1.3988	0.0624	1.0802
4053	MANSFIELD A2	13.8kV	5727.53	6041.79	6247.01	0.0898	1.3882	0.0624	1.0421
7053	MANSFIELD T3	4.8kV	14617.73	12659.01	0.00	0.035	0.1863	0.	-5E+7
0	MERIDEN GEN	345.kV	21261.81	21302.07	20142.25	0.6232	9.3475	1.7916	10.8
0	MERIDEN TAP	345.kV	22978.39	22890.76	21282.43	0.5949	8.648	1.9182	10.593
205	MIDDLE RIVER	115.kV	17476.09	16613.09	11561.34	0.5722	3.7559	3.9609	8.9417
2205	MIDDLE RVRA2	13.8kV	10132.15	10263.60	10333.00	0.0364	0.7855	0.0274	0.74
3205	MIDDLE RVRA3	13.8kV	9994.22	10130.11	10155.61	0.045	0.7959	0.029	0.7587
16	MIDDLETOWN	115.kV	17654.64	18992.00	19638.93	0.3985	3.7396	0.2186	2.6105
15	MIDDLETOWN	345.kV	19466.82	19554.81	18693.93	0.5899	10.215	1.7619	11.375
0	Middletown 4	22.kV	161155.45	152763.38	134090.75	0.0025	0.0788	0.0048	0.126
536	MIDWAY 39	115.kV	15879.65	15558.02	14653.52	0.4392	4.158	0.8191	5.1665
535	MIDWAY 62	115.kV	15571.32	15250.82	14373.41	0.511	4.2332	0.9042	5.2528
2535	MIDWAY A1	13.8kV	6905.82	6208.40	938.84	0.0892	1.1503	24.	5.6744
2536	MIDWAY A3	13.8kV	13162.74	11628.18	953.99	0.0459	0.6036	24.	5.6738
0	Milford	115.kV	42427.59	41212.87	39434.93	0.1111	1.561	0.1304	1.9031
0	Milford 1	20.9kV	110526.11	93609.61	15.08	0.0023	0.1091	2400.	-5.684
0	Milford 2	20.9kV	110526.11	93609.61	15.08	0.0023	0.1091	2400.	-5.684
0	MILL RIVER	115.kV	40203.63	39413.24	35081.67	0.1272	1.6466	0.4855	2.3291
576	MILLBURY 2	115.kV	36348.58	35692.04	34636.77	0.1616	1.8195	0.16	2.0902
1502	MILLBURY 3	345.kV	25466.81	24208.77	20048.05	0.4389	7.8091	2.4142	13.992
71502	MILLBURY TER	24.kV	19782.50	17131.61	0.04	0.009	0.7004	0.	-1E+6
25	MILLS U1 RSS	345.kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
26	MILLS U2 RSS	345.kV	26378.69	28610.89	29507.29	0.4676	7.5365	0.524	5.1086
27	MILLS U3 RSS	345.kV	26378.69	28626.06	29531.16	0.4676	7.5365	0.5203	5.0925
29	MILLSTONE	345.kV	28659.27	31329.46	32383.06	0.3486	6.9414	0.4067	4.5205
0	Millstone 1	22.8kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
22	MILLSTONE U2	22.8kV	241465.59	209051.94	0.72	0.0016	0.0545	0.0028	54829
23	MILLSTONE U3	22.8kV	268338.54	232301.75	0.68	0.0014	0.049	0.0024	58009
2172	MILVON	13.8kV	19031.21	16480.09	2.46	0.0146	0.4184	0.0073	9706.8
172	MILVON 88	115.kV	33882.02	31895.59	27164.21	0.2252	1.9466	0.5885	3.3599
173	MILVON 89	115.kV	33882.02	31896.77	27167.01	0.2252	1.9466	0.5886	3.3592
296	MIX AVE	115.kV	12193.03	11752.33	10327.22	0.708	5.3991	1.8685	8.2016

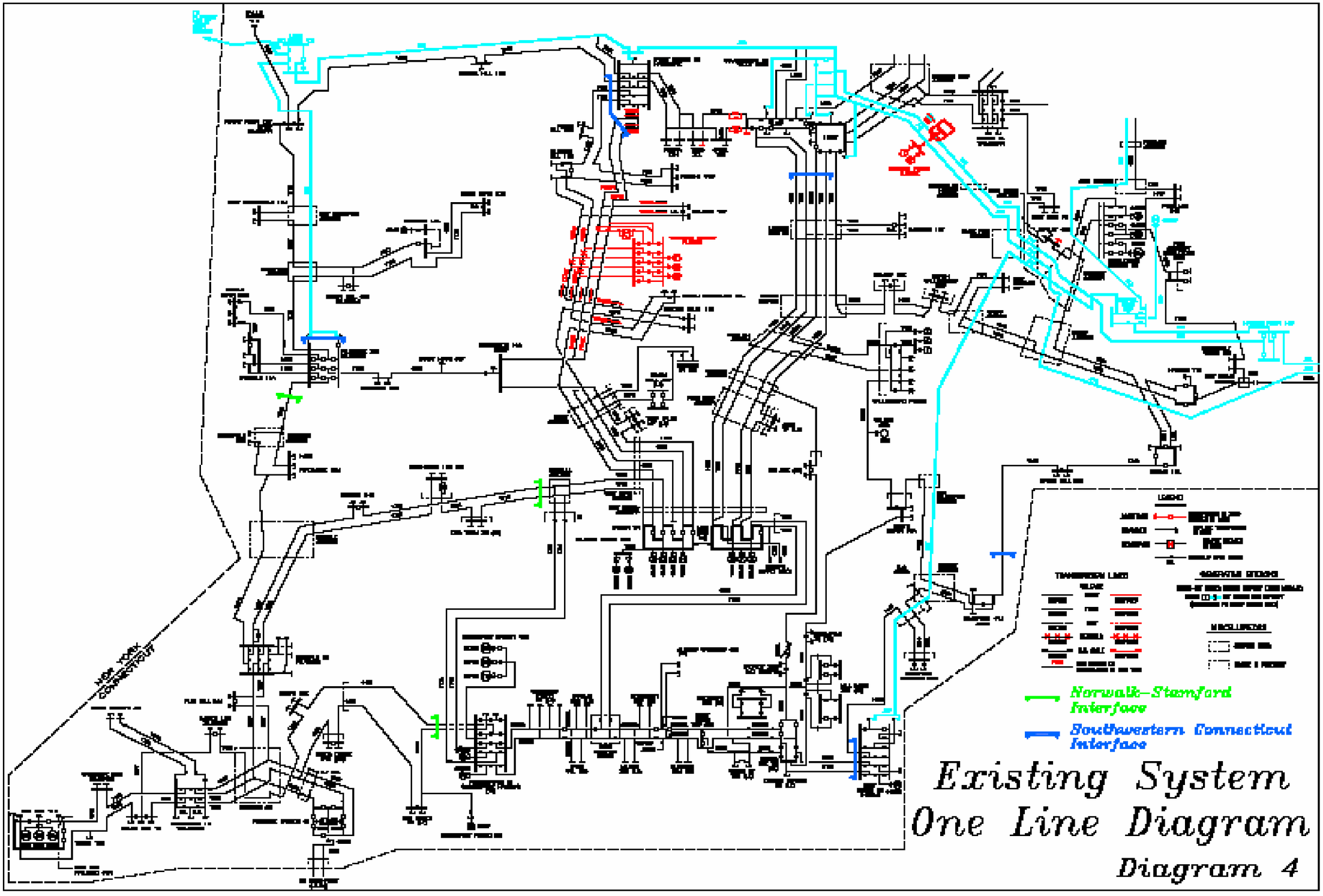
106	MONSANTO 30	115.kV	22063.17	21699.91	21291.62	0.3643	2.9872	0.4079	3.3085
108	MONSANTO 35	115.kV	22082.23	21754.17	21340.74	0.3617	2.9849	0.3919	3.294
107	MONSANTO 40	115.kV	22062.30	21697.74	21289.68	0.3645	2.9873	0.4087	3.309
116	MONSANTO U1	13.8kV	48054.15	41614.53	0.10	0.0037	0.1658	0.0064	2E+5
117	MONSANTO U2	13.8kV	47746.69	41348.29	1.23	0.0038	0.1668	0.0044	19412
118	MONSANTO U3	13.8kV	54941.47	47578.24	1.23	0.0043	0.145	0.0044	19412
2540	MONTAGUE	13.8kV	9105.85	9351.62	9465.99	0.0925	0.8701	0.0667	0.7723
537	MONTAGUE	69.kV	2226.84	2576.04	2695.24	0.753	17.874	0.3722	8.5544
540	MONTAGUE	115.kV	9458.18	8829.38	7186.51	1.7926	6.7871	2.6199	13.439
61	MONTVILLE	69.kV	11355.32	12147.33	12104.81	0.3653	3.4892	0.6203	2.8014
36	MONTVILLE	115.kV	42201.50	46382.73	47784.78	0.0751	1.5715	0.0997	1.0167
24	MONTVILLE	345.kV	22193.21	22402.59	20522.28	0.5316	8.9593	2.4991	10.963
7036	MONTVLLE T16	6.6kV	21411.50	18542.68	0.00	0.0516	0.1703	0.	-5E+7
547	MT. TOM	115.kV	17438.41	17080.49	16409.67	0.3827	3.7881	0.5627	4.4853
2040	MYSTIC	34.5kV	6113.63	6471.05	6671.52	0.2632	3.2474	0.1589	2.4356
40	MYSTIC	115.kV	7300.76	6745.48	4250.69	1.1589	9.0202	9.4082	27.326
3040	MYSTIC A1	13.8kV	9676.93	9850.97	9969.35	0.0668	0.8206	0.0557	0.7488
4040	MYSTIC A2	13.8kV	9272.87	9407.85	9484.38	0.0656	0.8567	0.0539	0.7999
7428	N. BLOOMFLD	34.5kV	8235.15	7131.50	0.00	0.1188	2.4158	3E-20	-5E+7
430	N. BLOOMFLD	115.kV	31305.01	29587.85	22534.98	0.2322	2.1082	1.2666	4.4486
428	N. BLOOMFLD	345.kV	13568.31	13164.76	10875.85	1.0298	14.644	6.4722	24.966
2430	N. BLOOMFLD1	23.kV	6027.16	6096.52	6156.61	0.124	2.1997	0.1139	2.061
3430	N. BLOOMFLD3	23.kV	7831.73	7915.97	7979.61	0.0873	1.6933	0.0772	1.5993
2421	N. CANAAN	13.2kV	3808.02	4862.08	4936.82	0.26	1.9844	0.0496	0.6273
421	N. CANAAN	69.kV	1720.88	1572.81	1011.42	5.2586	22.544	25.786	67.359
7421	N. CANAAN T1	5.04kV	6667.81	5774.49	0.00	0.0379	0.4348	0.	-5E+7
2446	N.W.HARTFORD	23.kV	22074.32	23053.33	23647.19	0.0359	0.6005	0.0225	0.481
446	N.W.HARTFORD	115.kV	26606.73	26351.40	21488.86	0.2902	2.4785	1.6196	4.0453
0	nees oh	23.kV	7139.07	7450.61	7609.89	0.1012	1.8573	0.0488	1.5143
0	nees stuff	23.kV	7139.07	7450.61	7609.89	0.1012	1.8573	0.0488	1.5143
2433	NEWINGTON A1	23.kV	18188.59	17503.20	15936.27	0.0663	0.7271	0.0443	1.0393
2432	NEWINGTON A3	23.kV	18145.81	17459.21	15891.91	0.0665	0.7288	0.0446	1.0428
432	NEWNGTON 83	115.kV	14784.39	14114.41	12247.73	0.6613	4.4419	1.641	7.104
433	NEWNGTON 85	115.kV	14650.04	13974.02	12160.43	0.7028	4.4773	1.666	7.1318
2260	NEWTOWN	13.8kV	6000.34	6068.95	6125.44	0.0824	1.3253	0.0748	1.2442
260	NEWTOWN	115.kV	15008.05	14160.73	10284.05	0.5125	4.3942	3.2785	10.094
274	NO. HAVEN	115.kV	19604.97	18545.68	15187.65	0.3362	3.3699	1.4037	6.1424
3234	NOERA	4.8kV	34955.28	30271.55	0.00	0.008	0.0789	0.	-3E+7
2234	NOERA A1	13.8kV	15908.95	18947.62	19152.64	0.0523	0.4981	0.063	0.2405
2235	NOERA A2	13.8kV	15824.36	18853.13	19041.87	0.0506	0.5009	0.0635	0.2425
234	NOERA116	115.kV	14822.09	13812.04	10667.59	0.8384	4.4003	2.7771	9.3303
235	NOERA155	115.kV	14824.27	13818.62	10680.38	0.8372	4.3999	2.7749	9.3093
123	NORPORT CA	138.kV	30360.79	31697.47	31594.54	0.1805	2.618	0.3491	2.2939
124	NORPORT PH	138.kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
590	NORTHFIELD	345.kV	19362.00	18996.24	17383.86	0.6062	10.27	2.0821	13.674
593	NORTHFLD 1X	345.kV	19075.61	18741.19	17104.65	0.6326	10.423	2.2409	13.911
594	NORTHFLD 3X	345.kV	19075.61	18741.19	17104.65	0.6326	10.423	2.2409	13.911
591	NORTHFLD U1	13.8kV	105629.62	91476.81	1.25	0.0005	0.0754	0.	19046
592	NORTHFLD U2	13.8kV	104918.85	90861.30	1.25	0.0005	0.0759	0.	19046
1593	NORTHFLD U3	13.8kV	105629.62	91476.81	1.25	0.0005	0.0754	0.	19046
1594	NORTHFLD U4	13.8kV	104918.85	90861.30	1.25	0.0005	0.0759	0.	19046
125	NORTHPORT	138.kV	48380.38	48333.21	48124.55	0.1047	1.6435	0.16	1.6644
5135	NORWALK	4.8kV	43656.26	37805.99	0.00	0.007	0.0631	0.	-3E+7
2135	NORWALK	27.6kV	16430.19	20199.91	20789.21	0.0541	0.9683	0.0313	0.3584
135	NORWALK	115.kV	26101.67	24841.26	21080.36	0.3292	2.5223	0.9666	4.26
3135	NORWALK A5	13.8kV	10277.64	10468.61	10370.71	0.0407	0.7742	0.0028	0.7549
4135	NORWALK A6	13.8kV	10615.91	10733.61	10822.38	0.0395	0.7495	0.0348	0.7067
121	NORWALK HARB	115.kV	36708.55	38913.91	39587.20	0.1598	1.8016	0.1988	1.3982
7135	NORWALK T3	4.8kV	30462.50	26380.58	0.00	0.0133	0.09	0.	-5E+7
136	NORWALK TRNU	27.6kV	16441.63	20215.09	20808.78	0.0534	0.9677	0.0306	0.3577
5053	NRTHPT P EQ	138.kV	30400.86	31730.34	31627.74	0.1756	2.6149	0.3439	2.2937
252	NWALLINGFORD	115.kV	9507.62	8940.96	7108.99	1.4135	6.8388	4.3626	13.398
0	NWHARBOR	138.kV	29149.32	30649.43	30623.28	0.242	2.7226	0.4068	2.3052
142	OLD TOWN	115.kV	17947.35	16678.71	11468.84	0.5053	3.6648	3.0859	9.5427
0	one	21.kV	80345.10	74121.60	62218.82	0.0033	0.1509	0.0071	0.2827
571	ORCHARD	115.kV	19871.58	18854.69	13797.36	0.3152	3.3263	2.3962	7.4596
2571	ORCHARD A1	13.8kV	11336.32	11448.24	11544.35	0.0292	0.7022	0.0268	0.6643
3571	ORCHARD A2A3	13.8kV	12584.25	12511.23	12417.61	0.0248	0.6326	0.0244	0.6581
513	OSWALD	115.kV	10583.30	9880.78	6634.88	0.7778	6.2252	5.7999	16.655
2513	OSWALD 1	23.kV	5667.74	5789.04	5828.67	0.1386	2.3388	0.0794	2.1477
3513	OSWALD 2	23.kV	5678.47	5887.18	5994.21	0.1352	2.3346	0.0732	1.9679
14	P&W.A.	115.kV	14342.40	14559.75	13797.20	0.5845	4.5923	1.271	5.0426
574	PALMER	115.kV	10644.21	9718.26	7157.35	0.817	6.184	2.8344	15.099
2508	PARTRIDGE	23.kV	4220.46	4280.99	4328.87	0.2357	3.1375	0.2091	2.9024
508	PARTRIDGE	115.kV	12588.74	11909.56	9314.34	0.5945	5.2406	2.7836	10.531
7137	PEACEABLE	4.8kV	17836.05	15446.29	0.00	0.0264	0.1531	0.	-5E+7
2138	PEACEABLE	13.8kV	6127.14	6217.83	6287.85	0.082	1.2978	0.0714	1.1985
2137	PEACEABLE	27.6kV	5721.64	7040.85	7008.73	0.2901	2.7699	0.4082	1.2089
138	PEACEABLE 47	115.kV	12490.07	11744.26	9041.90	0.745	5.2634	3.1345	11.009
137	PEACEABLE 56	115.kV	12489.84	11744.63	9042.79	0.7439	5.2636	3.133	11.008
145	PEQUONOCK	115.kV	53054.33	54654.60	55884.26	0.0991	1.2475	0.0881	1.0545
546	PINESHED	115.kV	15613.01	15029.15	12858.72	0.5009	4.223	1.6514	6.8109
2546	PINESHED A1	13.8kV	5972.89	6029.77	6070.28	0.0571	1.3327	0.0495	1.2687
3546	PINESHED A2	13.8kV	6069.28	6103.32	6121.59	0.0847	1.31	0.0772	1.2767
552	PIPER	115.kV	18229.94	16763.99	12374.98	0.7153	3.5712	2.4789	8.4626
2552	PIPER A1	13.8kV	9632.85	9809.59	9918.21	0.0443	0.8259	0.0336	0.7549
3552	PIPER A2	13.8kV	9660.33	9801.73	9875.38	0.043	0.8236	0.0323	0.7701
2532	PLAINFIELD	23.kV	1410.64	1424.08	1428.79	0.9883	9.3615	0.859	9.0142
531	PLAINFIELD23	115.kV	7161.12	6469.92	4864.35	3.2334	8.6896	7.8227	20.994
717	PLATSBRGH EQ	115.kV	12061.56	12931.68	13253.93	0.4602	5.4854	0.5119	3.9854
2510	PLEASANT	23.kV	7160.49	7475.28	7634.09	0.0959	1.852	0.0435	1.509
510	PLEASANT	115.kV	7654.73	7230.93	5365.13	1.3094	8.5744	6.5713	18.821
0	PLEASANT VAL	345.kV	37919.48	35617.63	24810.05	0.369	5.2399	3.8049	13.174
0	PLSNT VAL EQ	345.kV	38625.34	36335.41	25133.82	0.278	5.1494	3.7206	13.09
206	PLUMTREE	115.kV	23295.64	22738.89	20392.31	0.2432	2.8397	0.7693	4.006
207	PLUMTREE	345.kV	10532.02	9929.73	7716.31	1.4393	18.858	8.5002	38.879
7207	PLUMTREE T1	34.5kV	7312.33	6332.55	0.00	0.0299	2.7238	0.	-5E+7
8207	PLUMTREE T2	34.5kV	7267.47	6293.70	0.00	0.0304	2.7406	0.	-5E+7
71526	POCHASSIC	6.6kV	112063.01	97024.51	0.01	0.0025	0.0339	0.	-1E+6
1527	POCHASSIC	69.kV	7227.96	7609.33	7730.68	0.3491	5.5005	0.4859	4.4112

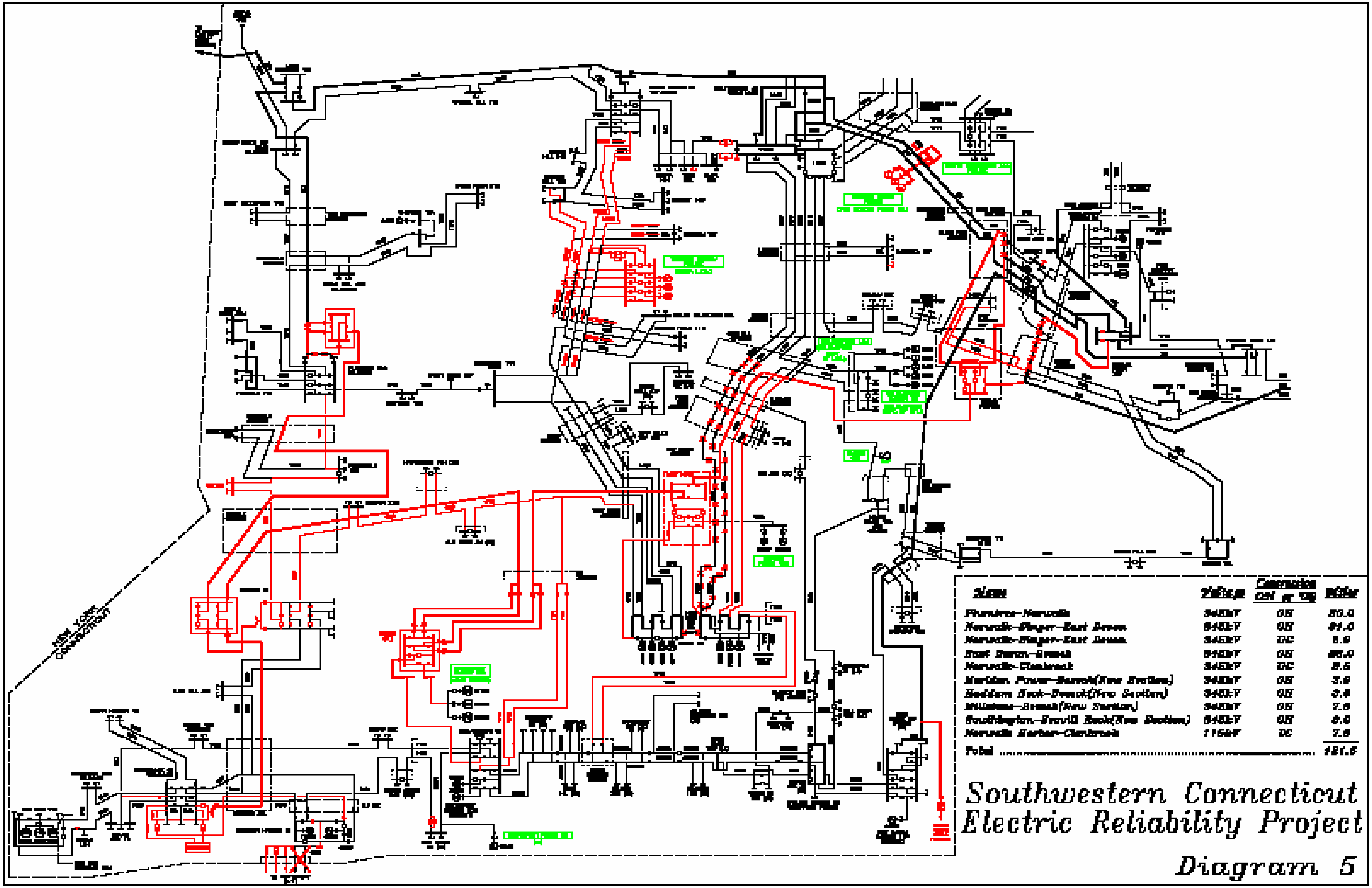
1514	PODICK 13	115.kV	3890.66	3490.01	2350.26	5.1484	16.27	16.487	47.861
538	PODICK 32	115.kV	3638.08	3259.76	2116.84	6.4688	17.065	18.516	54.552
2538	PODICK A1A2	13.8kV	13810.62	15052.68	15248.40	0.0787	0.5715	0.018	0.4146
3468	PORTLAND	13.2kV	5873.45	5918.57	5954.86	0.0902	1.2944	0.084	1.2415
2468	PORTLAND	23.kV	6045.41	6188.33	6247.12	0.1244	2.193	0.0719	1.9827
468	PORTLAND	115.kV	16130.96	16405.10	16554.96	0.476	4.0884	0.4816	3.7676
578	PRATTS JCT	230.kV	7834.46	7437.31	6840.23	1.6624	16.868	2.3341	24.227
2544	PROSPECT A1	13.8kV	14929.23	14059.86	12653.84	0.0285	0.5329	0.0411	0.8205
2545	PROSPECT A2	13.8kV	11666.04	11375.79	11006.89	0.036	0.682	0.0404	0.8046
297	QUINNIPIAC	115.kV	24101.50	22624.08	16627.90	0.2511	2.7434	1.7063	6.2724
0	Railroad225	47.63kV	9642.24	10074.37	10330.37	0.1054	2.85	0.0522	2.28
0	Railroad55	55.kV	10413.09	9014.78	0.00	0.1224	3.047	0.	-5E+7
0	reactor fdr	13.8kV	6928.42	6403.07	5302.09	0.0198	1.1498	0.0135	2.2085
148	RESCO	115.kV	31508.75	29994.36	26971.21	0.1963	2.098	0.4067	3.1426
132	RIDGEFIELD47	115.kV	7727.39	7138.79	5150.21	1.7554	8.411	6.7945	20.453
133	RIDGEFIELD56	115.kV	8009.80	7395.91	5324.58	1.7145	8.11	6.6225	19.811
2133	RIDGEFIELDA2	13.8kV	9065.49	9392.50	9558.20	0.066	0.8764	0.0403	0.742
2132	RIDGEFIELDA3	13.8kV	8948.44	9256.95	9408.46	0.0681	0.8878	0.0418	0.7587
4498	ROCKVILLE	4.8kV	29446.06	25500.37	0.00	0.0425	0.084	0.	-5E+7
2498	ROCKVILLE	27.6kV	3764.84	4151.17	4318.72	0.4698	4.2064	0.2346	2.5938
498	ROCKVILLE	69.kV	4274.87	4126.92	3453.31	1.3446	9.2214	4.6669	15.373
496	ROCKVILLE	115.kV	7868.46	7348.42	5413.71	1.5587	8.2929	6.492	18.928
3498	ROCKVILLE A1	13.8kV	6960.30	7643.25	7920.77	0.0974	1.1405	0.0391	0.7275
2496	ROCKVILLE A2	13.8kV	9100.03	9449.22	9629.34	0.0569	0.8737	0.0324	0.7305
0	Rockville27	27.6kV	5037.01	5208.36	5307.79	0.3244	3.1469	0.2346	2.6692
0	Rockville48	4.8kV	43707.47	37850.18	0.00	0.0381	0.0507	0.	-5E+7
2222	ROCKY HILL	23.kV	14437.80	14984.79	15338.83	0.0602	0.9178	0.042	0.7564
222	ROCKY HILL	115.kV	18563.65	17246.01	11868.16	0.417	3.5522	2.7627	9.2861
212	ROCKY RIVER	115.kV	8918.88	8249.41	5582.97	0.8064	7.4005	5.5928	20.14
208	ROCKY RVR U1	13.8kV	23039.89	23025.99	22970.02	0.0151	0.3455	0.0142	0.3487
209	ROCKY RVR U2	13.8kV	23039.89	23025.99	22970.02	0.0151	0.3455	0.0142	0.3487
210	ROCKY RVR U3	13.8kV	23056.84	23040.12	22981.25	0.0151	0.3452	0.0142	0.3487
2212	ROCKYRVR 23	13.8kV	23097.35	23084.40	23029.17	0.0151	0.3446	0.0142	0.3477
597	ROTTERDAM	230.kV	12314.25	11816.31	11031.83	1.3648	10.697	1.6666	14.448
0	ROTTERDAM EQ	230.kV	12360.88	11860.15	11071.89	1.3286	10.66	1.6203	14.404
0	RR 1ph model	23.9kV	10569.96	10664.06	10729.14	0.0281	1.3052	0.022	1.247
0	RR 3ph model	27.6kV	12031.85	10418.74	0.00	0.0374	1.3239	0.	-5E+7
2460	RVRSIDE DR 1	23.kV	20622.61	17957.71	3331.26	0.0321	0.6431	1.4553	10.575
2459	RVRSIDE DR 3	23.kV	20622.67	17957.75	3331.26	0.0321	0.6431	1.4553	10.575
459	RVRSIDE DR75	115.kV	25220.21	24294.37	21388.07	0.2937	2.6162	0.8135	3.9728
460	RVRSIDE DR86	115.kV	25220.18	24293.10	21384.01	0.2937	2.6162	0.814	3.9745
258	S. NAUG 80	115.kV	7751.93	7351.04	6312.99	1.8566	8.3614	4.0979	13.842
257	S. NAUG 85	115.kV	7754.51	7353.85	6314.42	1.8537	8.3591	4.0979	13.841
7258	S. NAUG TER1	4.8kV	21943.12	19002.75	0.00	0.0285	0.123	0.	-5E+7
7257	S. NAUG TER2	4.8kV	22348.54	19353.80	0.00	0.0378	0.1181	0.	-5E+7
2257	S. NAUGATUCK	13.8kV	17858.51	17709.84	17467.39	0.0552	0.4427	0.0553	0.4728
2447	S.W.HARTFORD	23.kV	19647.03	20165.90	20486.30	0.0351	0.675	0.0241	0.5923
447	S.W.HARTFORD	115.kV	28311.04	28159.64	24031.22	0.2519	2.3316	1.1763	3.4513
189	SACK PH SHFT	115.kV	12153.64	11632.62	10388.67	0.6748	5.4212	1.4799	8.1152
295	SACKETT	115.kV	17588.25	16821.74	15067.97	0.3885	3.7549	0.8748	5.5991
7416	SALISBURY	1.kV	45965.06	39806.95	0.00	0.002	0.0124	0.	-5E+7
2416	SALISBURY	13.2kV	3482.16	3766.16	3818.14	0.3517	2.1601	0.1262	1.61
416	SALISBURY	69.kV	2679.91	2441.12	1780.21	5.6387	13.754	12.451	35.292
2217	SANDY HOOK	23.kV	3893.84	3936.10	3963.59	0.1293	3.4078	0.1047	3.2285
217	SANDY HOOK	115.kV	15534.65	14606.99	10847.59	0.5913	4.2329	2.9658	9.4189
579	SANDY POND	345.kV	22546.82	21910.80	20031.64	0.5027	8.82	1.5418	12.075
126	SASCO CREEK	115.kV	18170.85	16933.81	13483.93	0.3455	3.6376	1.2891	7.3607
569	SCITICO	115.kV	7869.19	7244.72	4485.65	0.8384	8.3956	8.1386	26.508
2569	SCITICO 1	23.kV	5558.01	5751.53	5855.84	0.1419	2.385	0.0838	2.0229
3569	SCITICO 2	23.kV	5437.59	5587.71	5663.74	0.1436	2.4379	0.0884	2.1477
580	SCOBIE POND	345.kV	17459.32	17008.38	15712.47	0.6489	11.39	1.8108	15.12
13	SCOVILL RCK	345.kV	23758.83	23828.97	21608.63	0.492	8.3692	2.4894	10.671
59	SCRRA	69.kV	4978.80	4854.01	4355.02	2.1382	7.7104	4.1544	10.694
0	scrra gen	13.8kV	10547.93	9134.74	0.00	0.0623	0.7528	87.437	4E+7
3242	SGTN A	4.8kV	24408.87	21138.31	0.00	0.0373	0.1072	0.	-5E+7
241	SGTN RING 1	115.kV	36521.51	36225.57	34006.73	0.1435	1.8123	0.3629	2.191
242	SGTN RING 2	115.kV	35036.66	36322.39	36669.84	0.1771	1.8867	0.2184	1.6263
7250	SGTN TER1	13.2kV	23900.59	20695.72	0.00	0.0274	0.3177	0.	-5E+7
7242	SGTN TER11	4.8kV	24380.25	21113.53	0.00	0.0343	0.1084	0.	-5E+7
8250	SGTN TER3	34.5kV	24219.74	20972.90	0.00	0.0316	0.8218	9E-20	-5E+7
7241	SGTN TER5	1.kV	126354.54	109421.43	0.00	0.0002	0.0046	0.	-5E+7
600	SHAWINIGAN	115.kV	23034.52	22684.57	22132.94	0.2518	2.8714	0.3234	3.2159
2227	SHAWS HILL	13.8kV	10189.61	10322.75	10433.25	0.0456	0.7806	0.041	0.726
227	SHAWS HILL	115.kV	23717.61	22744.41	18530.46	0.3105	2.7821	1.3698	4.9967
0	Shepaug	13.8kV	1797.71	1818.48	1832.10	0.0253	4.4319	0.	4.1824
7201	SHEPAUG	6.6kV	19755.03	17108.24	0.00	0.0139	0.1924	0.	-5E+7
203	SHEPAUG	69.kV	6354.87	7325.76	7644.46	0.6325	6.2368	0.2676	3.0846
201	SHEPAUG	115.kV	8468.76	7966.38	7149.71	1.365	7.7203	2.1598	11.985
0	Shepaug Gen	13.8kV	20915.18	18113.16	1.14	0.0169	0.3806	20909	-3.675
497	SHERMAN RD	345.kV	27786.76	27103.02	26136.97	0.36	7.1593	0.7035	8.4192
2568	SILVER A1	13.8kV	9826.88	9916.79	9987.35	0.0648	0.8082	0.06	0.7692
3568	SILVER A2	13.8kV	10144.29	10272.62	10371.10	0.0387	0.7845	0.0339	0.7329
522	SILVER LAKE	115.kV	14227.80	13364.31	11262.16	0.8034	4.5969	1.9043	8.1403
7082	SKUNGAMAUG	4.8kV	13604.42	11781.48	0.00	0.0473	0.1981	0.	-5E+7
2082	SKUNGAMAUG	13.8kV	7353.17	8220.59	8502.10	0.165	1.0709	0.068	0.6412
82	SKUNGAMAUG	69.kV	3953.27	3604.27	2446.66	2.2183	9.8298	8.961	27.312
0	so norwalk	27.6kV	6003.24	5624.62	4054.85	0.4203	2.6209	2.1308	6.167
0	so norwalk a	4.8kV	10609.59	9741.51	7709.08	0.016	0.2607	0.0503	0.5539
0	so norwalk b	4.8kV	8152.27	7657.93	6714.03	0.0236	0.3391	0.0506	0.5562
0	so norwalk g	13.8kV	5860.36	5972.00	6035.07	0.1198	1.3543	0.0952	1.2379
2475	SO WINDSR A1	13.8kV	10428.11	10626.64	10763.12	0.0679	0.761	0.0568	0.6903
3475	SO WINDSR A2	13.8kV	9748.45	9943.68	10061.96	0.0378	0.8164	0.0267	0.7404
2454	SO. MEADOW	23.kV	30587.08	32105.34	33022.83	0.0161	0.4338	0.0084	0.3379
454	SO. MEADOW	115.kV	33263.36	32562.15	29682.41	0.1668	1.9891	0.4774	2.6815
475	SO. WINDSOR	115.kV	13365.77	12571.95	9199.24	0.7712	4.9073	3.882	11.145
566	SOUTH AGAWAM	115.kV	27378.62	25827.95	23336.54	0.267	2.4103	0.4716	3.6399
102	SOUTH END 43	115.kV	21890.55	21931.15	21709.64	0.2868	3.0195	0.3614	3.0816
103	SOUTH END 45	115.kV	21847.74	21889.99	21669.13	0.288	3.0253	0.363	3.0868
104	SOUTH END 75	115.kV	21517.28	21561.30	21353.98	0.2969	3.0714	0.3705	3.1283
2102	SOUTH END A1	13.2kV	21343.66	18805.84	9201.58	0.0184	0.3566	0.0289	1.7706

2103	SOUTH END A3	13.2kV	8010.41	8201.79	8356.16	0.0455	0.9503	0.0416	0.8322
7104	SOUTH END T1	7.97kV	17823.97	15434.98	0.00	0.0407	0.2549	0.	-5E+7
7102	SOUTH END T2	7.97kV	18074.10	15651.57	0.00	0.0404	0.2514	3E-19	-5E+7
7103	SOUTH END T3	1.kV	105737.96	91567.57	0.00	0.0003	0.0055	0.	-5E+7
2241	SOUTHINGTON	13.8kV	9156.08	9431.54	9630.41	0.0425	0.8691	0.0405	0.7404
2242	SOUTHINGTON	27.6kV	11225.51	14327.37	13954.92	0.1376	1.4128	0.2533	0.5588
250	SOUTHINGTON	345.kV	23723.92	23580.32	21422.67	0.6209	8.373	2.3415	10.899
2500	SOUTHWICK	13.8kV	7192.29	7334.08	7422.47	0.0957	1.1036	0.0774	1.0017
500	SOUTHWICK	115.kV	10352.99	9699.18	7077.86	1.1368	6.3116	5.1908	14.507
0	ST1 (10)	16.kV	79085.61	73740.19	64258.89	0.0021	0.1168	0.0026	0.1976
0	Sta Serv	2.4kV	40890.84	35412.43	0.00	0.0023	0.0338	0.	-5E+7
0	Sta Serv 2	2.4kV	16326.76	14139.33	0.00	0.0059	0.0847	0.	-1E+6
0	statcom a	14.6kV	54254.31	46971.98	0.03	0.0078	0.1552	0.	-1E+6
0	statcom b	14.6kV	54254.36	46972.03	0.00	0.0078	0.1552	0.	-5E+7
0	StateLine EQ	69.kV	2689.12	2454.59	1792.25	5.7365	13.658	12.367	34.958
226	STEVENSON	6.9kV	43786.65	37919.19	2.51	0.005	0.0908	0.	4760.8
2261	STEVENSON	27.6kV	4838.44	5375.73	5556.67	0.1758	3.2887	0.2013	2.0078
261	STEVENSON	115.kV	18522.90	17430.76	14221.05	0.6036	3.5333	1.7698	6.6165
71506	STONY BROOK	34.5kV	12286.54	10640.23	0.00	0.0064	1.6212	0.	-5E+7
567	STONY BROOK	115.kV	23858.81	27365.80	28655.55	0.0521	2.7824	0.0253	1.3847
1506	STONY BROOK	345.kV	18058.24	17397.29	15462.17	0.6837	11.009	2.3606	16.439
199	STONY HILL	115.kV	14520.28	13832.05	11202.19	0.4607	4.5493	2.0603	8.4294
2199	STONYHILL A1	13.8kV	9750.33	9937.52	10078.94	0.037	0.8163	0.0301	0.7366
3199	STONYHILL A2	13.8kV	9717.86	9903.69	10044.26	0.0372	0.819	0.0303	0.7393
0	Temp Gen	13.8kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
80	TENTH	69.kV	8421.16	8075.89	6385.01	0.6901	4.68	3.0335	8.8292
0	test wally	115.kV	9517.53	8950.58	7114.50	1.4078	6.8326	4.3572	13.392
31	THAMES	115.kV	39194.30	44265.27	43883.12	0.1016	1.691	0.2939	1.1286
406	THOMASTON	115.kV	11051.94	10258.48	7654.37	0.9889	5.9256	3.8329	13.512
2406	THOMASTON A2	13.2kV	6505.57	6637.28	6735.93	0.0836	1.1685	0.07	1.0489
3406	THOMASTON A3	13.2kV	6117.97	6204.42	6256.84	0.0651	1.244	0.0515	1.1616
0	three	21.kV	80345.10	74121.60	62218.82	0.0033	0.1509	0.0071	0.2827
2238	TODD	13.8kV	9989.60	10337.66	10611.20	0.0381	0.7967	0.0313	0.6566
7238	TODD TER1	1.kV	137857.07	119385.87	0.00	0.0002	0.0042	2E-18	-5E+7
2105	TOMAC	27.6kV	4724.69	4792.10	4839.86	0.1041	3.3711	0.0804	3.1303
105	TOMAC	115.kV	17280.29	16652.38	15467.01	0.3766	3.8238	0.6665	5.1428
8408	TORR TERM	6.6kV	0.00	0.00	0.00	0.	-1E+8	0.	-1E+8
7408	TORR TERM	13.8kV	6581.14	5699.41	0.00	0.0846	1.2077	0.	-5E+7
417	TORR TERM	69.kV	5849.92	5944.82	5844.50	0.7916	6.7637	1.1916	6.7318
408	TORR TERM	115.kV	10593.86	9930.40	8113.48	1.2268	6.1461	3.2539	11.584
79	TRACY 60	115.kV	3000.64	2822.57	2019.45	2.2825	22.009	16.188	52.407
2079	TRACY 1	23.kV	4289.18	4656.54	4831.27	0.1833	3.0905	0.0796	2.0525
2085	TRACY 2	23.kV	4414.84	4762.02	4935.47	0.1731	3.0028	0.0798	2.0546
0	TRACY 50	115.kV	2793.92	2601.16	1806.60	2.5587	23.626	17.552	60.645
0	tranxerg	200.kV	4451.72	3854.42	0.35	0.8261	25.925	0.	-1E+6
268	TRAP FALLS	115.kV	20022.80	18768.46	15122.76	0.4835	3.2805	1.5441	6.3614
0	treefault	23.kV	11421.14	11936.75	9837.22	0.1684	1.1504	0.9894	1.5255
204	TRIANGLE	115.kV	19387.44	18213.17	13532.14	0.3974	3.4015	2.1731	7.6128
2204	TRIANGLE A1	13.8kV	9581.31	9703.93	9792.34	0.0414	0.8305	0.0351	0.777
3204	TRIANGLE A2	13.8kV	11488.48	11647.07	11759.62	0.0329	0.6927	0.0273	0.645
4204	TRIANGLE A3	13.8kV	9410.41	9557.93	9670.01	0.0395	0.8457	0.0331	0.7778
7045	TUNNEL	7.62kV	7118.33	6164.62	0.00	0.03	0.6173	2E-19	-5E+7
2045	TUNNEL	23.kV	16457.96	16139.06	15693.74	0.0369	0.806	0.0356	0.924
67	TUNNEL	69.kV	10813.12	10531.41	8887.82	0.4554	3.6559	1.7651	5.8654
45	TUNNEL	115.kV	12621.56	11819.53	8175.19	0.6127	5.2247	4.3935	13.257
0	two	21.kV	80345.10	74121.60	62218.82	0.0033	0.1509	0.0071	0.2827
10	UNCASVIL 23	115.kV	31638.58	32116.36	29637.45	0.1584	2.0926	0.601	2.4715
9	UNCASVIL 25	115.kV	31718.31	32106.61	29569.85	0.1584	2.0873	0.5983	2.4979
2010	UNCASVIL A1	13.2kV	6462.96	6511.10	6554.54	0.0663	1.1773	0.0643	1.1279
2009	UNCASVIL A1	27.6kV	5721.38	5994.29	6093.11	0.1769	2.7795	0.2315	2.2647
3009	UNCASVIL A2	13.2kV	6347.53	6374.34	6398.12	0.056	1.1993	0.054	1.1709
7009	UNCASVIL T3	4.8kV	17439.27	15102.75	0.00	0.0078	0.1587	8E-25	-5E+7
0	Unit 10	13.8kV	14892.01	15278.46	15396.31	0.0227	0.5345	0.0131	0.4571
9563	Unit 3	13.8kV	90070.89	77995.98	5.03	0.0029	0.0884	4751.9	-22.41
0	Unit 6J-1	17.1kV	76194.87	68649.73	48549.32	0.0043	0.1295	0.0044	0.3509
0	Unit 6J-10	13.8kV	15267.91	15554.02	15674.73	0.0179	0.5215	0.0131	0.4571
0	Unit 6J-2	19.kV	73875.42	66917.37	49230.26	0.0052	0.1484	0.0047	0.3715
0	Unit 7	13.2kV	58269.68	52517.94	37679.04	0.0036	0.1307	0.0044	0.3452
0	Unit 8	13.2kV	61357.63	55134.32	38514.52	0.0035	0.1242	0.0044	0.3452
244	UTECH	115.kV	14541.48	13633.45	10246.63	0.7301	4.5072	3.1166	9.8762
581	VT YANKEE	345.kV	14543.72	14699.36	14570.66	0.9052	13.666	1.3666	13.554
211	W. BROOKFLD	115.kV	10210.44	9470.45	6521.03	0.7976	6.4536	4.9835	16.92
178	W. RIVER 88	115.kV	38461.64	38223.55	33203.53	0.1464	1.7201	0.7156	2.4665
2211	W.BROOKFLDA1	13.8kV	5915.98	6016.58	6097.16	0.0948	1.3434	0.0828	1.2239
3211	W.BROOKFLDA2	13.8kV	6382.76	6498.30	6587.21	0.0807	1.2457	0.0687	1.1299
41	W.KINGSTON	115.kV	5557.89	5069.71	3157.02	1.4952	11.852	10.534	37.918
9562	W.SPRGFLD	115.kV	25825.32	24856.61	22658.65	0.3116	2.552	0.648	3.5874
2562	W.SPRGFLD R2	13.8kV	53511.80	46997.57	15874.40	0.0062	0.1488	0.001	1.2085
271	WALLNGFRDSUB	115.kV	21447.12	21098.50	20532.95	0.297	3.0815	0.3952	3.3818
0	WALLY BUS T	13.8kV	11477.63	11615.40	11719.79	0.0352	0.6933	0.0309	0.6489
0	WALLY BUS V	13.8kV	8810.89	8889.51	8952.96	0.0548	0.9026	0.0505	0.8582
0	WALLY BUS W	13.8kV	9161.62	9254.01	9314.86	0.0089	0.8696	0.0046	0.8252
0	WALLY BUS Z	13.8kV	11477.63	11615.40	11719.79	0.0352	0.6933	0.0309	0.6489
0	walrecgen	4.16kV	25335.31	22956.62	20452.42	0.0048	0.0947	0.0093	0.1463
180	WATER ST	115.kV	37004.13	37258.75	32594.97	0.1485	1.7881	0.7733	2.4332
101	WATERSIDE	115.kV	17181.75	16625.88	15564.35	0.3698	3.8466	0.6397	5.021
2101	WATERSIDE A2	13.8kV	9967.39	14866.78	14091.52	0.0392	0.7984	-2E-11	0.0975
3101	WATERSIDE A3	13.8kV	10344.11	15409.41	14612.96	0.0412	0.7691	3E-11	0.0952
7101	WATERSIDE T2	1.kV	137550.51	119113.07	0.00	0.0002	0.0042	-9E-50	-5E+7
8101	WATERSIDE T3	13.8kV	1969940.87	1705882.38	0.00	0.0002	0.004	1E-50	-5E+7
577	WEBSTER	115.kV	9279.83	8927.29	7910.05	1.8952	6.8992	2.0577	10.693
220	WEST SIDE	115.kV	10700.35	10086.56	7128.05	1.0404	6.1171	5.8834	14.548
2149	WESTON	27.6kV	11687.98	13839.55	14417.11	0.1239	1.3577	0.0496	0.5868
150	WESTON 63	115.kV	13761.64	12827.27	10279.22	0.8836	4.7431	2.4891	9.4142
149	WESTON 73	115.kV	13752.26	12817.61	10275.21	0.8867	4.7458	2.4891	9.415
7150	WESTON T1	1.kV	179280.25	155255.02	0.00	0.0002	0.0032	0.	-5E+7
7149	WESTON T2	5.04kV	31932.77	27653.51	0.00	0.0146	0.0899	0.	-5E+7
69	WHIPPLE JCT	115.kV	14060.94	13333.10	9583.80	0.4261	4.7027	3.5785	10.899
0	WHITEHALL EQ	115.kV	4987.23	4706.39	4086.20	3.2622	12.907	6.3565	21.199
2037	WILLIAMS	13.2kV	18696.95	19239.41	19606.13	0.0211	0.4071	0.0151	0.3506

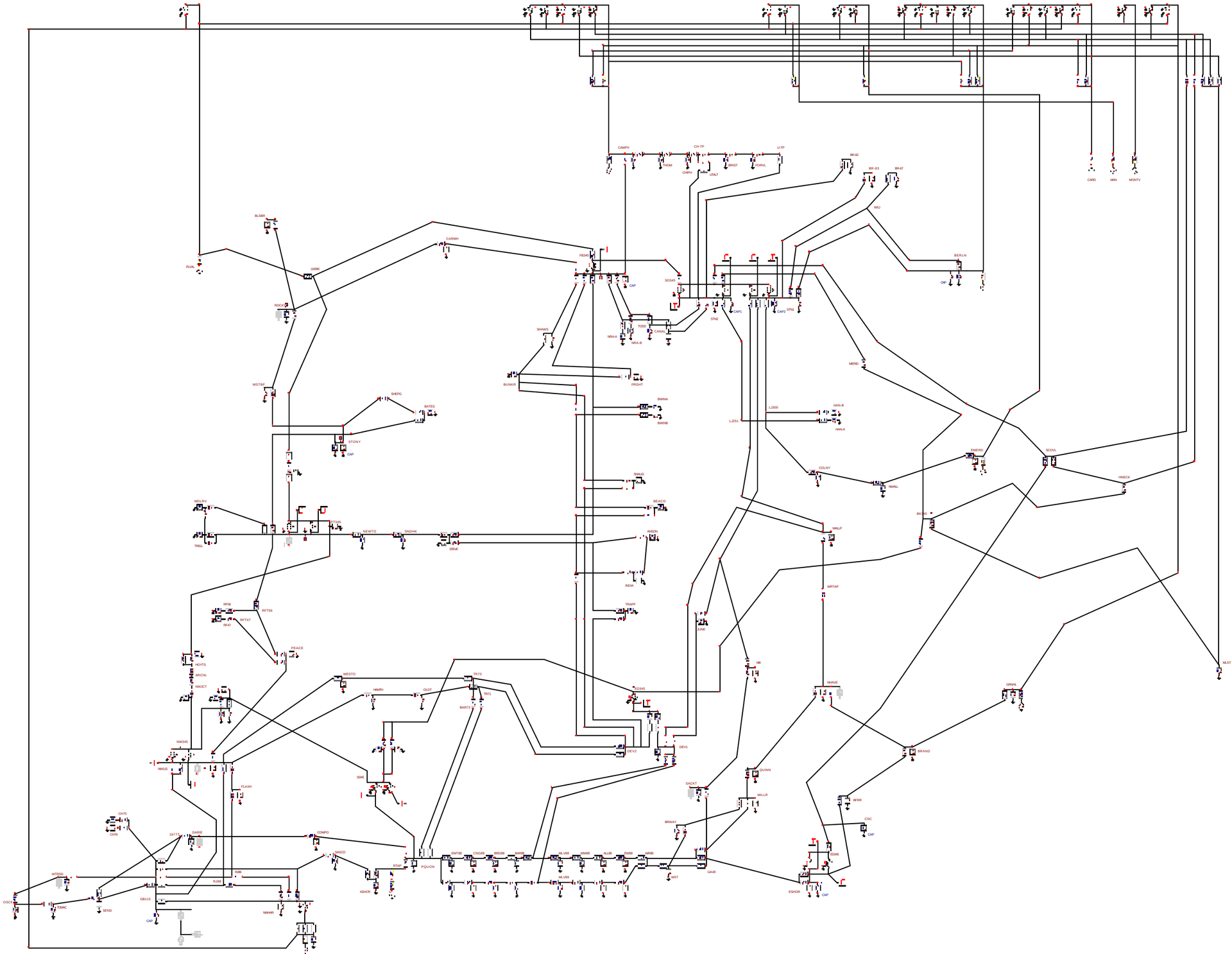
37	WILLIAMS 50	115.kV	10723.86	9971.25	6793.96	0.7793	6.1421	5.1685	16.25
38	WILLIAMS 60	115.kV	10721.20	9971.08	6798.69	0.7818	6.1434	5.1764	16.224
2054	WILLIMANTIC	27.6kV	10283.48	12361.92	12845.37	0.095	1.5466	0.0413	0.6208
54	WILLIMANTIC1	115.kV	17051.38	17231.50	16160.76	0.3454	3.8785	0.9866	4.4492
55	WILLIMANTIC2	115.kV	17051.38	17231.50	16160.76	0.3454	3.8785	0.9866	4.4492
2055	WILLIMNT A1	4.8kV	33287.12	28825.94	0.00	0.0158	0.0817	0.	-5E+7
3054	WILLIMNT A2	4.8kV	31861.00	27591.03	0.00	0.0162	0.0855	0.	-5E+7
3489	WINDSLCKS A1	4.8kV	24256.30	21006.33	0.00	0.0094	0.1139	0.	-5E+7
3488	WINDSLCKS A2	4.8kV	23167.65	20063.49	0.00	0.0314	0.1154	0.	-5E+7
488	WINDSLCKS20	115.kV	8878.77	8628.48	8257.95	1.1767	7.3848	1.5387	9.033
489	WINDSLCKS30	115.kV	8875.94	8629.74	8263.99	1.1755	7.3874	1.5353	9.0109
2489	WINDSORLOCKS	23.kV	5512.82	5663.24	5745.63	0.1186	2.4058	0.0716	2.1149
2488	WINDSORLOCKS	27.6kV	9626.97	12104.38	12163.31	0.1434	1.649	0.1482	0.608
2511	WOODLAND	23.kV	10685.27	9651.10	7187.78	0.0599	1.2413	0.134	3.0539
511	WOODLAND 21	115.kV	9419.83	8963.99	7048.94	0.8272	6.9997	3.9325	13.7
512	WOODLAND 37	115.kV	9327.04	8869.24	6987.87	0.8966	7.0619	4.0202	13.781
2192	WOODMONT	13.8kV	19581.81	16956.73	2.46	0.0161	0.4066	0.0143	9706.9
192	WOODMONT 88	115.kV	23457.94	21773.35	17204.29	0.3299	2.8111	1.1108	5.8135
193	WOODMONT 89	115.kV	23457.94	21777.14	17214.90	0.3299	2.8111	1.1111	5.8062
46	WOODRIVER	115.kV	5362.09	4927.88	3227.93	1.6401	12.273	10.473	35.605
2220	WSide A1/A2	13.2kV	10050.53	10333.54	10444.51	0.0531	0.7564	0.0307	0.6719
0	WSide A3	13.2kV	9968.47	10208.94	10350.15	0.0529	0.7627	0.0386	0.6788
0	WSPRGF1	13.8kV	53495.32	46985.58	15871.57	0.0063	0.1488	0.0012	1.2086
0	WSPRGF2	13.8kV	32316.19	28089.46	2195.50	0.01	0.2463	0.1746	10.394
2563	WSPRNGFLD R1	13.8kV	53127.24	46675.59	15851.82	0.0073	0.1498	0.001	1.2085
589	YAEC	115.kV	9437.68	8708.44	7285.58	1.1188	6.9456	2.0298	13.113

APPENDIX D2 - CAD DRAWINGS


Norwalk–Stamford Interface
Southwestern Connecticut Interface
Existing System
One Line Diagram
Diagram 4


NEW YORK CONNECTION
Southwestern Connecticut
Electric Reliability Project
Diagram 5

APPENDIX D3 - ATP DRAW DIAGRAM


CAMPV
CH-TP
U-TP
CARD
MINN
MONTV
BLSBR
CARMH
FRSHT
SO345
IBERLN
SHAWS
NRA-A
NRA-B
TODD
CANAL
CAP1
CAP2
STN1
STN2
BUNKR
FRGHT
BWINA
BWINB
WSTBF
SHDPG
BATES
STON Y
CAP
L2300
L2251
HAN-B
HAN-A
MERD
COLNY
HAVEL
SCOVL
HNECK
SNAKG
INFACO
RTSP
EQUON
EMTBK
WIGRB
BRDSB
WARBK
MLVSN
WARB
ALISB
PARK
WRIB
WEST
GAME
INDIA
TRAPF
JUNE
WALLP
WRTAP
NHAVE
GRNHK
MLST
BRAND
SACKT
MILLR
BRWNN
BRWKY
BFRR
CSC
CAP
ESHOR
RDHS
CAP
MK
RFS6
RFT56
RF47
RFT47
PEACE
HDYTS
ARCHL
HMJCT
NW345
NW10
FLAXH
CH75
CH79
19TTH
OAKNE
CONPO
WESTO
HNWN
OLDT
BAR73
RY3
SO345
DEV2
DEV1
SDAK
WTRSD
OSCO
TOMAC
SEND
GB115
CAP
R28L
RJ66
NWHW
ASHCR
MDLRV
TRGL
NEWTO
SNDHK
DRIVE
BRIDGE
ANSON
BR-82
BR-83
BR-87
RRJ
OR
CARD
MINN
MONTV

APPENDIX D4 - GENERATION DATA

Southwestern Connecticut Generator Data

Generator Unit	Scheduled Voltage (V-phase-peak)	Combined Generator and Generator Transformer Impedance (ohms)			
		R+	X+	R0	X0
Resco Trash Burner	93897	0.89798	54.550	0.97600	54.943
Milford 1	93897	1.34900	25.128	1.1640	14.415
Norwalk 1	93897	0.43600	23.197	2.2220	21.028

Equivalent Source / Impedance Network Data

Equivalent Source Data

BUS ID	NAME	KV	SOURCE ID	ATP DATA				
				R0	L0	R+	L+	V-ph-pk
221	BERLIN	115	unit 1	3.169	12.236	1.501	14.083	93897
407	CAMPVILLE	115	unit 1	7.530	29.248	4.893	31.930	93897
471	CARD	345	unit 1	7.701	40.338	1.964	28.209	281691
290	E. MERIDEN	115	unit 1	14.546	53.043	5.896	71.437	93897
293	GREEN HILL	115	unit 1	23.646	91.561	2.890	59.159	93897
470	MANCHSTER	345	unit 1	4.856	26.209	1.131	25.817	281691
24	MONTVILLE	345	unit 1	1.047	30.101	1.178	58.203	281691
123	NORPORT CA	138	unit 1	0.154	4.049	0.137	4.525	112677
0	PLEASANT VAL	345	unit 1	4.475	15.438	0.417	6.058	281691

Equivalent (Ideal) Transformer Data

FROM		KV	TO		KV	ATP DATA					
ID	NAME		ID	NAME		Vrp	Rp	Lp	Vrs	Rs	Ls
221	BERLIN	115	24	MONTVILLE	345	115	1.950E+04	5.227E+04	345	1.755E+05	4.704E+05
290	E. MERIDEN	115	0	PLEASANT VAL	345	115	3.357E+04	6.797E+04	345	3.021E+05	6.117E+05
293	GREEN HILL	115	0	PLEASANT VAL	345	115	2.584E+04	5.706E+04	345	2.325E+05	5.135E+05
407	CAMPVILLE	115	24	MONTVILLE	345	115	5.913E+04	1.107E+05	345	5.321E+05	9.961E+05
221	BERLIN	115	471	CARD	345	115	6.670E+02	1.885E+03	345	6.003E+03	1.696E+04
407	CAMPVILLE	115	471	CARD	345	115	2.051E+03	4.002E+03	345	1.846E+04	3.602E+04
471	CARD	345	290	E. MERIDEN	115	345	6.340E+05	1.170E+06	115	7.044E+04	1.300E+05
471	CARD	345	293	GREEN HILL	115	345	4.911E+05	9.840E+05	115	5.457E+04	1.093E+05
471	CARD	345	123	NORPORT CA	138	345	6.811E+05	3.798E+06	138	1.090E+05	6.077E+05
24	MONTVILLE	345	0	PLEASANT VAL	345	345	4.315E+04	1.355E+05	345	4.315E+04	1.355E+05
471	CARD	345	0	PLEASANT VAL	345	345	1.464E+03	4.882E+03	345	1.464E+03	4.882E+03
470	MANCHSTER	345	24	MONTVILLE	345	345	2.994E+03	1.540E+04	345	2.994E+03	1.540E+04
471	CARD	345	470	MANCHSTER	345	345	9.790E+01	5.537E+02	345	9.790E+01	5.537E+02
221	BERLIN	115	123	NORPORT CA	138	115	1.552E+05	7.583E+05	138	2.234E+05	1.092E+06
407	CAMPVILLE	115	123	NORPORT CA	138	115	4.136E+04	9.820E+04	138	5.956E+04	1.414E+05
221	BERLIN	115	0	PLEASANT VAL	345	115	3.052E+02	9.784E+02	345	2.747E+03	8.806E+03
407	CAMPVILLE	115	0	PLEASANT VAL	345	115	7.084E+01	1.825E+02	345	6.376E+02	1.643E+03
221	BERLIN	115	470	MANCHSTER	345	115	5.104E-01	4.727E+00	345	4.593E+00	4.254E+01
290	E. MERIDEN	115	470	MANCHSTER	345	115	1.845E+01	8.202E+01	345	1.661E+02	7.382E+02
293	GREEN HILL	115	470	MANCHSTER	345	115	1.297E+01	6.825E+01	345	1.167E+02	6.142E+02
407	CAMPVILLE	115	470	MANCHSTER	345	115	5.362E+00	2.118E+01	345	4.826E+01	1.906E+02
123	NORPORT CA	138	0	PLEASANT VAL	345	138	4.587E+00	5.183E+01	345	2.867E+01	3.239E+02
470	MANCHSTER	345	123	NORPORT CA	138	345	1.463E+04	3.719E+05	138	2.341E+03	5.950E+04

Equivalent Impedance Data

FROM		KV	TO		KV	ATP DATA			
ID	NAME		ID	NAME		R0	L0	R+	L+
221	BERLIN	115	293	GREEN HILL	115	859.55	1443.20	24.55	110.49
221	BERLIN	115	290	E. MERIDEN	115	615.99	863.78	34.18	132.65
221	BERLIN	115	407	CAMPVILLE	115	631.97	824.02	37.64	100.91
407	CAMPVILLE	115	293	GREEN HILL	115	1273367.83	668439.09	3038.21	5838.85
407	CAMPVILLE	115	290	E. MERIDEN	115	767815.73	385221.78	3911.85	6939.10
290	E. MERIDEN	115	293	GREEN HILL	115	128.64	286.59	9.85	48.13
471	CARD	345	24	MONTVILLE	345	583.61	1304.60	21.88	168.33
470	MANCHSTER	345	0	PLEASANT VAL	345	70981.99	50013.71	149.56	953.97

APPENDIX D5 - LINE DATA

345 kV Lines

FROM		TO		CCT ID	ATP Data						
ID	NAME	ID	NAME		R/I+	R/I0	A+	A0	B+	B0	I
207	PLUMTREE	239	LONG MTN	321	0.0415	0.6433	0.5664	1.9465	7.4623	4.6341	17.8
228	FROST BRIDGE	239	LONG MTN	352	0.0485	0.6801	0.7667	1.9916	5.6666	4.2400	20.6
228	FROST BRIDGE	250	SOUTHINGTON	329	0.0881	1.1612	1.4124	3.6870	10.1335	7.7295	12.7
12	HADDAM NECK	13	SCOVILL RCK	376	0.0513	0.6371	0.6068	1.5240	7.2649	4.9981	5.1
207	PLUMTREE	0	Rt58/Hoyte	345P1-0	0.0453	0.2551	0.3457	0.2834	88.6488	88.6488	2.1
207	PLUMTREE	0	Rt58/Hoyte	345P1-00	0.0453	0.2551	0.3457	0.2834	88.6488	88.6488	2.1
0	Rt58/Hoyte	0	Archers Lane	345P1-1	0.0316	0.4445	0.5635	1.6153	7.3248	4.4957	4.9
0	Archers Lane	0	Norwalk Jct	345P1-22	0.0479	0.8037	0.2356	0.6957	178.2992	178.2992	9.7
0	Archers Lane	0	Norwalk Jct	345P1-2	0.0479	0.8037	0.2356	0.6957	178.2992	178.2992	9.7
0	Norwalk Jct	0	Norwalk	345P1-4	0.0313	0.3790	0.5638	1.4534	7.2342	4.6120	3.8
13	SCOVILL RCK	0	CRS SOUN CBL	387	0.0497	0.6735	0.6412	1.8663	6.8360	4.3975	32.8

FROM		TO		CCT ID	ATP Data						
ID	NAME	ID	NAME		R/I+	R/I0	A+	A0	B+	B0	I
	NORWALK		SINGER	1	0.0474	0.8037	0.2358	0.6957	178.3000	178.3000	15.5
	NORWALK		SINGER	2	0.0474	0.8037	0.2358	0.6957	178.3000	178.3000	15.5
	SINGER		EAST DEVON	1	0.0475	0.8037	0.2359	0.6957	178.2999	178.2999	8.2
	SINGER		EAST DEVON	2	0.0475	0.8037	0.2359	0.6957	178.2999	178.2999	8.2
	EAST DEVON		BESECK	1	0.0382	0.5623	0.5623	1.3934	7.7615	5.0200	33.3
	MERIDEN TAP		BESECK	1	0.0453	0.6208	0.5830	1.6660	7.4050	4.6147	7.88
	SOUTHINGTON		MERIDEN TAP	1	0.0512	0.6961	0.5966	1.6724	7.2447	4.7789	3.95
	SOUTHINGTON		SCOVILL ROCK	1	0.0497	0.6381	0.5957	1.5360	7.2740	4.9855	19.38
	BESECK		HADDAM NECK	1	0.0489	0.6087	0.5945	1.5632	7.2859	4.8541	18.48
	BESECK		MILLSTONE	1	0.0486	0.6173	0.5868	1.5941	7.3795	4.8649	41.38

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/I+	R/I0	A+	A0	B+	B0	I
12	HADDAM NECK	24	MONTVILLE	364	0.0506	0.6425	0.5962	1.5937	7.2670	4.9004	22.6
239	LONG MTN	0	PLEASANT VAL	398	0.0478	0.6302	0.7665	2.0010	5.5005	4.1951	23.4
470	MANCHSTER	471	CARD	368	0.0494	0.6826	0.7713	1.8621	5.7206	4.2252	20
29	MILLSTONE	471	CARD	383	0.0500	0.6617	0.5931	1.6494	7.2621	4.9464	28.8
29	MILLSTONE	470	MANCHSTER	310	0.0392	0.6596	0.5822	1.6434	7.4530	5.0713	47.1
24	MONTVILLE	29	MILLSTONE	371	0.0505	0.6218	0.5923	1.5254	7.2980	4.9321	12.5
13	SCOVILL RCK	470	MANCHSTER	353	0.0494	0.6427	0.7427	1.8395	5.9441	4.3008	20

345 kV PI Circuits

FROM		TO		CCT	ATP Data		
ID	NAME	ID	NAME	ID	R	L	C
0	CRS SOUN CBL	291	EAST SHORE	387-1	0.0119	0.0595	0.0000

345 kV Circuit Data For Old Case 5 + 5 Mile Case

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/l+	R/l0	A+	A0	B+	B0	l
	EAST DEVON		ED-BSK TR POINT	1	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	5
	EAST DEVON		ED-BSK TR POINT	2	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	5
	EAST DEVON		ED-BSK TR POINT	3	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	5
	ED-BSK TR POINT		BESECK	1	0.0367	0.5563	0.5609	1.4549	7.7533	4.9575	33.2

345 kV Circuit Data For Old Case 5 + 10 Mile Case

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/l+	R/l0	A+	A0	B+	B0	l
	EAST DEVO N		ED-BSK TR POINT	1	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	10.8
	EAST DEVON		ED-BSK TR POINT	2	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	10.8
	EAST DEVON		ED-BSK TR POINT	3	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	10.8
	ED-BSK TR POINT		BESECK	1	0.0367	0.5563	0.5609	1.4549	7.7533	4.9575	28.2

345 kV Circuit Data For Old Case 5 + 20 Mile Case

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/l+	R/l0	A+	A0	B+	B0	l
	EAST DEVON		ED-BSK TR POINT	1	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	17.8
	EAST DEVON		ED-BSK TR POINT	2	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	17.8
	EAST DEVON		ED-BSK TR POINT	3	0.0265	0.2750	0.3196	0.1818	106.4404	106.4404	17.8
	ED-BSK TR POINT		BESECK	1	0.0367	0.5563	0.5609	1.4549	7.7533	4.9575	20.7

115 kV Lines

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/I+	R/I0	A+	A0	B+	B0	I
212	ROCKY RIVER	213	BULLS BRIDGE	1555	0.3374	0.9674	0.8324	2.429	5.201	3.345	6.6
212	ROCKY RIVER	218	CARMEL HILL	1813	0.07589	0.6713	0.7093	2.303	6.117	3.283	11.1
211	W. BROOKFLD	212	ROCKY RIVER	1618	0.07774	0.7073	0.613	2.006	7.155	4.504	9.3
0	STONY HL TP1	211	W. BROOKFLD	1887-1	0.1229	0.7336	0.6351	2.135	6.611	4.008	5.81
201	SHEPAUG	0	STONY HL TP1	1887-0	0.2823	0.9353	0.8361	2.284	5.319	3.416	5.8
206	PLUMTREE	0	STONY HL TP2	1770-0	0.08032	0.678	0.6093	2.113	7.266	4.352	4.1
0	STONY HL TP2	202	BATES ROCK	1770-1	0.1957	0.8651	0.7833	2.091	5.414	3.495	11.9
201	SHEPAUG	202	BATES ROCK	1622	0.1169	0.8048	0.7578	1.993	5.698	3.754	5.6
204	TRIANGLE	206	PLUMTREE	1060	0.227	0.9044	0.7729	2.472	5.377	3.865	1.8
204	TRIANGLE	206	PLUMTREE	1165	0.1602	0.8207	0.745	2.462	5.545	3.613	1.8
204	TRIANGLE	205	MIDDLE RIVER	1337	0.1051	1.002	0.233	0.836	222.8	0	3.7
205	MIDDLE RIVER	0	ug tap	1270-1	0.2145	2.048	0.4761	1.709	455.4	0	1.8
0	ug tap	206	PLUM TREE	1270	0.1131	0.4434	0.3865	1.245	2.689	1.764	3.6
206	PLUMTREE	260	NEWTOWN	1760	0.07472	0.8292	0.7038	2.214	6.1	3.856	6
260	NEWTOWN	217	SANDY HOOK	1876-0	0.07496	0.8318	0.7059	2.221	10.63	6.765	3.8
217	SANDY HOOK	261	STEVENSON	1876-1	0.07557	0.8407	0.7132	2.248	0	0	2.8
131	RDGFLDTAP56	206	PLUMTREE	1565-0	0.0593	0.6311	0.5985	1.278	98.05	97	9.3
131	RDGFLDTAP56	133	RIDGEFIELD56	1565-1	0.2645	0.9311	0.7706	2.363	5.436	3.474	3.7
137	PEACEABLE 56	138	PEACEABLE 47	BUS TIE							
130	RDGFLDTAP47	132	RIDGEFIELD47	1470-1	0.2688	0.974	0.8107	2.495	5.763	3.719	3.7
135	NORWALK	138	PEACEABLE 47	1470-0	0.1214	0.5636	0.5986	1.606	54.46	52.83	10.4
119	ROWAYTNJCT88	135	NORWALK	1880-1	0.1164	0.4255	0.759	1.889	5.68	3.873	4.1
134	FLAX HILL	135	NORWALK	1389	0.1172	0.4355	0.7629	1.854	5.684	3.859	2.9
120	ROWAYTNJCT86	134	FLAX HILL	1867-1	0.1146	0.4243	0.7472	1.812	5.545	4.033	1.2
110	GLENBROOK	120	ROWAYTNJCT86	1867-2	0.07484	0.4683	0.6946	1.891	6.221	3.712	4.4
110	GLENBROOK	119	ROWAYTNJCT88	1880-2	0.06252	0.2666	0.6622	1.826	6.565	3.781	4.4
110	GLENBROOK	0	CEDAR HTS 75	1753	0.1521	0.8139	0.286	0.6596	162.3	0	4.8
110	GLENBROOK	113	CEDAR HTS 79	1792	0.1463	0.7824	0.275	0.634	155.9	0	4.9
103	SOUTH END 45	110	GLENBROOK	1450	0.07463	0.2654	0.7047	1.735	6.265	3.673	1.4
102	SOUTH END 43	104	SOUTH END 75	BUS TIE							
102	SOUTH END 43	103	SOUTH END 45	BUS TIE							
104	SOUTH END 75	105	TOMAC	1750-0	0.09024	0.3073	0.7624	1.964	6.583	4.003	1.7
105	TOMAC	100	COS COB	1750-1	0.06927	0.245	0.6512	1.603	5.689	3.457	2.1
100	COS COB	101	WATERSIDE	1740	0.07459	0.2629	0.6993	1.721	6.11	3.75	2.5
101	WATERSIDE	110	GLENBROOK	1440	0.07445	0.2635	0.7019	1.729	6.217	3.697	2.7
102	SOUTH END 43	0	1977tap	1977-1	0.07463	0.2721	0.6943	1.903	6.157	3.457	1.4
0	1977tap	115	DARIEN	1977-0	1.653	6.004	15.27	42.27	136.1	77.13	0.1
0	ely jct	121	NORWALK HARB	1867-00	0.04463	0.1901	0.1901	0.2595	269.3	0	1.6
0	ely jct2	121	NORWALK HARB	1880-00	0.04463	0.1901	0.1901	0.2595	269.3	0	1.6
110	GLENBROOK	160	ELY AVE	1890-0	0.06661	0.2838	0.6894	1.866	6.553	4.005	5.4
160	ELY AVE	121	NORWALK HARB	1890-2	0.04463	0.1901	0.1901	0.2595	269.3	0	1.6
115	DARIEN	0	COMPO	1416	0.2055	1.011	2.059	5.533	18.79	10.35	2.6
0	COMPO	145	PEQUONOCK	1130	0.1787	1.013	2.017	5.341	18.67	9.722	3.5
160	ELY AVE	126	SASCO CREEK	1890-1	0.07053	0.3106	0.6453	1.701	5.913	3.141	7.8
145	PEQUONOCK	147	RESCO TAP	91001	0.06613	0.2865	0.6833	1.829	0	0	1.2
146	ASHCREEK	147	RESCO TAP	91001	0.06789	0.3086	0.7494	1.998	0	0	1.8
218	CARMEL HILL	0	Frost bridge	1238	0.07608	0.6562	0.7109	2.226	6.127	3.29	9.7
227	SHAWS HILL	0	Frost bridge	1445	0.06301	0.6472	0.7258	1.949	6.049	3.736	1.7

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/I+	R/I0	A+	A0	B+	B0	I
227	SHAWS HILL	231	BUNKERHILL66	1272	0.06252	0.6661	0.7226	1.963	6.118	3.781	2.2
230	BUNKERHILL57	231	BUNKERHILL66	BUS TIE							
231	BUNKERHILL66	232	BUNKERHILL58	BUS TIE							
231	BUNKERHILL66	233	FREIGHT	1668	0.07683	0.7469	0.7167	2.38	6.193	3.889	2.1
0	Frost bridge	233	FREIGHT	1721	0.06676	0.7097	0.7114	2.01	6.098	4.122	6.2
232	BUNKERHILL58	257	S. NAUG 85	1585	0.1827	0.8264	0.7722	1.997	5.683	3.735	13.2
257	S. NAUG 85	258	S. NAUG 80	BUS TIE							
258	S. NAUG 80	0	Devon Ring 1	1580	0.2149	0.8027	0.7847	1.977	5.625	3.556	23.9
286	BALDWIN JCTA	0	Frost bridge	1990-0	0.1159	0.719	0.4044	1.458	10.48	5.495	7.1
286	BALDWIN JCTA	261	STEVENSON	1990-1	0.1378	0.7111	0.419	1.427	10.14	5.257	10.5
286	BALDWIN JCTA	256	BALDWIN 99	1990-2	0.2807	0.9061	0.8148	2.19	5.415	3.268	3.1
256	BALDWIN 99	262	BALDWIN 57	tie							
277	BALDWIN JCTB	262	BALDWIN 57	1575-2	0.2807	0.9061	0.8148	2.19	5.415	3.268	3.1
277	BALDWIN JCTB	230	BUNKERHILL57	1575-0	0.1666	0.7763	0.7596	2.045	5.848	3.579	3
277	BALDWIN JCTB	259	BEACON FALLS	1575-1	0.2159	0.849	0.7891	2.106	5.597	3.494	8.7
259	BEACON FALLS	264	DERBY TAP	1570-2	0.1582	0.7554	0.7448	1.953	5.824	3.625	14.1
261	STEVENSON	263	ANSONIA TAP	1560-2	0.1325	0.7179	0.7165	1.97	6.079	3.569	5
263	ANSONIA TAP	266	ANSONIA	1560-1	0.2732	0.6464	0.7712	2.152	1.918	1.217	4.1
265	INDIAN WELL	266	ANSONIA	1594	0.2721	0.501	0.7523	2.054	0	0	2.6
264	DERBY TAP	265	INDIAN WELL	1570-1	0.2751	0.9028	0.8032	2.303	5.343	3.327	1.5
264	DERBY TAP	0	Devon Ring 1	1570-0	0.1175	0.6952	0.7205	1.836	6.067	3.79	8.5
263	ANSONIA TAP	268	TRAP FALLS	1560-0	0.1336	0.7309	0.7204	1.987	6.129	3.582	3.8
268	TRAP FALLS	0	Devon Ring 1	1545	0.1173	0.3861	0.7206	1.675	5.985	3.636	4.7
135	NORWALK	150	WESTON 63	1637-0	0.1742	0.7412	0.75	2.176	6.001	3.721	6.3
149	WESTON 73	150	WESTON 63	tie							
0	TRUMBULL 73	149	WESTON 73	1730-1	0.1578	0.908	0.7155	2.46	6.037	3.541	12.6
0	TRUMBULL 73	0	Devon Ring 1	1730-0	0.1572	0.6286	0.6293	1.773	7.526	4.396	4.3
0	Milford	0	Devon Ring 1	1350	0.03246	0.3487	0.4569	2.477	0	0	1.1
0	Devon Ring 1	0	Devon Ring 2	1480 TIE	0.03306	0.03306	6.679	6.679	0	0	0.2
135	NORWALK	140	HAWTHORNE	1720-0	0.1726	0.8062	0.7395	2.256	5.983	3.562	13.8
140	HAWTHORNE	142	OLD TOWN	1222 -0	0.164	0.8576	0.73	2.32	5.898	3.478	2
142	OLD TOWN	143	TRUMBULL 71	1710-1	0.07009	0.8393	0.6868	2.475	6.604	3.781	3
143	TRUMBULL 71	0	Devon Ring 1	1710-0	0.1612	0.6551	0.7314	2.015	5.697	3.482	4.3
143	TRUMBULL 71	0	Barnum 71	1710--2	0.1153	0.6457	0.7345	2.082	5.7	3.374	3.9
0	Barnum 71	145	PEQUONOCK	1710-2	0.05668	0.2787	0.2456	0.3023	228.5	0	1.4
0	Barnum 73	0	TRUMBULL 73	1730-2	0.1153	0.6457	0.7345	2.082	5.7	3.374	3.9
0	Barnum 73	145	PEQUONOCK	1730-2	0.05668	0.2787	0.2456	0.3023	228.5	0	1.4
0	Frost bridge	237	NOERA TAP 55	1550-2	0.1178	0.7562	0.733	2.182	5.957	3.62	3.3
0	Frost bridge	236	NOERA TAP 16	1163-2	0.1178	0.7554	0.7334	2.184	5.957	3.62	3.3
235	NOERA155	237	NOERA TAP 55	1550-1	0.2804	1.076	0.7953	2.563	5.444	3.327	1.5
234	NOERA116	236	NOERA TAP 16	1163-1	0.2813	1.076	0.7953	2.563	5.444	3.327	1.5
236	NOERA TAP 16	238	TODD	1163-0	0.1167	0.8234	0.7326	2.385	5.918	3.748	2.3
238	TODD	242	SGTN RING 2	1910	0.1168	0.8229	0.7319	2.382	5.972	3.742	5.9
237	NOERA TAP 55	240	CANAL	1550-0	0.1143	0.8054	0.7167	2.332	5.903	3.708	6.2
240	CANAL	242	SGTN RING 2	1950	0.1184	0.8357	0.7431	2.42	5.833	3.673	2.1
151	BAIRD 88	181	CONGRESS 88	8809A	0.1179	0.3416	0.694	1.795	6.378	3.353	2.3
151	BAIRD 88	157	BARNUM 88	88006A	0.0763	0.3011	0.6379	1.705	0	0	1.3
157	BARNUM 88	170	DEVON TIE 88	88066A	0.07325	0.292	0.6185	1.652	0	0	1.3
152	BAIRD 89	182	CONGRESS 89	8909B	0.1179	0.3416	0.694	1.795	6.378	3.353	2.3
152	BAIRD 89	156	BARNUM 89	89006B	0.0763	0.3011	0.6379	1.7	0	0	1.3

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/I+	R/I0	A+	A0	B+	B0	I
156	BARNUM 89	171	DEVON TIE 89	89006B	0.07325	0.292	0.6185	1.647	0	0	1.3
170	DEVON TIE 88	172	MILVON 88	88005A	0.1143	0.3316	0.6745	1.745	6.157	3.241	1.4
172	MILVON 88	192	WOODMONT 88	88055A	0.1152	0.3342	0.6793	1.756	6.234	3.32	4.1
0	ALLINGS 88	192	WOODMONT 88	88003A	0.0727	0.2896	0.6132	1.6381	5.4190	0.0000	3
176	ELMWEST 88	0	ALLINGS 88	88003A	0.07494	0.2987	0.6326	1.689	0	0	1.2
176	ELMWEST 88	178	W. RIVER 88	88003A	0.07825	0.3108	0.659	1.761	6.553	3.403	1.2
178	W. RIVER 88	187	GRAND AVE.	88003A	0.04408	0.3723	0.2204	0.3429	0	0	2.7
171	DEVON TIE 89	173	MILVON 89	89005B	0.03903	0.1132	0.2303	0.5958	2.102	1.107	4.1
173	MILVON 89	193	WOODMONT 89	89005B	0.1152	0.3342	0.6793	1.756	6.234	3.32	4.1
0	ALLINGS 89	193	WOODMONT 89	89003B	0.0727	0.2896	0.6132	1.6381	5.4190	0.0000	3
177	ELMWEST 89	0	ALLINGS 89	89003B	0.07494	0.2987	0.6326	1.684	0	0	1.2
177	ELMWEST 89	178	W. RIVER 88	89003B	0.07825	0.3119	0.659	1.756	6.553	3.403	1.2
178	W. RIVER 88	180	WATER ST	8700	0.03527	0.4408	0.3086	0.1499	0	0	1.5
180	WATER ST	187	GRAND AVE.	8500	0.02645	0.4408	0.2645	0.1499	0	0	1.5
0	BROADWAY	180	WATER ST	9500	0.06701	0.4153	0.2601	0.5731	0	0	1.5
187	GRAND AVE.	292	EAST SHORE	8100	0.02976	0.5695	0.4703	1.833	8.223	3.97	1.6
187	GRAND AVE.	292	EAST SHORE	8200	0.03174	0.6075	0.5017	1.956	8.771	4.234	1.5
187	GRAND AVE.	295	SACKETT	8400	0.07715	0.7585	0.6975	2.348	5.653	3.313	4.2
189	SACK PH SHFT	296	MIX AVE	84004	0.1323	0.506	0.268	0.3335	0	0	2.3
0	BROADWAY	0	MILL RIV	9502	0.06379	0.3975	0.2489	0.5477	0	0	1.7
0	MILL RIV	297	QUINNIPIAC	8300	0.07648	0.755	0.6946	2.337	6.444	3.945	2.3
274	NO. HAVEN	297	QUINNIPIAC	8600	0.07951	0.7303	0.7191	2.591	6.455	3.467	8.2
292	EAST SHORE	225	BRANFORD RR	1460-0	0.08437	0.3434	0.8272	1.979	5.841	3.755	2.9
272	BRANFORD	225	BRANFORD RR	1537-0	0.1426	0.9332	1.363	3.488	22.21	6.758	3.2
272	BRANFORD	293	GREEN HILL	1508	0.1167	0.7174	0.7403	2.653	5.797	3.224	11.4
272	BRANFORD	274	NO. HAVEN	1655	0.1112	0.7969	0.7367	2.11	5.884	3.887	12.8
251	LUCCINI J251	0	Devon Ring 2	1690-0	0.1403	0.6794	0.4159	1.365	10.6	5.574	29.9
242	SGTN RING 2	251	LUCCINI J251	1690-1	0.1394	0.7372	0.4126	1.446	10.59	5.556	4.6
298	HANOVER 63	299	HANOVER 60	tie							
241	SGTN RING 1	300	LUCCINI J300	1355-0	0.1642	0.7412	0.7461	1.91	5.786	3.649	4.6
300	LUCCINI J300	301	COLONY	1355-1	0.1503	0.7578	0.5807	1.681	5.408	3.483	3.3
301	COLONY	0	test wally	1588	0.2708	0.5814	0.8025	1.687	5.142	3.388	2.5
252	NWALLINGFORD	0	test wally	Hillside tie							
252	NWALLINGFORD	290	E. MERIDEN	1466	0.1878	0.7909	0.7809	1.927	5.369	3.629	2
0	Devon Ring 2	269	JUNE ST	1685	0.1142	0.6464	0.7359	1.682	5.772	3.77	14.2
273	GLENLAKE JCT	296	MIX AVE	1610-2	0.1655	0.4405	0.7798	1.59	5.528	3.963	2.9
241	SGTN RING 1	273	GLENLAKE JCT	1610-1	0.1634	0.7287	0.753	1.729	5.702	3.777	18.3
271	WALLNGFRDSUB	0	Devon Ring 2	1640	0.2676	0.8628	0.851	1.869	5.315	3.703	27.2
274	NO. HAVEN	284	WALREC TAP	1630-3	0.07487	0.5003	0.6976	1.849	5.601	3.361	1.89
241	SGTN RING 1	271	WALLNGFRDSUB	1208	0.08012	0.7287	0.7282	1.933	6.303	4.117	13.7
241	SGTN RING 1	278	RESEV RD JCT	1670-1	0.163	0.8372	0.7419	1.946	5.729	3.781	5.2
221	BERLIN	278	RESEV RD JCT	1670-0	0.1611	0.7451	0.761	2.118	5.535	3.509	5
221	BERLIN	241	SGTN RING 1	1771	0.3182	1.522	1.473	4.056	11.05	6.98	5.2

FROM		TO		CCT	ATP Data						
ID	NAME	ID	NAME	ID	R/I+	R/I0	A+	A0	B+	B0	I
241	SGTN RING 1	280	BLACKROCK 83	1830	0.2739	0.8798	0.7983	2.0012	5.2570	3.4567	6.3
242	SGTN RING 2	281	BLACKROCK 82	1820	0.2788	0.8745	0.8095	2.0558	5.3770	3.4086	6.3
242	SGTN RING 2	243	UAC TAP	1800-0	0.0695	0.6583	0.6668	1.7948	5.5125	3.8539	3.1
243	UAC TAP	246	FORESTVILLE	1800-1	0.0806	0.7969	0.7547	2.4445	6.5370	4.0490	3.1
246	FORESTVILLE	248	BRISTOL	1825	0.1883	0.8871	0.7766	2.3556	5.6862	3.6900	5
247	CHIPPEN TAP	248	BRISTOL	1810-1	0.0441	0.3036	0.2713	0.8596	2.2180	1.4115	4.5
247	CHIPPEN TAP	249	CHIPPEN HILL	1810-2	0.1184	0.8160	0.7412	2.4620	6.0148	3.5745	4.4
249	CHIPPEN HILL	406	THOMASTON	1835	0.1151	0.7078	0.7124	2.5714	6.2297	3.5889	6.7
406	THOMASTON	407	CAMPVILLE	1921	0.0754	0.6768	0.7239	2.2399	5.9961	3.5287	5.7
0	Frost bridge	407	CAMPVILLE	1191	0.2136	0.8894	0.6602	1.9094	7.0775	4.4764	10
245	UTECHALT	247	CHIPPEN TAP	1810-3	0.2328	1.5777	1.4124	4.5163	11.5690	7.3346	2
242	SGTN RING 2	245	UTECHALT	1810-0	0.1812	1.0845	1.0375	2.9069	8.3932	5.6711	2

115 kV P I Circuits

FROM		TO		CCT	ATP Data		
ID	NAME	ID	NAME	ID	R	L	C
131	RDGFLDTAP56	137	PEACEABLE 56	1565-2	0.0159	0.1481	1.2098
130	RDGFLDTAP47	138	PEACEABLE 47	1470-2	0.0159	0.1481	1.2098
0	1977tap	110	GLENBROOK	1977-2	0.0053	0.0503	0.0000
120	ROWAYTNJCT86	0	ely jct	1867-0	0.0820	0.8054	6.5028
119	ROWAYTNJCT88	0	ely jct2	1880-0	0.0846	0.8147	6.5028
147	RESCO TAP	148	RESCO	91001	0.0450	0.2619	0.0000
126	SASCO CREEK	146	ASHCREEK	1430	0.2962	3.1687	29.9433
145	PEQUONOCK	190	E.MAINTAP 88	8809A	0.0251	0.2235	2.3440
181	CONGRESS 88	190	E.MAINTAP 88	8809A	0.0198	0.2142	2.3440
170	DEVON TIE 88	0	Devon Ring 2	1780	0.0066	0.0397	0.3025
145	PEQUONOCK	191	E.MAINTAP 89	8909B	0.0251	0.2235	2.3440
182	CONGRESS 89	191	E.MAINTAP 89	8909B	0.0198	0.2142	2.3440
171	DEVON TIE 89	0	Devon Ring 2	1790	0.0066	0.0397	0.3025
0	MILL RIV	187	GRAND AVE.	8301	0.0013	0.0159	0.3025
251	LUCCINI J251	299	HANOVER 60	1690-2	0.1944	0.5647	3.6295
298	HANOVER 63	300	LUCCINI J300	1355-2	0.1944	0.5647	3.6295
269	JUNE ST	273	GLENLAKE JCT	1610-0	0.3994	2.6979	21.6257
271	WALLNGFRDSUB	284	WALREC TAP	1630-2	0.0674	0.6322	3.7807
278	RESEV RD JCT	279	BLACKROCK 67	1670-2	0.3148	0.9337	5.8979

115 kV Circuit Data For Devon Ring Reconfiguration

FROM		TO		CCT	ATP Data	
ID	NAME	ID	NAME	ID	R	L
	East Devon		quad 1 reactor		0.0357	0.5026
	East Devon		quad 2 reactor		0.0357	0.5026
	quad 1 reactor		Devon Ring 1		0.0159	1.3225
	quad 2 reactor		Devon Ring 2		0.0159	1.3225

115 kV Circuit Data For Norwalk– Glenbrook Reconfiguration

FROM		TO		CCT ID	ATP Data						
ID	NAME	ID	NAME		R/l+	R/l0	A+	A0	B+	B0	l
	Norwalk		Glenbrook	1	0.03	0.354	0.298	0.2364	142.4	142.4	8.8
	Norwalk		Glenbrook	2	0.03	0.354	0.298	0.2364	142.4	142.4	8.8
	Norwalk Harbour		Glenbrook	1	0.03	0.354	0.298	0.2364	142.4	142.4	7.9

APPENDIX D6 - TRANSFORMER CHARACTERISTICS

Transformer Characteristics

Transformer Parameters

A range of Auto-transformers were required to be modelled for this system, the majority of which were around the 600MVA level, therefore a typical 600MVA model was chosen as basis for this transformer model. The only definitely known parameters for this transformer was its Primary – Secondary leakage impedance which was specified as 22.2% on rating. Auto transformers normally have a delta connected tertiary winding and so it was assumed that this had a voltage rating of 34.5kV and power rating of 150MVA. This makes it a 3 winding transformer and as such 3 sets of short circuit impedances are required to define its characteristics. Other than S_{rating} and X_{ps} the following additional data has been assumed:

S_{rating} = 600 MVA

Impedance values – % impedance on transformer base MVA

X_{ps} = 22.2% Where suffix 'p' refers to primary winding V = 345kV

X_{pt} = 66% suffix 't' refers to tertiary winding V = 34.5kV

X_{st} = 44.4% suffix 's' refers to secondary winding V = 115kV

Corresponding resistances can be calculated from the full load losses at rated power. The following values were assumed:

3 Phase Power Loss	(kW)	@	Specified MVA base
Primary – Secondary	1000	@	600
Primary – Tertiary	333	@	150
Secondary – Tertiary	333	@	150

SATURABLE REACTOR REPRESENTATION

The following assumptions were made regarding the saturation characteristic:-

1. The saturable reactor was represented on the LV (115kV) winding of the transformer.
2. Final slope reactance of the saturable branch = leakage reactance between HV and LV windings of the transformer, i.e. 22.22% on rating. (Equivalent to 4.89 ohm referred to the 115kV winding).
3. The positive saturation point was assumed to occur at a voltage level of 1.2p.u. (This equates to a peak flux of 299 Volt-seconds.
4. Total 3 phase core loss at 1.0pu voltage = 600kW.

Calculation Of Winding Resistances And Reactances For A 3 Phase 3 Winding Autotransformer

Transformer Name: **Typical assumed data for a 345/115, 600MVA Auto Transformer**

INPUT					
Transformer Base MVA	600		W1 =	199.1858	(Phase Voltage (kV) of Winding A)
HV line voltage (kV) =	345	Star	W2 =	66.39528	(Phase Voltage (kV) of Winding B)
LV line voltage (kV) =	115	Star			
Tertiary line voltage (kV)=	34.5	Delta	W3 =	34.5	(Phase Voltage (kV) of Winding C)

Zbase = 198.375 Ohms Frequency = 60 Hz

% impedance values on Tx HV voltage & Tx base MVA

X_{ps} = 22.2 %

Xpt = 66 %

X_{st} = 44.4 %

Values referred to HV Voltage and Tx Base MVA

Z_{HL} = 44.03925 Ohms

Z_{HT} = 130.9275 Ohms

Z_{LT} = 88.0785 Ohms

input to ATP model

	Ohms	mH
X_I	43.6425	115.7653
X_{II}	0.099187	0.263103
X_{III}	2.615574	6.938027

To Calculate Resistances from Full Load Losses at Rated Power

INPUT 3 Phase Power Loss	(kW)	@	Specified MVA Base
Primary - Secondary	1000	@	600
Primary - Tertiary	333	@	150
Secondary - Tertiary	333	@	150

REFER ALL RESISTANCES TO SPECIFIED BASE MVA 600

Input Per-Unit Resistance values

R_{ps} = 0.001666667 Per-Unit

R_{pt} = 0.00888 Per-Unit

R_{st} = 0.00888 Per-Unit

Values referred to HV Voltage and Specified Base MVA

R_{ps} = 0.001667 Z_{HL} = 0.330625 Ohms

R_{pt} = 0.00888 Z_{HT} = 1.76157 Ohms

R_{st} = 0.00888 Z_{LT} = 1.76157 Ohms

input to ATP model

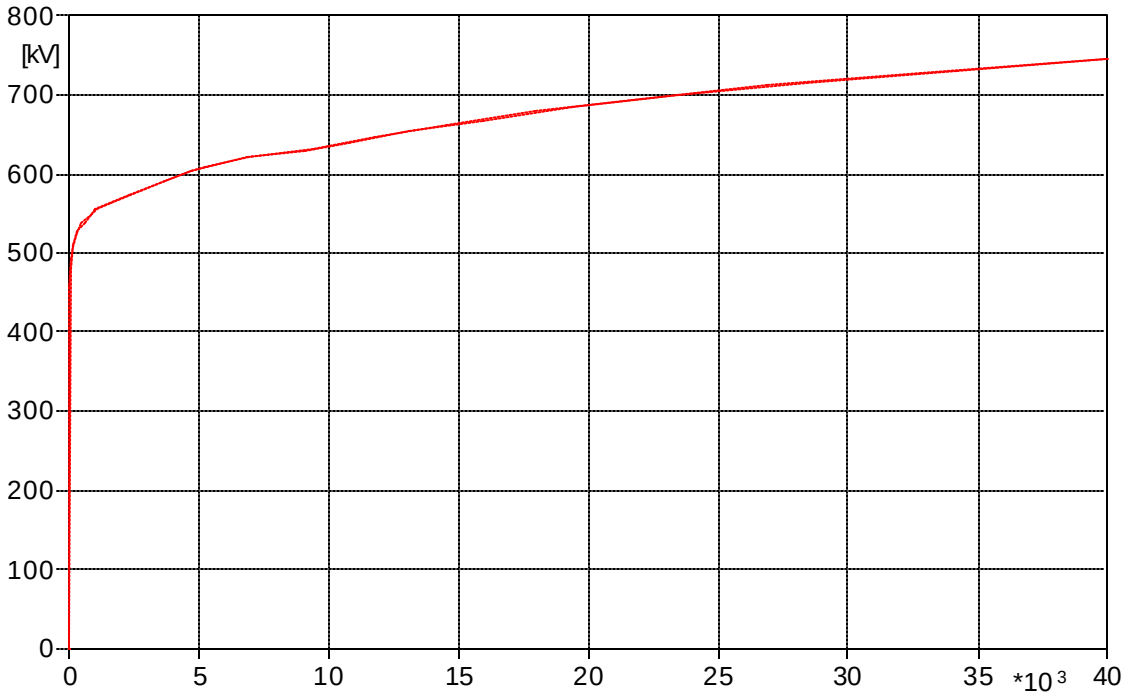
	Ohms
R_I	0.220417
R_{II}	0.027552
R_{III}	0.045408

APPENDIX D7 - SURGE ARRESTER DATA

345 kV Surge Arrester Data

The voltage-current data and characteristic shown below represents a 288kV rated ABB Exlim T metal oxide type surge arrester. This device has a maximum continuous operating voltage (MCOV) of 230kVrms and a single impulse energy rating of 10kJ/kVrated voltage. Nominal discharge current as per IEC 20kA, line discharge Class 5.

Current (A)	Voltage	
	(pu)	(V)
0.005	1.18	407000
0.3	1.25	432000
8	1.33	460000
80	1.42	489000
1000	1.61	554000
2000	1.65	568000
3000	1.68	580000
5000	1.76	608000
10000	1.84	634000
20000	1.99	685000
40000	2.16	745000



(file surgearrestr.pl4; x-var c:SWA -SAA) v:SAA -

APPENDIX D8 - CAPACITOR DATA

Initial Capacitor Data

Location	Voltage (kV)	No. of banks	MVAr (per bank)	MVAr (total)
Southington 1	115	3	52.4	157.2
Southington 2	115	3	52.4	157.2
Frost Bridge	115	5	52.4	262.0
Berlin	115	3	44.0	132.0
Plumtree	115	2	46.1	92.2
Glenbrook	115	5	38.2	190.8
Darien	115	1	39.6	39.6
Waterside	115	1	39.6	39.6
Norwalk	115	2	39.7	79.4
East shore	115	2	42.0	84.0
North Haven	115	1	42.0	42.0
Sackett	115	1	42.0	42.0
Rocky River	115	1	25.2	25.2
Stony Hill	115	1	25.2	25.2
Cross Sound Filters	200	3	34.3	103.0

Revised Capacitor Data - Old Case 5

Location	**Voltage (kV)**	**Capacitor MVAr Rating vs. System Load**			
		30%	**40%**	**50%**	**70%**
Southington 1	115	0	0	52.4	157.2
Southington 2	115	0	0	52.4	157.2
Frost Bridge	115	0	0	52.4	262
Berlin	115	0	0	39.8	132
Plumtree	115	0	0	0	92.2
Glenbrook	115	0	0	37.8	113.4
Darien	115	0	0	0	39.6
Waterside	115	0	0	0	39.6
East Shore	115	0	0	42	84
North Haven	115	0	0	0	42
Sackett	115	0	0	0	42
Rocky River	115	0	0	0	25.2
Stony Hill	115	0	0	0	25.2
Brandford	115	0	0	0	37.8
Cross Sound Filters	200	103	103	103	103

C-Type Filter Data

KEMA data

Location	kV	MVAr	C1 (uF)	C2 (uF)	L (mH)	R1 (ohm)	R2 (ohm)
Southington 1	115	157.2	31.5	252.2	27.89	200	0.0526
Southington 2	115	157.2	31.5	252.2	27.89	200	0.0526
Frost Bridge	115	262.0	52.6	420.4	16.73	200	0.0316
Berlin	115	132.0	26.5	211.8	33.22	200	0.0626
Glenbrook	115	190.8	38.3	306.2	22.98	200	0.0433

PB Power data for old case 5 with 50% load

Loaction	kV	MVAr	C1 (uF)	C2 (uF)	L (mH)	R1 (ohm)	R2 (ohm)
Southington 1	115	52.4	10.5	84.1	83.67	600	0.1578
Southington 2	115	52.4	10.5	84.1	83.67	600	0.1578
Frost Bridge	115	52.4	10.5	84.1	83.65	1000	0.1580
Berlin	115	39.8	8.0	63.9	110.18	663	0.2076
Glenbrook	115	37.8	7.6	60.7	115.99	1010	0.2186

PB Power data for old case 5 with 70% load

Location	kV	MVAr	C1 (uF)	C2 (uF)	L (mH)	R1 (ohm)	R2 (ohm)
Southington 1	115	157.2	31.5	252.2	27.89	200	0.0526
Southington 2	115	157.2	31.5	252.2	27.89	200	0.0526
Frost Bridge	115	262.0	52.6	420.4	16.73	200	0.0316
Berlin	115	132.0	26.5	211.8	33.22	200	0.0626
Glenbrook	115	113.4	22.7	182.0	38.66	337	0.0729

APPENDIX D9 - LOAD DATA

Series R-L Load Model Data

The data used for the Series R-L load model is shown in the table below for the 100% load condition. The R and X values for other (ie 40%, 50% and 70%) load conditions are derived by scaling these values.

Bus Name	Voltage (kV)	100% Load Data			
		P (MW)	Q (MVAr)	R (ohm)	X (ohm)
Newtown	115	39.9	12.5	301.8	94.6
Sandy Hook	115	10.7	2.3	1181.4	253.9
Stevenson	115	27.7	7.5	444.8	120.4
Baldwin A	115	30.3	8.1	407.4	108.9
Carmel Hill	115	14.7	3.5	851.4	202.7
Rocky River	115	31.8	10.2	377.1	121.0
Bulls Bridge	115	13	2.1	991.4	160.2
West Brookfield	115	42.6	11.9	288.0	80.4
Stony Hill	115	41.5	4.1	315.6	31.2
Bates Rock	115	63.1	14.9	198.5	46.9
Middle River	115	79.1	19.5	157.6	38.9
Triangle	115	138.3	47.3	85.6	29.3
Ridgefield B	115	27.4	6.9	453.9	114.3
Peaceable	115	34.8	13.5	330.3	128.1
Ridgefield A	115	27.4	7	453.1	115.8
Norwalk	115	237.7	76.6	50.4	16.2
Flax Hill	115	48.8	11.7	256.3	61.4
Cedar Heights 75	115	36.5	10.5	334.6	96.3
Cedar Heights 79	115	36.5	10.5	334.6	96.3
Waterside	115	71.4	20.1	171.6	48.3
COS COB	115	145.3	41.2	84.2	23.9
Tomac	115	35.5	9.3	348.6	91.3
South End	115	105.2	29.9	116.3	33.1
Norwalk Harbour	115	201.4	-43.2	62.8	-13.5
Darien	115	50.8	14	242.0	66.7
Compo	115	39.2	8.6	321.9	70.6
Sasco Creek	115	12.9	1.8	1005.6	140.3
Ash Creek	115	102	15.2	126.8	18.9
Weston	115	59.1	13.5	212.7	48.6
Hawthorne	115	62.7	5.8	209.1	19.3
Old Town	115	81.7	8.2	160.3	16.1
Pequonnock	115	39.8	1.8	331.6	15.0
E. MAINTAP 89	115	33.4	2.6	393.6	30.6
Baird 89	115	38.2	4.6	341.3	41.1
Barnum 89	115	30.1	2.7	435.9	39.1
Milvon 89	115	33.8	4.5	384.5	51.2
Woodmont 89	115	40	6.4	322.4	51.6
Allings 89	115	31.8	4.7	407.0	60.2
Elm West 89	115	40.8	5.7	317.9	44.4
Water St	115	71	6.4	184.8	16.7
Shaws Hill	115	33.9	9.3	362.8	99.5
Bunker Hill	115	66.4	18.8	184.4	52.2
Freight	115	33.9	7.2	373.3	79.3
South Naugatuck	115	38.6	8	328.5	68.1

Bus Name	Voltage (kV)	100% Load Data			
		P (MW)	Q (MVAr)	R (ohm)	X (ohm)
Baldwin B	115	30.5	8.4	403.0	111.0
Indian Well	115	65	9.2	199.5	28.2
Ansonia	115	47.5	5.1	275.2	29.6
Trap Falls	115	82.2	10	158.5	19.3
BEACON FALLS	115	60.1	15.4	206.5	52.9
Devon	115	18.2	2.6	712.1	101.7
June St	115	54.6	4.4	240.7	19.4
Mix Avenue	115	98.4	14.9	131.4	19.9
Sackett	115	57.9	4.2	227.2	16.5
Elm West 89	115	41	5.7	316.4	44.0
Allings 89	115	32	4.7	404.6	59.4
Woodmont 89	115	39.7	6.3	324.9	51.6
Milvon 89	115	33.7	4.4	385.9	50.4
Barnum 89	115	30.4	2.7	431.6	38.3
Baird 89	115	38.4	4.7	339.3	41.5
Congress 89	115	12.2	-0.3	1083.4	-26.6
E.MAINTAP89	115	33.9	2.7	387.7	30.9
Congress 88	115	12	-0.3	1101.4	-27.5
Mill River	115	98.4	10.2	133.0	13.8
Broadway	115	48.2	5	271.5	28.2
Quinnipiac	115	42	6.5	307.5	47.6
North Haven	115	24.8	1.8	530.5	38.5
Branford	115	82.9	19.9	150.8	36.2
Green Hill	115	77.5	23.4	156.4	47.2
Branford RR	115	4.9	0.8	2628.9	429.2
East Shore	115	45.2	2.6	291.6	16.8
Southington A	115	44.5	10.7	280.9	67.6
Noera A	115	30.8	8.1	401.6	105.6
Noera B	115	31.1	8	398.8	102.6
Todd	115	34.1	7.5	369.9	81.4
Canal	115	27.8	7	447.4	112.6
Southington B	115	36.1	7.4	351.6	72.1
Hanover A	115	53.6	13.1	232.8	56.9
HanoverB	115	53.7	13.2	232.2	57.1
Colony	115	30.7	4.4	422.1	60.5
North Wallingford	115	27	3.9	479.8	69.3
East Meriden	115	49.7	12.2	251.0	61.6
Berlin	115	63.9	15.4	195.6	47.1
Wallingford	115	58.6	8.3	221.2	31.3
BLACKROCK 67	115	24.7	5	514.3	104.1
BLACKROCK 82	115	42.5	17.3	266.9	108.7
BLACKROCK 83	115	27.7	6.4	453.2	104.7
FORESTVILLE	115	80.2	21	154.3	40.4
BRISTOL	115	42.1	9.1	300.1	64.9
CHIPPEN HILL	115	35.4	7.1	359.1	72.0
THOMASTON	115	24.6	5.4	512.9	112.6
CAMPVILLE	115	58.3	13.6	215.1	50.2
MILLSTONE	345	2	0.9	49490.6	22270.8

Complex Load Model Data

A per-phase representation of the Complex load model is shown in the diagram below. The model comprises of an equivalent step-down transformer and LV load impedance with compensating capacitance as shown in Figure A.1 based on the following:

- The series R-L branch representing the impedance of a step-down transformer to distribution voltage level is specified based on an assumed step-down transformer rating of twice the full load MVA given. The reactance is calculated as 6% on this MVA rating and the X/R ratio is 15.
- The load itself is connected downstream from the transformer branch and is modelled as a series R-L branch in parallel with a capacitor. The R-L values are calculated by taking the specified P value for the desired load percentage and calculating a Q to give a power factor (referred to as the uncompensated power factor) of 0.85. The value of the shunt capacitor is then calculated to compensate the power factor of the combined elements at 60Hz back to the power factor resulting from the specified P and Q values.

The data used for the Complex load model is shown in the table below for the 100% load condition. The R, X and C values for other (ie 30%, 40%, 50% and 70%) load conditions are obtained by scaling these values.

Bus Name	Voltage (kV)	100% Load Data						
		Load		Load Z		PF Compensation	Stepdown Transformer Z	
		P (MW)	Q (MVAr)	R (ohm)	X (ohm)	C (uS)	R (ohm)	X (ohm)
ALL88	115	31.8	4.7	300.5	186.2	1134.8	0.823	12.342
ALL89	115	32	4.7	298.6	185.1	1144.2	0.818	12.267
ANSON	115	47.5	5.1	201.2	124.7	1840.3	0.554	8.305
ASHCR	115	102	15.2	93.7	58.1	3630.5	0.256	3.847
BRD88	115	38.2	4.6	250.1	155.0	1442.3	0.687	10.312
BRD89	115	38.4	4.7	248.8	154.2	1444.1	0.684	10.255
BWINA	115	30.3	8.1	315.3	195.4	807.4	0.843	12.650
BWINB	115	30.5	8.4	313.3	194.2	794.1	0.836	12.541
BAR88	115	30.1	2.7	317.4	196.7	1206.4	0.875	13.128
BAR89	115	30.4	2.7	314.3	194.8	1220.4	0.867	13.000
BATES	115	63.1	14.9	151.4	93.8	1830.3	0.408	6.119
BEACO	115	60.1	15.4	159.0	98.5	1651.9	0.426	6.395
BERLN	115	63.9	15.4	149.5	92.7	1830.0	0.402	6.036
BR-67	115	24.7	5	386.8	239.7	779.4	1.050	15.743
BR-82	115	42.5	17.3	224.8	139.3	683.5	0.576	8.646
BR-83	115	27.7	6.4	344.9	213.8	814.1	0.930	13.955
BRAND	115	82.9	19.9	115.3	71.4	2380.1	0.310	4.654
BFRR	115	4.9	0.8	1950.0	1208.5	169.1	5.327	79.911
BRIST	115	42.1	9.1	227.0	140.7	1284.8	0.614	9.211

Bus Name	Voltage (kV)	100% Load Data						
		Load		Load Z		PF Compensation	Stepdown Transformer Z	
		P (MW)	Q (MVAr)	R (ohm)	X (ohm)	C (uS)	R (ohm)	X (ohm)
BRWAY	115	48.2	5	198.2	122.9	1880.7	0.546	8.187
BLSBR	115	13	2.1	735.0	455.5	450.4	2.009	30.129
BUNKR	115	66.4	18.8	143.9	89.2	1690.1	0.383	5.749
CAMPV	115	58.3	13.6	163.9	101.6	1703.7	0.442	6.627
CANAL	115	27.8	7	343.7	213.0	773.5	0.923	13.840
CARM	115	14.7	3.5	650.0	402.8	424.2	1.750	26.256
CH75	115	73	21	130.9	81.1	1833.0	0.348	5.223
CHIPH	115	35.4	7.1	269.9	167.3	1122.0	0.733	10.989
COLNY	115	30.7	4.4	311.2	192.9	1105.9	0.853	12.793
COMPO	115	39.2	8.6	243.8	151.1	1186.7	0.659	9.886
CNG88	115	12	-0.3	796.3	493.5	585.0	2.203	33.052
CNG89	115	12.2	-0.3	783.2	485.4	594.4	2.167	32.511
CBCB	115	145.3	41.2	65.8	40.8	3693.7	0.175	2.627
DARIE	115	50.8	14	188.1	116.6	1322.0	0.502	7.529
DEV1	115	18.2	2.6	525.0	325.4	656.3	1.439	21.580
EMT88	115	33.4	2.6	286.1	177.3	1368.6	0.790	11.843
EMT89	115	33.9	2.7	281.9	174.7	1384.4	0.778	11.667
EMERD	115	49.7	12.2	192.3	119.1	1406.5	0.517	7.753
ESHOR	115	45.2	2.6	211.4	131.0	1921.5	0.584	8.763
EW88	115	40.8	5.7	234.2	145.1	1481.0	0.642	9.631
EW89	115	41	5.7	233.1	144.4	1490.3	0.639	9.585
FLAXH	115	48.8	11.7	195.8	121.3	1402.2	0.527	7.906
FORVL	115	80.2	21	119.1	73.8	2170.4	0.319	4.786
FRGHT	115	33.9	7.2	281.9	174.7	1044.2	0.763	11.448
GRNHL	115	77.5	23.4	123.3	76.4	1862.4	0.327	4.901
HANA	115	53.6	13.1	178.3	110.5	1521.2	0.479	7.190
HANB	115	53.7	13.2	177.9	110.3	1518.4	0.478	7.175
HAWTH	115	62.7	5.8	152.4	94.4	2499.7	0.420	6.301
INDIA	115	65	9.2	147.0	91.1	2350.4	0.403	6.044
JUNE	115	54.6	4.4	175.0	108.5	2225.9	0.483	7.243
MDLRV	115	79.1	19.5	120.8	74.9	2232.3	0.325	4.870
MILLR	115	98.4	10.2	97.1	60.2	3839.9	0.267	4.011
MLSTN	345	2	0.9	42997.8	26647.6	2.9	108.541	1628.122
MLV88	115	33.8	4.5	282.7	175.2	1243.7	0.776	11.635
MLV99	115	33.7	4.4	283.5	175.7	1246.5	0.778	11.674
MIX	115	98.4	14.9	97.1	60.2	3484.5	0.266	3.987
NEWTO	115	39.9	12.5	239.5	148.4	924.6	0.633	9.489
NRA-A	115	30.8	8.1	310.2	192.3	830.9	0.831	12.458
NRA-B	115	31.1	8	307.2	190.4	852.5	0.824	12.355
NHAVE	115	24.8	1.8	385.3	238.8	1026.1	1.064	15.956
NWALL	115	27	3.9	353.9	219.3	970.4	0.970	14.544
NW115	115	237.7	76.6	40.2	24.9	5346.9	0.106	1.589
NWHAR	115	201.4	-43.2	47.4	29.4	12704.5	0.128	1.926
OLDT	115	81.7	8.2	117.0	72.5	3208.6	0.322	4.832
PEACE	115	34.8	13.5	274.6	170.2	610.0	0.709	10.629
PQUON	115	39.8	1.8	240.1	148.8	1729.0	0.664	9.958

Bus Name	Voltage (kV)	100% Load Data						
		Load		Load Z		PF Compensation	Stepdown Transformer Z	
		P (MW)	Q (MVAr)	R (ohm)	X (ohm)	C (uS)	R (ohm)	X (ohm)
QUINN	115	42	6.5	227.5	141.0	1476.7	0.622	9.335
RF47	115	27.4	7	348.7	216.1	754.7	0.935	14.029
RF56	115	27.4	6.9	348.7	216.1	762.3	0.936	14.042
ROCKY	115	31.8	10.2	300.5	186.2	718.9	0.792	11.880
SACT	115	57.9	4.2	165.0	102.3	2395.7	0.456	6.834
SNDHK	115	10.7	2.3	893.0	553.4	327.5	2.417	36.251
SASCO	115	12.9	1.8	740.7	459.0	468.4	2.031	30.461
SHAWS	115	33.9	9.3	281.9	174.7	885.4	0.752	11.287
SEND	115	105.2	29.9	90.8	56.3	2669.0	0.242	3.628
SNAUG	115	38.6	8	247.5	153.4	1203.9	0.671	10.065
STN1	115	44.5	10.7	214.7	133.1	1276.3	0.578	8.669
STN2	115	36.1	7.4	264.7	164.0	1132.2	0.718	10.766
STEVE	115	27.7	7.5	344.9	213.8	731.0	0.922	13.825
STONY	115	41.5	4.1	230.2	142.7	1634.7	0.634	9.514
THOM	115	24.6	5.4	388.4	240.7	744.5	1.050	15.753
TODD	115	34.1	7.5	280.2	173.7	1030.9	0.758	11.363
TOMAC	115	35.5	9.3	269.2	166.8	960.4	0.721	10.811
TRAPF	115	82.2	10	116.2	72.0	3095.9	0.319	4.791
TRIGL	115	138.3	47.3	69.1	42.8	2904.4	0.181	2.714
WALLP	115	58.6	8.3	163.1	101.1	2118.5	0.447	6.704
WST	115	71	6.4	134.6	83.4	2843.2	0.371	5.565
WTRSD	115	71.4	20.1	133.8	82.9	1826.1	0.357	5.349
WSTBF	115	42.6	11.9	224.3	139.0	1096.5	0.598	8.970
WESTO	115	59.1	13.5	161.7	100.2	1748.7	0.436	6.545
WM88	115	40	6.4	238.9	148.0	1390.5	0.653	9.794
WM89	115	39.7	6.3	240.7	149.2	1384.0	0.658	9.870

APPENDIX D10 – REACTOR DATA

Reactor Data

The shunt reactors that have been included in the Old Case 5 models are shown in the table below, with ratings in MVAr.

Location	Voltage (kV)	Old Case 5				Case 1		Case 10	
		30% Load	40% Load	50% Load	70% Load	50% Load	70% Load	50% Load	70% Load
Plumtree	345	0	100	125	150	125	150	0	0
Norwalk Transition	345	0	100	125	150	125	150	0	0
Norwalk (Singer)	345	0	50	50	100	0	0	0	0
Norwalk (Singer)	345	0	50	50	100	0	0	0	0
Devon (Singer)	345	0	0	0	0	0	0	0	0
Devon (Singer)	345	0	0	0	0	0	0	0	0
Singer (Devon)	345	0	50	100	100	0	0	0	0
Singer (Devon)	345	0	50	100	100	0	0	0	0
Singer (Norwalk)	345	0	50	70	100	0	0	0	0
Singer (Norwalk)	345	0	50	70	100	0	0	0	0

The shunt reactor dispatch (MVAr) for Old Case 5 configurations with additional underground cable between East Devon and Beseck is shown below.

Location	Voltage (kV)	Underground Cable Length		
		5 Miles	10 Miles	20 Miles
East Devon (Transition Station)	345	50	50	70
East Devon (Transition Station)	345	50	50	70
East Devon (Transiti on Station)	345	50	50	70
Transition Station (East Devon)	345	0	0	70
Transition Station (East Devon)	345	0	0	70
Transition Station (East Devon)	345	0	0	70