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JUL 23 2010
PUBLIC SERVICE COMMISSION

Shelby Energy Cooperative, Inc.

2010-2014 Construction Work Plan

November 2009

Kentucky 30 Shelby

Shelbyville, Kentucky

I hereby certify that this 2010-2014 CWP Report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of Kentucky. Registration No. 16457

STATE OF KENTUCKY
JAMES D. BRIDGES
16457
LICENSED PROFESSIONAL ENGINEER

Dec 8, 2009
Date

By: James D. Bridges, P.E.
James D. Bridges, P.E.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF SHELBY ENERGY COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR ITS 2010 – 2014 CONSTRUCTION WORK PLAN	) CASE NO. 2010-00244

APPLICATION

Shelby Energy Cooperative hereinafter called the "Applicant", respectfully advises the Commission that:

1. The applicant is a nonprofit membership cooperative corporation without capital stock, duly organized and existing under K.R.S. Chapter 279, engaged in the sale of electric energy at retail rates to its member-consumers in the Kentucky counties of Anderson, Carroll, Franklin, Henry, Jefferson, Oldham, Owen, Shelby, Spencer, and Trimble.

2. The name of the Applicant is "Shelby Energy Cooperative, Inc.", and its business address is 620 Old Finchville Road, Shelbyville, Kentucky 40065-1714. {807 KAR 5:001, Section 8(1)}

3. The Articles of Incorporation and all amendments thereto for the Applicant were filed in Case No. 97-231 of the Kentucky Public Service Commission and incorporated by reference herein. {807 KAR 5:001, Section 8(3)}

4. This application is for a Certificate of Public Convenience and Necessity ("CPCN") to construct electric distribution facilities as set out in the attached 2010 ~ 2014 Construction Work Plan, hereinafter referred to as the CWP.

5. The CPCN for the CWP will permit the Applicant to construct certain improvements and additions to existing distribution plant necessary to provide adequate and dependable electric service to existing and anticipated new members. System improvements recommended within the CWP will not duplicate existing facilities and are needed to correct voltage problems, improve phase balance, reduce system energy losses and provide for improved service reliability.

6. The CWP covers the period of four (4) years between 2010 and 2014, and was prepared by Shelby Energy Cooperative Inc. Engineering Department and James Bridges, PE., Distribution System Solutions. A copy of the CWP is filed herein and made a part hereof as Exhibit 1 (Shelby Energy 2010-2014 CWP Report.pdf). The CWP was submitted to the Rural Utility Service ("RUS"), for approval, which was granted December 2009; said approval is filed herein and made a part hereof within Exhibit 2 (RUS Approval.pdf).

7. The CWP was approved by the Applicant's Board of Directors on December 17, 2009. Said approval is filed herein and made a part hereof within Exhibit 3 (Board Resolution.pdf).

8. No CWP construction or extensions will require franchises or permits to be filed with the Commission.

9. The CWP and maps filed with this Application provide a description and location of new construction and extensions. All construction and extensions will

provide service to retail consuming facilities located in the territory certified to the Applicant for retail electric service under K.R.S. 278.016 ~.018.

10. Total projected expenditures for the four-year (4) CWP are estimated to be $16,685,739 and summarized as follows:

a) $2,864,079 ~ Line Construction for New Services totaling 34 miles

b) $6,244,027 ~ Line Conversions and Line Changes totaling 63 miles

c) $1,431,517 ~ Transformers and Meters

d) $547,454 ~ Increased Service Capacity

e) $400,000 ~ Sectionalizing Equipment

f) $276,000 ~ Line Voltage Regulators

g) $8,000 ~ Line Capacitors

h) $1,085,587 ~ Poles

i) $316,480 ~ Security Lights

11. The anticipated annual cost of operations, excluding the cost of power, of the proposed facilities is $1,440,000. Said anticipated cost of operation is filed herein and made a part hereof as Exhibit 4 (SEC_costofoperation_05312010.pdf).

12. The Applicant is filing an application with RUS to arrange 100% financing of CWP projects with the RUS treasury rate loan program. Contract and force accounts financed with internally generated funds and a short-term line of credit will be used until all loan approvals are granted. Said RUS financing will reimburse the general funds expended for the initial portion of the CWP and finance the balance of the CWP

13. The current and projected revenues are sufficient to cover any additional operating expenses that may be incurred in relation to the CWP. The addition of new

consumers-members should assist in offsetting any additional expenses. The upgraded lines will also reduce system energy losses and assist in offsetting additional expenses.

WHEREFORE, the Applicant now moves the Public Service Commission of the Commonwealth of Kentucky to grant the said Certificate of Public Convenience and Necessity for Applicant's CWP which the Applicant has herein requested and which the Commission has discretion to grant pursuant to KRS 278.020 (1).

WITNESS the hand of the Applicant on this the 15th day of July, 2010; by its authorized representative.

SHELBY ENERGY COOPERATIVE, INC.

BY: ______________________
Gary Grubbs, P.E.
Interim Engineer

BY: ______________________
Don Prather
Mathis, Riggs & Prather
Attorneys for Applicant
500 Main Street
Shelbyville, Ky. 40065

STATE OF KENTUCKY

COUNTY OF SHELBY

Subscribed, sworn to and acknowledged before me by Gary Grubbs, P.E., as Interim Engineer of SHELBY ENERGY COOPERATIVE, INC. this 15th day of July, 2010.

Candice H Waford

NOTARY PUBLIC, STATE AT LARGE, KY

MY COMMISSION EXPIRES: 01/13/14

STATE OF KENTUCKY

COUNTY OF SHELBY

Subscribed, sworn to and acknowledged before me by Don Prather, as Attorney for SHELBY ENERGY COOPERATIVE, INC. this 15th day of July, 2010.

Mary Ellen White

NOTARY PUBLIC, STATE AT LARGE, KY

MY COMMISSION EXPIRES: 7/5/12

Shelby Energy Cooperative

Your Touchstone Energy® Partner

KY 30 2010-2014 CONSTRUCTION WORK PLAN

December 2009

BER – Borrower's Environmental Report

1. Construction techniques
   a. Overhead construction
   b. No new right-of-way normally required – the code 300 projects have not been staked
   c. Pole replacements will be necessary but not in the same holes
   d. Re-alignment of lines will not be necessary
2. Best Management Practices
   a. Truck ruts are filled in and soil re-seeded
   b. Old pole holes are re-filled and soil re-seeded
   c. Old poles are disposed properly

USDA Rural Development

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United States Department of Agriculture
Rural Development

David G

Ms. Debbie Martin, Jr.
President and CEO
Shelby Energy Cooperative, Inc.
620 Old Finchville Road
Shelbyville, Kentucky 40065-1714

Dear Ms. Martin:

We have reviewed the Environmental Report (ER) covering the facilities recommended in Shelby Electric Cooperative, Inc.'s (Shelby Energy) 2010-2014 Construction Work Plan (CWP). In accordance with 7 CFR Part 1794, Environmental Policies and Procedures, as amended, all projects proposed in the CWP are Categorical Exclusions. No additional environmental information needs to be submitted for review, provided the projects do not change from what has been described in the ER.

Your CWP was approved by Mike Norman on December 17, 2009, contingent on approval of the ER. Shelby Energy now has environmental clearance for all projects in the CWP and is responsible for acquiring the necessary permits for construction and operation of the proposed projects.

Thank you for your assistance and cooperation in helping us fulfill our environmental review requirements. If you have any questions, please contact me at (202) 720-1994 or Ms. Lauren McGee, Environmental Scientist, at (202) 720-1482 or lauren.mcgee@wdc.usda.gov.

Sincerely,

CHARLES M. PHILPOTT
Chief, Engineering Branch
Northern Regional Division
USDA Rural Utilities Service

Shelby Energy Cooperative

Your Touchstone Energy® Partner

RESOLUTION

WHEREAS, a four-year construction work plan dated 2010 - 2014, in the amount of $16,685,739.00 has been prepared by Shelby Energy Cooperative Inc. Engineering Department and James Bridges, P.E., Distribution System Solutions.

NOW, THEREFORE BE IT RESOLVED, that the Board of Directors of Shelby Energy Cooperative Inc. hereby approves the 2010 - 2014 work plan as a course of action to be followed, or until amended with approval of RUS.

I, Roger Taylor, Secretary - Treasurer of Shelby Energy Cooperative Inc., do hereby certify that the above is true and correct excerpt from the minutes of a regular meeting of the Board of Directors of Shelby Energy Cooperative Inc. held on the 17th day of December, 2009, at which meeting a quorum was present.

Roger G Taylor Jr

ROGER TAYLOR, Secretary - Treasurer

United States Department of Agriculture
Rural Economic and Community Development
Rural Utilities Service
Washington, DC 20250

December 17, 2009

2010-2014 Construction Workplan (CWP)

Debbie Martin, President & CEO
Shelby Energy Cooperative

I have completed my review of the cooperative's 2010-2014 CWP, which was prepared by Jim Bridges, and find it to be generally satisfactory for loan contract purposes. Approval to proceed with the proposed distribution system construction is contingent upon RUS's review and approval of an Environmental Report (reference 7 CFR 1794).

Headquarters, SCADA, and load management projects will be reviewed/approved by the Northern Regional Division office, as necessary. This action will be taken after their receipt of the CWP and other supporting documents (i.e., appropriate feasibility and engineering studies).

You should make a special effort to inform all of the cooperative's employees and contractors, involved in the construction of utility plant of any commitments made in the Environmental Report covering the construction of the facilities recommended in the CWP.

Changes (line improvements, tie lines, extensions, substations, etc.) in the CWP will require RUS approval. The environmental acceptability of any such changes shall also be established in accordance with 7 CFR 1794. The procedure for satisfying these environmental requirements shall be the same as that used in connection with this CWP approval.

It is your responsibility to determine whether or not loan funds and/or general funds are available for the proposed construction. If general funds are used, the requirements as outlined in 7 CFR 1717 need to be followed.

The construction shall be accomplished in accordance with RUS requirements. Specific reference should be made to 7 CFR 1726, Electric System Construction Policies and Procedures.

Mike Norman

Mike Norman
RUS Field Representative

Anticipated Annual Additional Cost of Operation After Completion of all CWP Projects:

Estimated Depreciation:

Account No.	*Balance 5/31/2010*	*Monthly Rate X 12*	*Depreciation*	*per cent of total*	*Estimated Capitalization*	*Estimated Depreciation*
36400	$19,110,120.00	3.00%	$573,303.60	30.94%	$4,950,982	$148,529
36500	$17,390,384.16	3.00%	$521,711.52	28.16%	$4,505,439	$135,163
36600	$307,518.52	3.00%	$9,225.56	0.50%	$79,671	$2,390
36700	$3,482,458.58	3.00%	$104,473.76	5.64%	$902,223	$27,067
36800	$8,739,110.38	3.00%	$262,173.31	14.15%	$2,264,098	$67,923
36900	$9,514,028.23	3.00%	$285,420.85	15.41%	$2,464,861	$73,946
37000	$1,430,258.83	3.00%	$42,907.76	2.32%	$370,546	$11,116
37100	$1,725,032.00	3.00%	$51,750.96	2.79%	$446,915	$13,407
37300	$58,916.23	3.00%	$1,767.49	0.10%	$15,264	$458
	$61,757,826.93		$1,852,734.81	100.00%	$16,000,000	**$480,000**

Estimated Property Taxes:

2009 Taxes	*Property @ 12/31/09*	*Average Rate*	*Work Plan Amount*	*Estimated Taxes*
$579,301	$53,483,849	1.08%	$16,000,000	**$173,301**

Estimated Interest Expense:

Plant	*Estimated Interest Rate*	*Estimated Interest Expense*
$16,000,000	5.00%	**$800,000**

Estimated Operation and Maintenance Expense:

Plant	*Estimated O&M %*	*Estimated O&M Expense*
$16,000,000	2.00%	**$320,000**

Estimated cost of operation after the proposed facilities are completed: **$1,773,301**

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SHELBY ENERGY COOPERATIVE, INC.
2010 – 2014 CONSTRUCTION WORK PLAN REPORT

Kentucky 30 Shelby

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EXECUTIVE SUMMARY

PURPOSE OF REPORT

This report documents the engineering analysis of, and summarizes the proposed construction for Shelby Energy Cooperative, Inc.'s (SEC) electric distribution system for the four-year planning period of 2010-2014.

The report also provides engineering support in the form of descriptions, costs and justifications of the required new facilities for a loan application to RUS in order to finance the proposed construction program.

GENERAL BASIS OF STUDY

The winter 2014 projected total peak system load was taken from the 2008 Load Forecast (LF) as approved by RUS. Residential and small commercial loads were grown at rates consistent with the LF.

System analysis models are based on non-coincidental (NC) system peaks that are outlined in the LF. The projected winter 2014 NC peak (based on LF and GFR meeting) is 125,000 kW. The system annual load factor is projected to average 53.8% over the next four years.

The existing winter and summer growth models were examined for what is a winter-peaking system. The existing summer model was reviewed to ensure that any system deficiencies for the cooling load closely tracked the winter model. This was determined to be the case.

The SEC 1999-2018 Long Range Plan (LRP) load projections and improvement recommendations were reviewed and they generally agree with scope of the 2010-2014 CWP recommendations. A review of the LRP is included in this report.

A RUS Operations and Maintenance Survey (FORM 300) has been completed with the RUS GFR. This survey is used to determine portions of the construction required to replace physically deteriorated equipment and material, upgrade areas of the system to conform to code or safety requirements, and improve the reliability and quality of service.

GENERAL BASIS OF STUDY (cont.)

A system analysis using RUS guidelines and the SEC Design Criteria was performed on all of the substations and distribution lines of the system. Milsoft Integrated Solutions' PC-Based Distribution Analysis Program – "Windmil" was used to analyze the existing system configuration that was modeled with the projected load growth.

SUMMARY - RESULTS OF PROPOSED CONSTRUCTION

Upon completion of the proposed construction, the system will provide adequate and dependable service to 16,200 residential customers as well as 9 large power loads and 580 small commercial loads. Average monthly residential usage is projected to be 1,370 kWh. It is estimated that there will be 1,800 idle services.

A majority of this plan deals with the replacement of single-phase conductor. There are several three-phase conductor replacements. 143 circuit miles of conductor replacement and conversion will take place in the four-year plan period. Conductor replacement line sections were selected based on conductor condition, operational experience and the number of customers served.

A new double circuit feeder out of the New Castle Substation will relieve end-of-line loading on two Clay Village feeders and will defer a new distribution substation in the Defoe area. This new feed will also eliminate the need for a distribution feeder from Bluegrass Energy in southeast Henry County.

SERVICE AREA

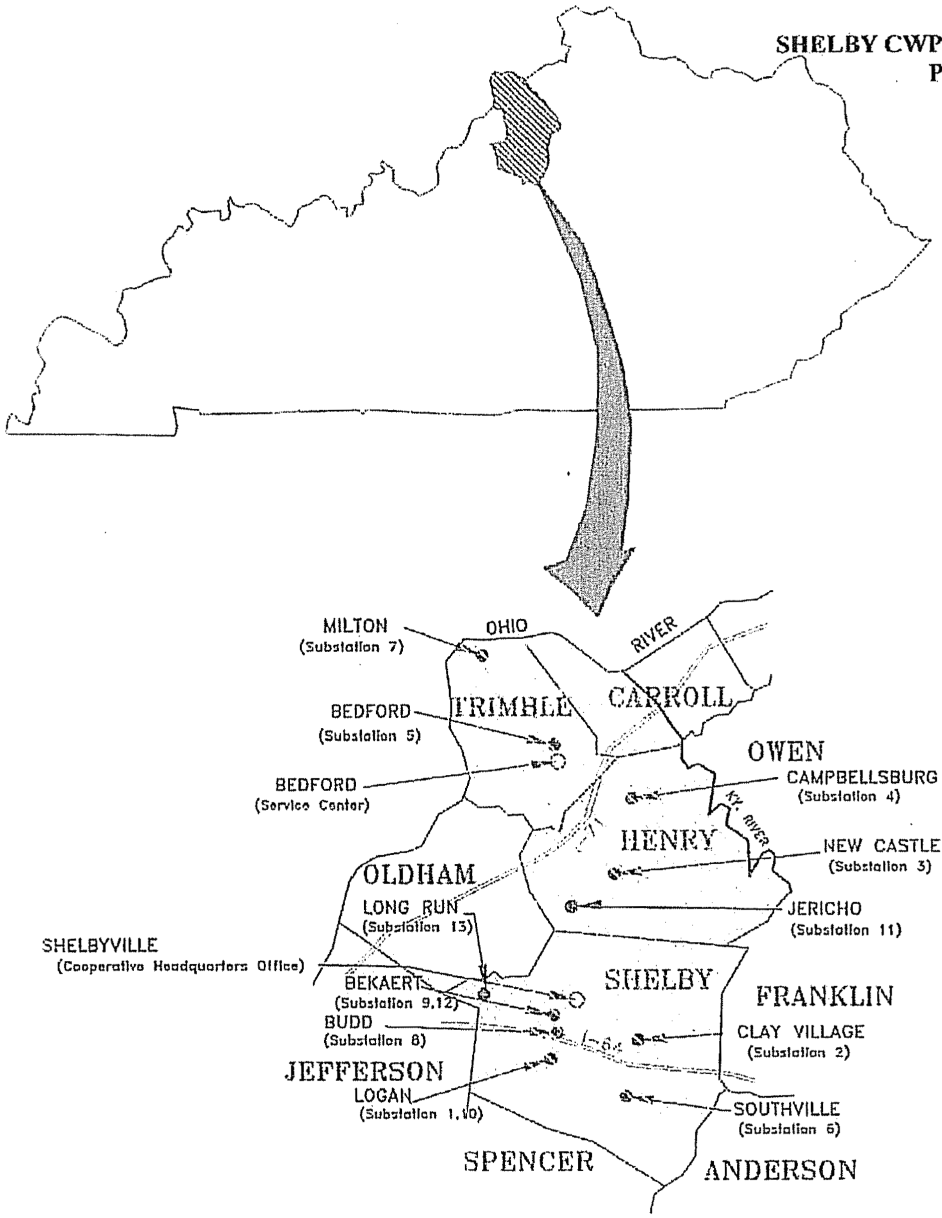
Shelby Energy Cooperative, Inc. is a RUS-funded electric distribution cooperative. SEC is located in north central Kentucky between Louisville and Lexington. SEC serves portions of Carroll, Henry, Shelby and Trimble Counties with a few members in six other surrounding counties. The headquarters are located in Shelbyville, Kentucky (Shelby County) with a branch office in Bedford (Trimble County). *See Map on following page.*

The principal counties served by SEC are mostly rural with a high percentage of people relying on agricultural enterprises, manufacturing and government services for income. A number of commercial and industrial areas are in the service territory. Steady growth is projected for new commercial, small manufacturing and residential customers in selected areas of the system. The Shelby Industrial Park remains the focal point of SEC's present and future industrial and large commercial growth.

The following data is from SEC's 12/08 RUS Form 7:

Total Services in Place	***17,288***
MWH Purchases	***473,891***
MWH Sold	***453,798***
Maximum kW Demand	***113,000***
Total Utility Plant	***$62,537,689***
Plant Dollars Per Member	***$3,617***
Consumers/Mile	***8.3***

SEC has 38 distribution circuits with 11 of the circuits operating at 14,400/24,900 kV. The remaining circuits operate at 7,200/12.47 kV.



SHELBY ENERGY COOPERATIVE SERVICE AREA

GENERATION and TRANSMISSION POWER SUPPLIER

East Kentucky Power Cooperative (EKPC) provides all power and energy needs to SEC and fifteen other distribution cooperatives. EKPC is located in Winchester, Kentucky.

The Load Forecast (LF) is a joint effort between SEC and EKPC. SEC provides loading data and system growth predictions to EKPC for use in the LF growth models.

All new distribution, transmission, and substation construction requirements are considered simultaneously as a "one system" concept - between SEC & EKPC - for the orderly and economical development of the total system. All of the recommendations relative to power supply and delivery are discussed with EKPC.

SUMMARY OF CONSTRUCTION PROGRAM AND COSTS

Shelby Energy Cooperative's distribution system was analyzed in order to identify the construction requirements needed to adequately serve the projected CWP load of 125 MW. Improvements were identified based on voltage drop, conductor loading, system reliability improvement, economic conductor analysis and operational experience. A narrative list of system improvements is located in Section IV.

A breakdown of proposed construction projects by RUS 740C codes is listed below in Table I-C-1.

Table I-C-1
System Additions and Improvements Summary

RUS Form 740C Category	Category Name	Estimated Cost
100	New Distribution Line	$2,864,078
300	Line Conversion & Improvements	$6,244,027
600	Misc. Equip & Poles	$7,261,154
700	Security Lights	$316,480
	2010-2014 CWP TOTAL	$16,685,739

100 – New Construction planned to serve 1,258 new services.

300 – 63 miles of conductor upgrading, replacement and feeder rehabilitation.

600 – Miscellaneous distribution equipment and pole changes. This includes 80 miles of aged conductor replacement, voltage regulators, sectionalizing, meters, transformers, pole changes and increased service capacity upgrades.

700 – Other Distribution Items - Security Lights 701.

SHELBY ENERGY COOPERATIVE, INC 2010-2014 CWP

COST SUMMARY SPREADSHEET

NEW CONSTRUCTION -- RUS CODE 100

ITEM	RUS CODE	AVE. $/CONSUMER	# CONS.		2010/2011	2011/2012	2012/2013	2013/2014	TOTAL
New Services	100	$2,223	1250		$627,300	$652,392	$735,028	$764,429	$2,779,150
New Large Powers	102	$10,616	8		$20,000	$20,800	$21,632	$22,497	$84,929
Total Mileage					8.5	8.5	8.5	8.5	34.0
		TOTAL CODE 100:			$647,300	$673,192	$756,660	$786,926	$2,864,079

LINE CONVERSION - RUS CODE 300

SUB - SECTION	RUS CODE	CONDUCTOR	$/MILE	MILES	2010/2011	2011/2012	2012/2013	2013/2014	TOTAL
Logan II 450	301	#2 ACSR-1φ to #2 ACSR-Vφ	$55,820	0.5	$27,910				$27,910
Jericho 319 & 932	302	#4 ACSR-1φ to 1/0 ACSR-3φ	$78,510	1.9	$149,169				$149,169
Jericho 317	303	#4 ACSR-1φ to #2 ACSR-Vφ	$62,790	1.7				$106,743	$106,743
Jericho 788	304	#4 ACSR-3φ to 336.4 ACSR-3φ	$131,630	0.3				$39,489	$39,489
Clayvillage 343	305	#4 ACSR-1φ to #2 ACSR-Vφ	$55,820	0.9	$50,238				$50,238
Clayvillage 384	306	#4 ACSR-1φ to #2 ACSR-Vφ	$55,820	1.5	$83,730				$83,730
Clayvillage 391	307	#4 ACSR-1φ to #2 ACSR-Vφ	$55,820	0.8	$44,656				$44,656
Clayvillage 417 "Bardstown Trail"	308	#2 ACSR-1φ to #2 ACSR-Vφ	$58,050	2.5		$145,125			$145,125
New Castle 257	309	#2 CU-3φ to 336.4 ACSR-3φ	$121,700	1.9		$231,230			$231,230
New Castle 325	310	#4 ACSR-3φ to #2 ACSR-3φ	$76,180	1.8		$137,124			$137,124
New Castle 331	311	#4 ACSR-1φ to #2 ACSR-Vφ	$58,050	0.1		$5,805			$5,805
New Castle 300 & 302	312	#2 ACSR-1φ to #2 ACSR-Vφ	$58,050	1.3		$75,465			$75,465
New Castle 299 & 726	313	#2 ACSR-1φ to #2 ACSR-3φ	$79,230	3.1			$245,613		$245,613
New Castle 297	314	#4 ACSR-1φ to #2 ACSR-Vφ	$60,375	0.4			$24,150		$24,150
*New Castle 306, 308, 929 & 830**	*324*	#4 ACSR-1φ to 1/0 ACSR-3φ	$82,400	3.9				$321,360	$321,360
New Castle 303, 294 & 293	315	1/0 ACSR-3φ to 336.4 ACSR-3φ	$126,570	3.7			$468,309		$468,309
New Castle 284LD, 312, 315 & 316	316	4ACWC-3φ to 336.4 ACSR-3φ	$117,020	3.4	$397,868				$397,868
Campbellsburg 237 & 197	317	1/0CU-3φ to DCT336.4 ACSR-3φ	$218,000	1.2		$261,600			$261,600
Campbellsburg 236	318	1/0CU-3φ to 336.4 ACSR-3φ	$131,630	0.9				$118,467	$118,467
Campbellsburg 232 & 235	319	#2 CU-3φ to 336.4 ACSR-3φ	$131,630	3.5				$460,705	$460,705
Campbellsburg 154 & 158	320	#2 CU-3φ to 336.4 ACSR-3φ	$117,020	2.5	$292,550				$292,550
Campbellsburg 150 & 153	321	#2 CU-3φ to 336.4 ACSR-3φ	$121,700	1.7		$206,890			$206,890
Campbellsburg 766	322	#2 ACSR-1φ to #2 ACSR-3φ	$76,180	1.4		$106,652			$106,652
Campbellsburg 765 & 144	323	#2 ACSR-Vφ to #2 ACSR-3φ	$79,230	1.5			$118,845		$118,845
Campbellsburg 196	325	#2 CU-3φ to 336.4 ACSR-3φ	$121,700	2.7		$328,590			$328,590
Campbellsburg 188 & 185	326	#4 ACSR-3φ to 336.4 ACSR-3φ	$126,570	5.1			$645,507		$645,507
Bedford 65	327	#2 ACSR-1φ to #2 ACSR-Vφ	$55,820	2.5	$139,550				$139,550
Bedford 74, 73, 71 & 764	328	#2 CU-3φ to 336.4 ACSR-3φ	$117,020	2.9	$339,358				$339,358
Bedford 230 & 724	329	#2 CU-3φ to 336.4 ACSR-3φ	$131,630	3.5				$460,705	$460,705
Southville 501	330	#2 ACSR-1φ to #2 ACSR-Vφ	$55,820	1.3	$72,566				$72,566
Southville 864	331	#2 ACSR-Vφ to #2 ACSR-3φ	$73,250	0.1	$7,325				$7,325
Milton 11	332	#2 ACSR-1φ to #2 ACSR-Vφ	$58,050	0.9		$52,245			$52,245
Milton 23	333	#2 ACSR-1φ to #2 ACSR-Vφ	$60,375	1.3			$78,488		$78,488
**-Carryover Item*		TOTAL CODE 300:		62.7	$1,604,920	$1,550,726	$1,580,912	$1,507,469	$6,244,027

MISCELLANEOUS DISTRIBUTION EQUIPMENT - RUS CODE 600'S

ITEM	RUS CODE	4 YR. AVE. COST	# ITEMS		2010/2011	2011/2012	2012/2013	2013/2014	TOTAL
New Transformers	601	$1,231	1036		$279,750	$290,940	$345,571	$359,394	$1,275,655
New Meters	601	$120	1298		$35,340	$36,754	$41,063	$42,705	$155,862
Service Upgrades	602	$3,111	176		$128,920	$134,077	$139,440	$145,017	$547,454
Sectionalizing	603				$100,000	$100,000	$100,000	$100,000	$400,000
Voltage Regulators	604				$74,000	$91,400	$60,600	$50,000	$276,000
Capacitors	605				$8,000	$0	$0	$0	$8,000
Pole Changes -Including Clearance	606	$2,320	468		$255,645	$265,871	$276,506	$287,566	$1,085,587
Miscellaneous Replacement	607				$100,000	$100,000	$100,000	$100,000	$400,000
Conductor Replacement	608		80 miles		$733,000	$762,300	$792,792	$824,504	$3,112,596
		TOTAL							
		MISC. CODE 600'S:			$1,714,655	$1,781,342	$1,855,972	$1,909,186	$7,261,154

OTHER DIST. ITEMS - RUS CODE 700

ITEM	RUS CODE	4 YR. AVE. COST	# ITEMS		2010/2011	2011/2012	2012/2013	2013/2014	TOTAL
Security Lights	701	$578	548		$74,528	$77,509	$80,609	$83,834	$316,480
		TOTAL							
		CODE 700:			$74,528	$77,509	$80,609	$83,834	$316,480

2010-2014 Kentucky 30 - Shelby	CONSTRUCTION WORK PLAN TOTAL:	$16,685,739

STUDY GUIDELINES

DISTRIBUTION SYSTEM DESIGN CRITERIA

1) The minimum voltage on primary distribution lines is 118 volts (120 volt base, 126 volts at source) after re-regulation.

2) Primary conductors will be evaluated at 75% of their thermal rating.

3) The following equipment will be evaluated at the percentage shown:
   a) Distribution Transformers 130% winter; 100% summer
   b) Voltage Regulators 130% winter; 100% summer
   c) Step Voltage Transformers 130% winter; 100% summer
   d) Reclosers and Fuses 80% winter; 80% summer

4) Conversions to multiphase are to correct voltage drop and phase balance. Line sections operating at 12.5/7.2 kV with load currents exceeding 45 amps will be considered for multiphasing. 24.9/14.4 kV lines with load currents exceeding 40 amps will be considered for multiphasing. Line sections with greater than 60 customers will be considered for multiphasing. Operation and engineering practices used to develop the loading criteria are based on a single phase line interruption that may cause an operation of the ground trip relay on three phase oil circuit reclosers.

5) Three phase tie points between substations should be equipped with air break switches.

6) Conductors and structures will be considered for replacement as needed.

DISTRIBUTION LINE AND EQUIPMENT COSTS

Construction cost estimates for the four year planning period are shown in Table II-B-1. Cost summaries for distribution equipment are shown in Table II-B-2.

**Table II-B-1
Line Construction Cost Estimates
Annual Projected Dollars/Mile**

SIZE	TYPE	10/11	11/12	12/13	13/14
#2 ACSR	CONV 3-PH	$73,250	$76,180	$79,230	$82,400
1/0 ACSR	CONV 3-PH	$78,510	$81,650	$84,915	$88,315
336.4 ACSR	CONV 3-PH	$117,020	$121,700	$126,570	$131,630
#2 ACSR	CONV V-PH	$55,820	$58,050	$60,375	$62,790
336.4 ACSR	CON DC 3-PH	$209,615	$218,000	$226,720	$235,790
#2 ACSR	CONV 1-PH	$36,650	$38,115	$39,640	$41,225
1/0 ACSR	CONV 1-PH	$45,360	$47,175	$49,060	$51,025
1/0 ALUG	REPL 1-PH	$66,600	$69,300	$72,000	$74,900
1/0 ALUG	REPL 3-PH	$183,600	$191,000	$198,500	$206,500

**Table II-B-2
Distribution Equipment Cost Estimates
Annual Projected Unit Costs**

DEVICE	TYPE	10/11	11/12	12/13	13/14
V.Regulators (3)	100 amp	$36,000	$37,400	$39,000	$40,500
V.Regulators (3)	150 amp	$44,000	$45,700	$47,600	$49,500
V.Regulators (3)	219 amp	$50,000	$52,000	$54,100	$56,250
V.Regulators (1)	100 amp	$12,000	$12,500	$13,000	$13,500
300 kVAR Capacitors	3-ph w/ cont.	$4,000	$4,160	$4,325	$4,500
600 kVAR Capacitors	3-ph w/ cont.	$5,000	$5,200	$5,400	$5,625
Reclosers	3-ph Elect.	$38,000	$39,500	$41,100	$42,750
Reclosers	1-ph OCR	$3,500	$3,640	$3,800	$3,940

STATUS OF PREVIOUS CWP ITEMS

All projects from the 2005-2009 CWP have been completed except the following items.

740 C #	Project Description	Status
310	Clayvillage 422	DEFERRED
322	New Castle 303, 291, 293, 294	DEFERRED
324	New Castle 306,308,929, & 830	CARRYOVER
326	Campbellsburg 232 & 235	REVISED/UPGRADED (319)
327	Campbellsburg 150,153,154&158	REVISED/UPGRADED (320,321)
328	Campbellsburg 234	DEFERRED
332	Southville 506	DEFFERED
338	Jericho 931	REVISED (302)

ANALYSIS OF 1999-2018 LONG RANGE PLAN

The current Long Range Plan (LRP) projects a peak of 124 MW for the winter of 2008/2009. The loading level of 125 MW for the 2014 construction work plan peak is in basic agreement with the LRP. With the recent economic slowdown, the work plan projections are in line with the most recent EKPC load forecast.

The LRP preferred plan projects the ***Todd's Point Substation.*** The ***Long Run Substation***, was energized in the summer of 2000 and will defer the construction of a substation at Todd's Point for a number of years past the CWP planning period.
There are no new substations required in the 2010-2014 CWP period. A new substation at Defoe has been deferred by double circuiting a feeder line heading southeast from the New Castle Substation.

Continued conductor replacement is scheduled in the LRP. This CWP report recommends and outlines an ongoing conductor replacement program.

In ***summary,*** the 2010-2014 Construction Work Plan is in basic agreement with the current LRP.

OPERATIONS & MAINTENANCE SURVEY

The current O&M Survey ("Review Rating Summary") was completed in June 2008.
The following items were noted:

- A program is underway to remove telephone poles left next to electric poles.
- There were some shade tree problems noted in the right-of-way.
- The report of idle services is being reconciled with billing records.

SECTIONALIZING STUDIES

A sectionalizing study analyzes the existing overcurrent protection scheme and proposes changes to improve the overall effectiveness of the scheme.
Sectionalizing studies take place on a substation-by-substation basis.

The four main goals of a sectionalizing study are Safety, Reliability, Coordination, and Protection.

1. Safety – Sectionalizing devices should be able to detect and interrupt the full range of fault currents available in their zone of protection coverage. Calculated minimum fault current values (Using RUS Bulletin 61-2) should be detected and cleared by the protective device.

2. Reliability – Limit the outage hours per consumer by isolating or "sectionalizing" faulted portions of the circuit so that the minimum number of customers are interrupted. Additional devices – where needed – will further limit the overall outage hours.

3. Coordination – Good protective device coordination will ensure that the closest device to the fault opens. Fault locating is also enhanced. Miscoordination of protective devices can cause confusion and ultimately add to outage times.

4. Protection – A well designed protection scheme will minimize damage to the distribution system by limiting the time that damaging overcurrent is present on the faulted portion of the system.

Changes that can affect the coordination scheme include: load growth; substation transformer capacity increases; reconductoring distribution lines; single-phase to three-phase conversions; changes in the system's circuit configuration; and the addition of loads in specific locations.

The ongoing, substation-by-substation sectionalizing study will coincide with the construction projects in the CWP report. General sectionalizing device cost projections will be listed in the "603" category in this report.

Substation Loading

TABLE II-E-1 **HISTORY & FORECAST**

SUBSTATION/BASE KVA	KVA CAPACITY	Jan-09	Aug-07	%LOAD 2009	Jan-14	%LOAD 1/14
Bedford/11200	18144	11005	8061	60.65	10980	60.52
Bekaert #1/14000	13620	10633	13565	99.60	4347	23.96
Bekaert #2/11200	13620	7369	8620	63.29	10752	59.26
Bekaert #3/15000	14900				8539	56.93
Blue Grass Tie*	---	148	201	---	148	---
Budd/11200	13620	5722	9052	66.46	6582	36.28
Campbellsburg11200	18144	10617	7841	58.52	13500	74.40
Clay Village/11200	18144	14201	9858	78.27	16492	90.90
Jericho/11200	15720	11429	8216	72.70	13078	83.19
Logan #1/14000	18144	7374	6109	40.64	10588	58.36
Logan #2/14000	18144	7648	5445	42.15	9375	51.68
Long Run/5600	5540	4436	4547	82.08	4984	63.41
Milton/11200	15720	8053	4824	51.23	8609	54.76
New Castle/11200	15720	8953	6278	56.95	10079	64.12
Southville/11200	15720	8418	7363	53.55	9264	58.93

SUMMER RATINGS IN GREEN

Bekaert #1 relieved
by Bekaert #3 - Energized in 2009

SERVICE RELIABILITY

The record of SEC's service interruptions for the past five years is shown in Table II-E-2. The five-year average outage hours per consumer were **5.95**. An average of five hours per consumer per year is generally considered to be an indication of good reliability by RUS. Major storms in 2006 and Hurricane Ike in 2008 were major factors that have skewed this indicator.

TABLE II-E-2

	Power Supplier	Extreme Storm	Prearranged	All Other	Total
2004 OUTAGE HR/CONS	*0.02*	*2.89*	*0.04*	*1.04*	*3.99*
2005 OUTAGE HR/CONS	*0.05*	*0.00*	*0.01*	*1.08*	*1.14*
2006 OUTAGE HR/CONS	*0.15*	*7.23**	*0.02*	*1.58*	*8.98*
2007 OUTAGE HR/CONS	*1.36*	*0.00*	*0.00*	*1.50*	*2.86*
2008 OUTAGE HR/CONS	*0.31*	*11.40**	*0.04*	*1.04*	*12.79*
FIVE YEAR AVE. OUTAGE HR/CONS	*0.38*	*4.30*	*0.02*	*1.25*	*5.95*

DATA RESOURCES

DATA RESOURCES

The following is a list of the basic data used for this analysis and report.

1. Updated primary map indicating the following items:
   a) Substations with present feeder configurations.
   b) All open points.

2. Monthly substation non-coincident peak(NCP) demands for the past year and annual system peaks as listed in the Load Forecast.

3. Billing system kW and kWh sales for last winter and summer peaks.

4. 2008 East Kentucky Power Cooperative/SEC *Load Forecast.*

5. Five Year Outage Summary.

6. RUS Form 7 data.

7. Substation transformer ratings.

8. Load projections for each existing and proposed substation covering the summer and winter peak demands.

9. Substation Data Sheets.

10. Windmil circuit model databases with voltage drop calculations for each line section.

BASIC DATA AND ASSUMPTIONS

Design Load – The construction program in the CWP covers a four year period to serve the 125 MW, January 2014 winter peak. The design load was derived after reviewing the 2008 Load Forecast with the GFR.

Load Allocation – Individual substations were grown at similar rates. The total system design load was attained by allocating each substation's load to its individual line sections proportional to the number of consumers and the kWh consumption on each of the line sections. Peak summer and peak winter loading were modeled and analyzed. The system is generally winter peaking with the exception of the industrial load in the Shelbyville Industrial Park area and the Long Run residential area.

Voltage Drop – For the design load, an eight volt drop with one set of downline voltage regulators was assumed to be the maximum allowable drop from the substation to the end of the distribution feeder.

Substation Voltage Regulation – Voltage regulation was assumed for each substation such that a 10% voltage drop could be experienced on the transmission system at peak load and 126 volts could still be supplied to the substation bus.

System Power Factor – System power factor values were reviewed from the East Kentucky Power Substation Reports. Power factor values for each substation were within acceptable levels.

Single-Phase Loading – On taps where more than (*a 7.2 kV load of 325 kW or a 14.4 kV load of 575 kW*) is served from a single-phase line, conversion to 2 or 3 phase was considered in order to provide greater system reliability. Two-phase conversions were generally chosen where a single-phase line split into two taps – with a large amount of load being present on only one of the taps. Three-phase conversions were chosen for the more heavily loaded taps and when the single- phase tap split into more than two directions.

Inflation – An annual inflation rate of 4.0% was used in this CWP.

Construction Cost Estimates – Cost estimates for the various distribution equipment and conductor sizes are presented in Tables II-B-1 and II-B-2.

Computer Model of Distribution System – The system is modeled on Milsoft Utility Solution's Windmil analysis software. Downloading monthly billing computer data into the Windmil billing file directory was the framework for building the winter and summer models. Projected models were analyzed for Design Criteria violations.

Economic Conductor Analysis – Economic Conductor analysis includes the consideration of initial construction costs and the associated losses of the selected conductors. For two alternative conductors compared, there is generally a kW load level at which the fixed costs associated with construction plus the variable costs related to line losses are equal for both alternatives.

The following general recommendations were generated from the analysis:

1. New single phase line extensions should be constructed of #2 ACSR.
2. Conversions that are to remain single-phase should generally be constructed of #2 ACSR.
3. Converted 25 kv three-phase construction should be 1/0 ACSR for initial loads of up to 3,700 kW; 336.4 ASCR for initial loads of greater than 3,700 kW and also near substations.
4. Converted 12.5 kv three-phase construction should be 1/0 ACSR for initial loads of 2,200 kW and 336.4 ACSR for initial loads greater than 2,200 kW and also near substations.

The data tables preceeding each analysis graph lists the assumptions that were made in each scenario of the conductor analysis. This analysis appears in the Appendices of this report.

FINANCIAL DATA

- ***Cost of Capital = 5.0%***
- ***Inflation = 4.0%***
- ***Increase in Cost of Power = 2.0%***
- ***Present Worth Discount Factor = 5.0%***
- ***Depreciation = 2.88%***
- ***O & M = 4.44%***
- ***Tax & Insurance = 0.1%***

SHELBY ENERGY
TABLE III-B-1
COST SUMMARY DATA

Inflation = 4%

DESCRIPTION	Jan07-Dec-08	2010/2011	2011/2012	2012/2013	2013/2014	CWP TOTAL
New Construction (100)						
1. New services constructed	612	300	300	325	325	1250
2. Cost per Customer	$1,934	$2,091	$2,175	$2,262	$2,352	
3. Cost of New Customers	$1,183,809	$627,300	$652,392	$735,028	$764,429	$2,779,150
4. Total Footage	88,227	44,000	44,000	44,000	44,000	176,000
5. Total Mileage	16.7	8.3	8.3	8.3	8.3	33.3
New LP Construction (102)						
1. New services constructed	4	2	2	2	2	8
2. Cost per Customer	$9,237	$10,000	$10,400	$10,816	$11,249	
3. Cost of New Customers	$36,947	$20,000	$20,800	$21,632	$22,497	$84,929
4. Total Mileage		0.2	0.2	0.2	0.2	0.7
Padmount Transformers (601)						
1. New transformers added	45	20	20	20	20	80
2. Cost per Transformer	$2,123	$2,500	$2,600	$2,704	$2,812	
3. Cost of New Transformers	$95,541	$50,000	$52,000	$54,080	$56,243	$212,323
3 PH Padmount Transformers (601)						
1. New transformers added	5	1	1	2	2	6
2. Cost per Transformer	$14,817	$16,000	$16,640	$17,306	$17,998	
3. Cost of New Transformers	$74,085	$16,000	$16,640	$34,611	$35,996	$103,247
New OH Transformers (601)						
1. New transformers added	488	225	225	250	250	950
2. Cost per Transformer	$858	$950	$988	$1,028	$1,069	
3. Cost of New Transformers	$418,685	$213,750	$222,300	$256,880	$267,155	$960,085
New Meters (601)*						
1. New Meters added	1208	300	300	325	325	1250
2. Cost per Meter	$45	$105	$109	$114	$118	
3. Cost of New Meters	$54,569	$31,500	$32,760	$36,910	$38,386	$139,556
New LP Meters (601)						
1. New Meters added	24	12	12	12	12	48
2. Cost per Meter	$255	$320	$333	$346	$360	
3. Cost of New Meters	$6,125	$3,840	$3,994	$4,153	$4,319	$16,306
Service Upgrades (602)						
1. Number of Service Upgrades	87	44	44	44	44	176
2. Cost per Service Upgrade	$2,708	$2,930	$3,047	$3,169	$3,296	
3. Cost of Service Upgrades	$235,596	$128,920	$134,077	$139,440	$145,017	$547,454
Pole Changes - Replacement (606)						
1. Poles Changed	234	117	117	117	117	468
2. Cost per Pole Change	$2,021	$2,185	$2,272	$2,363	$2,458	
3. Cost of Pole Changes	$472,968	$255,645	$265,871	$276,506	$287,566	$1,085,587
Miscellaneous - Replacement (607)#						
1. Cost of Misc. Replacements		$100,000	$100,000	$100,000	$100,000	$400,000
Conductor Replacement (608)						
1. Miles of small conductor to be replaced		20	20	20	20	80
2. Cost per mile		$36,650	$38,115	$39,640	$41,225	
3. Total cost of conductor replacement		$733,000	$762,300	$792,792	$824,504	$3,112,596
Outdoor Lighting (701)						
1. New Security Lights Added	274	137	137	137	137	548
2. Cost per Security Light	$503	$544	$566	$588	$612	
3. Cost of Security Lights	$137,730	$74,528	$77,509	$80,609	$83,834	$316,480

*-An amendment is being prepared to convert the entire system to AMR.

#-607 Historical Data is not available. Current projects were coded as 1600.

PROPOSED CONSTRUCTION ITEMS

SERVICE TO NEW CUSTOMERS – RUS CODE 100

A total of 1,258 new services are anticipated. The projected cost is $2,864,078.

Cost history and projections are shown in Table III-B-1.

SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

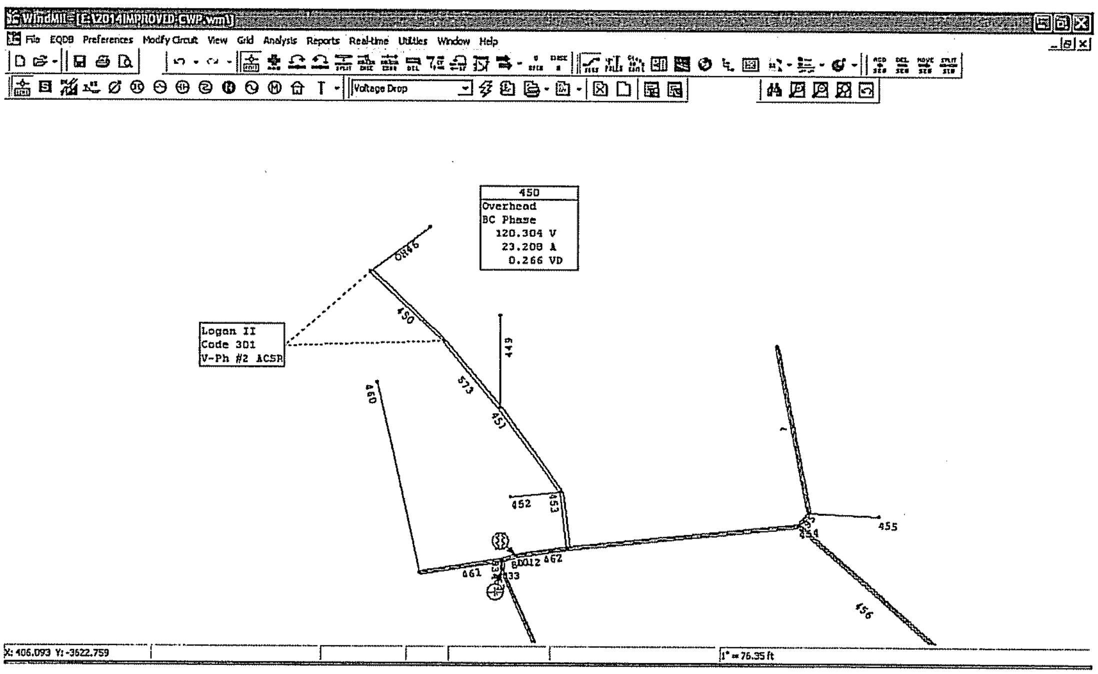
Logan II Substation
Code 301
Estimated Cost: $27,910
Year: 2010

Description of Proposed Construction
Section 450 - Convert 0.5 mile of single-phase #2 ACSR to V-phase #2 ACSR along Dover Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

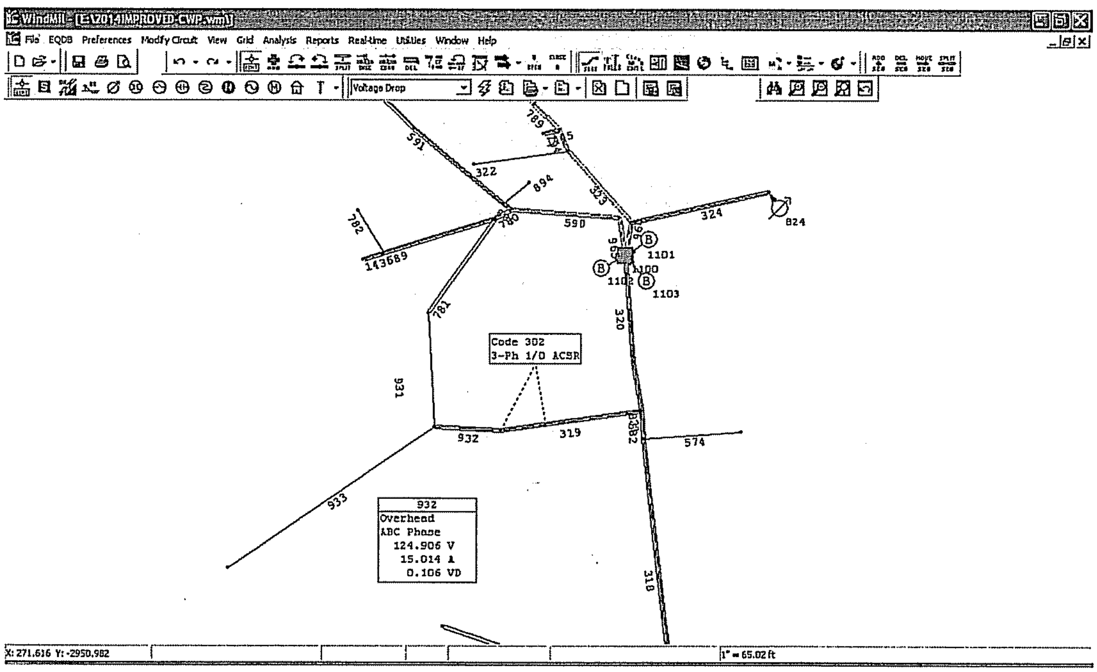
Jericho Substation
Code 302
Estimated Cost: $149,169
Year: 2010

Description of Proposed Construction
Sections 319 & 932 - Convert 1.9 miles of single-phase #4 ACSR to 3-phase 1/0 ACSR along Radcliff Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

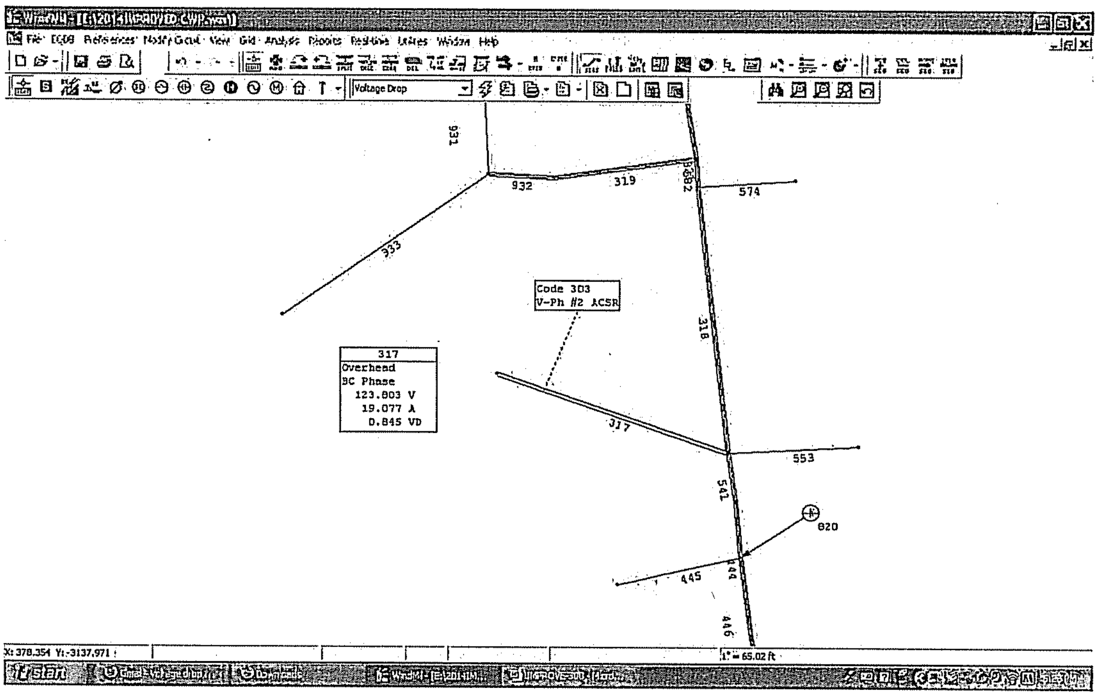
Jericho Substation
Code 303
Estimated Cost: $106,743
Year: 2013

Description of Proposed Construction
Section 317 - Convert 1.7 miles of single-phase #4 ACSR to V-phase #2 ACSR along Ballardsville Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
This is a radial tap so no viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

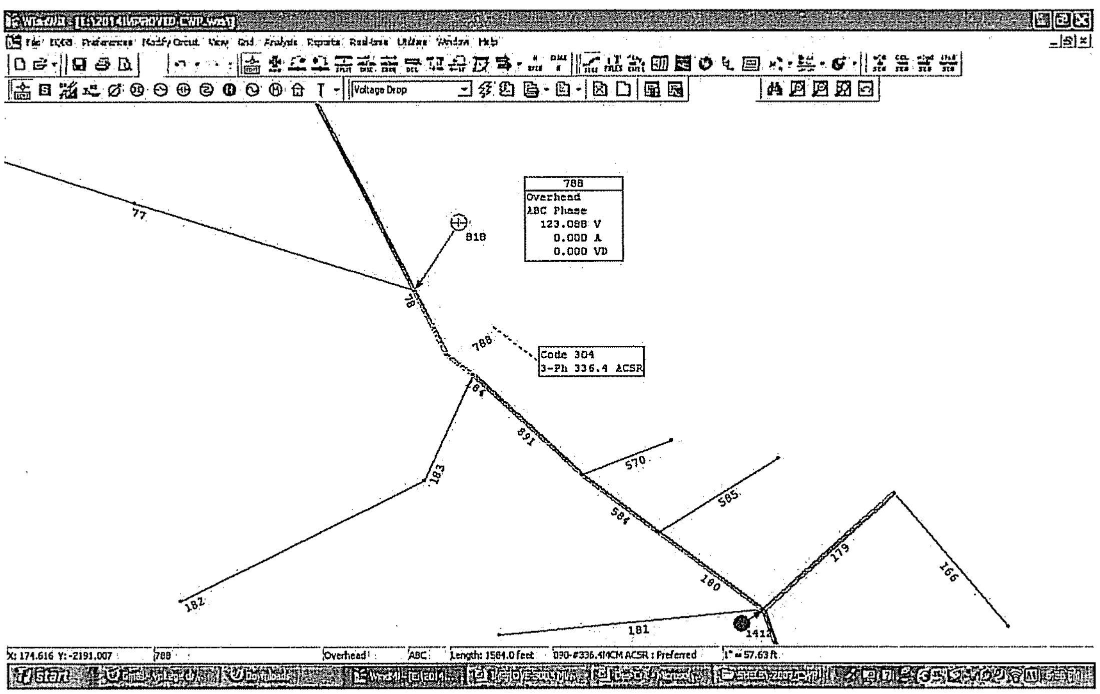
Jericho Substation
Code 304
Estimated Cost: $39,489
Year: 2014

Description of Proposed Construction
Section 788 - Convert 0.3 mile of three-phase #4 ACSR to three-phase 336.4 ACSR from Hwy 42 to Martini Lane.

Reason For Proposed Construction
Design Criteria 6 is being violated. An important tie between two substations is in poor condition.

Results of Proposed Construction
Reliability and primary voltage levels will be improved.

Alternative Corrective Plan Investigated
No alternatives were considered due to the condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

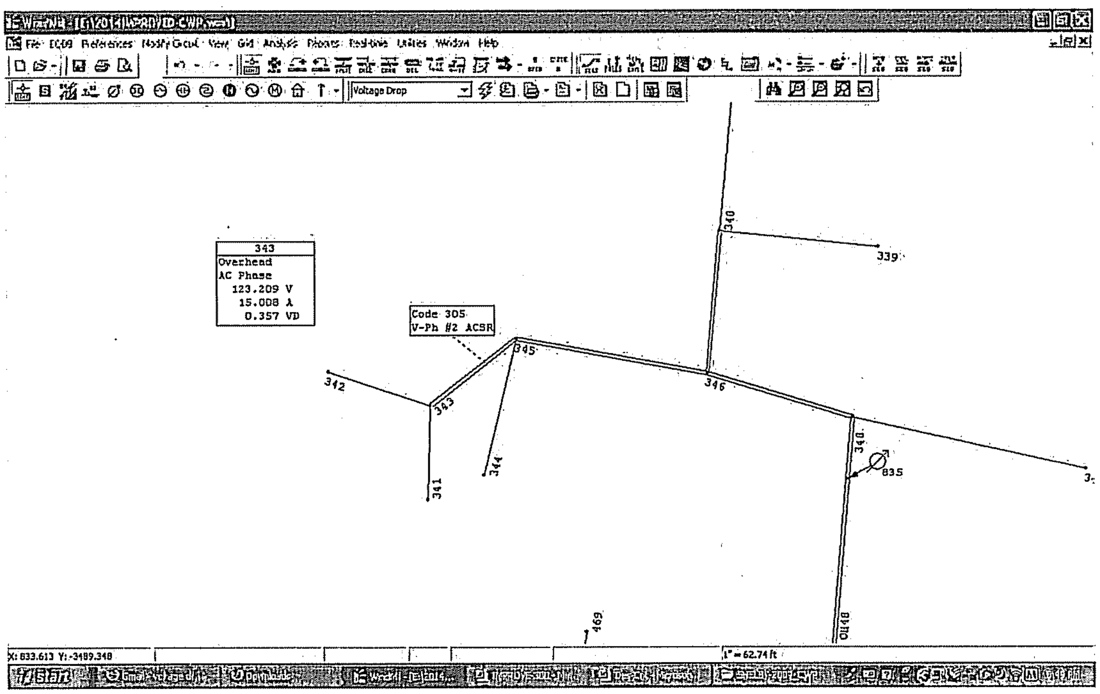
Clayvillage Substation
Code 305
Estimated Cost: $50,238
Year: 2010

Description of Proposed Construction
Section 343 - Convert 0.9 mile of single-phase #4 ACSR to V-phase #2 ACSR at Booker Lane.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
This is a radial tap so no viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

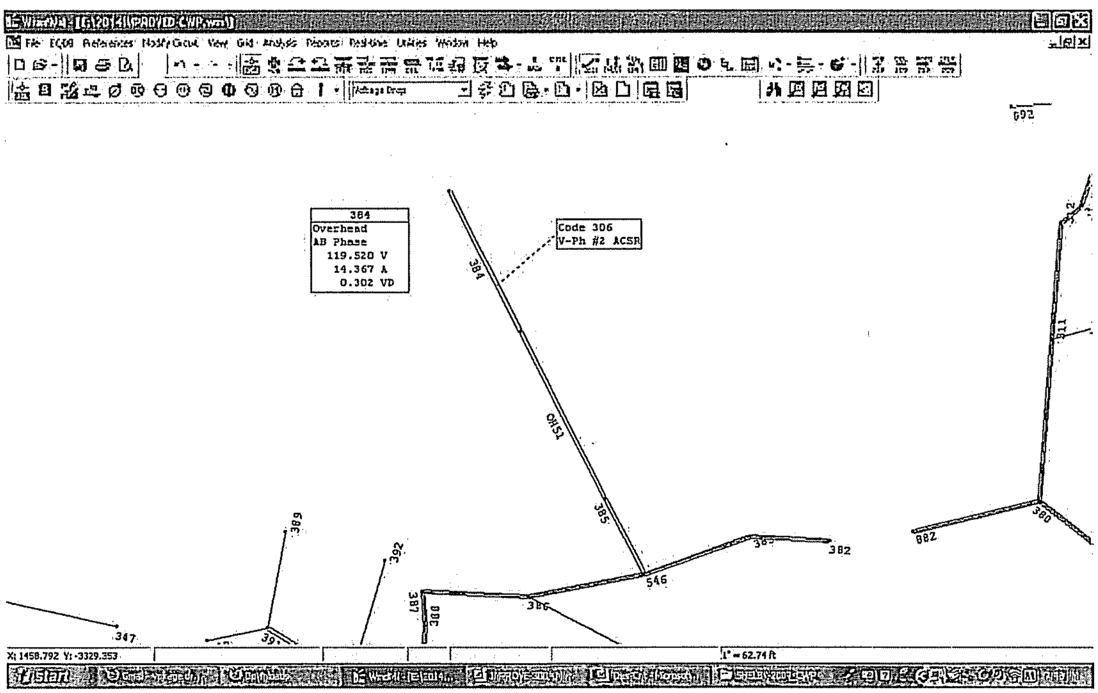
Clayvillage Substation
Code 306
Estimated Cost: $83,730
Year: 2010

Description of Proposed Construction
Section 384 - Convert 1.5 miles of single-phase #4 ACSR to V-phase #2 ACSR at Cropper Road to Maddox.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
This is a radial tap so no viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

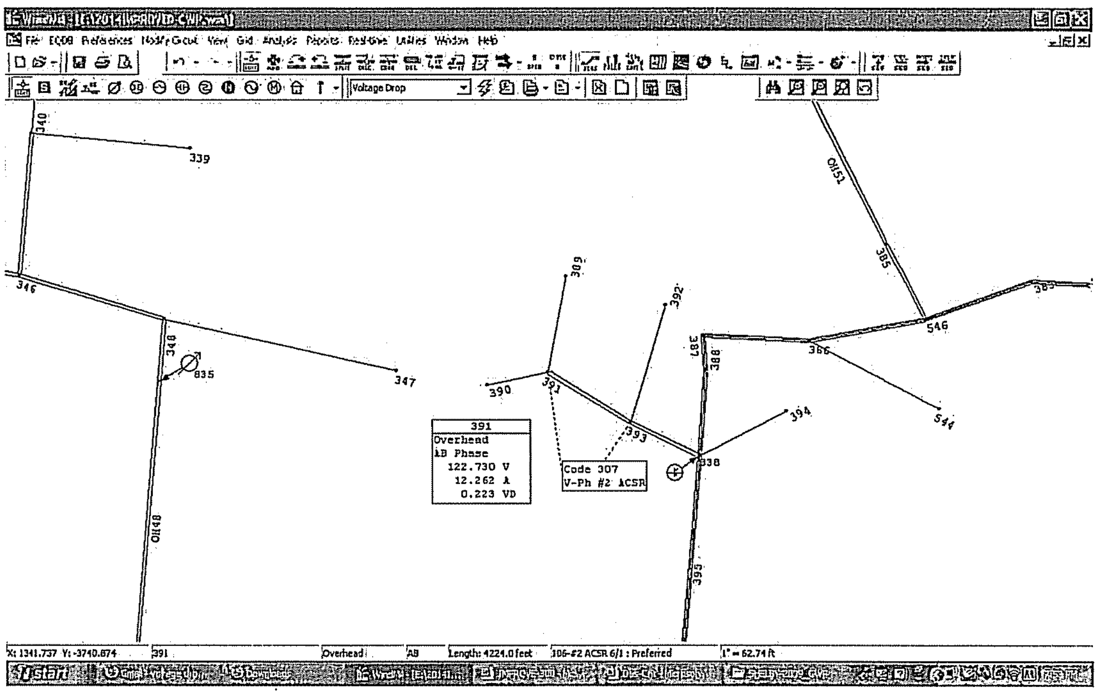
Clayvillage Substation
Code 307
Estimated Cost: $44,656
Year: 2010

Description of Proposed Construction
Section 391 - Convert 0.8 mile of single-phase #4 ACSR to V-phase #2 ACSR at Christianburg Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

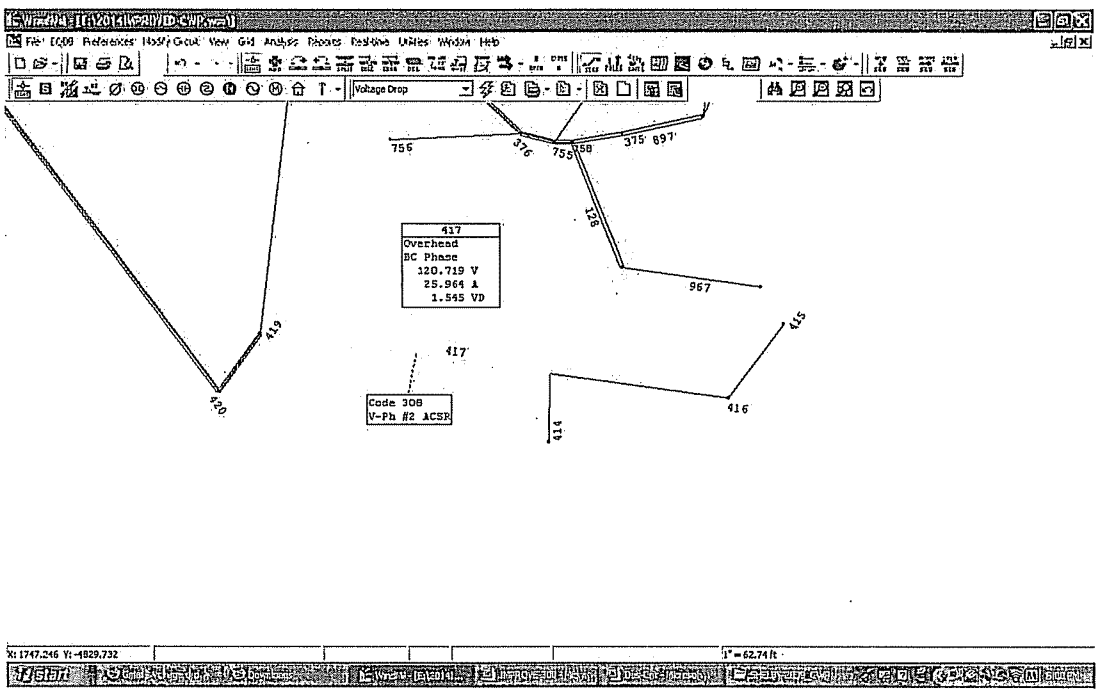
Clayvillage Substation
Code 308
Estimated Cost: $145,125
Year: 2011

Description of Proposed Construction
Section 417 - Convert 2.5 miles of single-phase #2 ACSR to V-phase #2 ACSR at Bardstown Trail.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

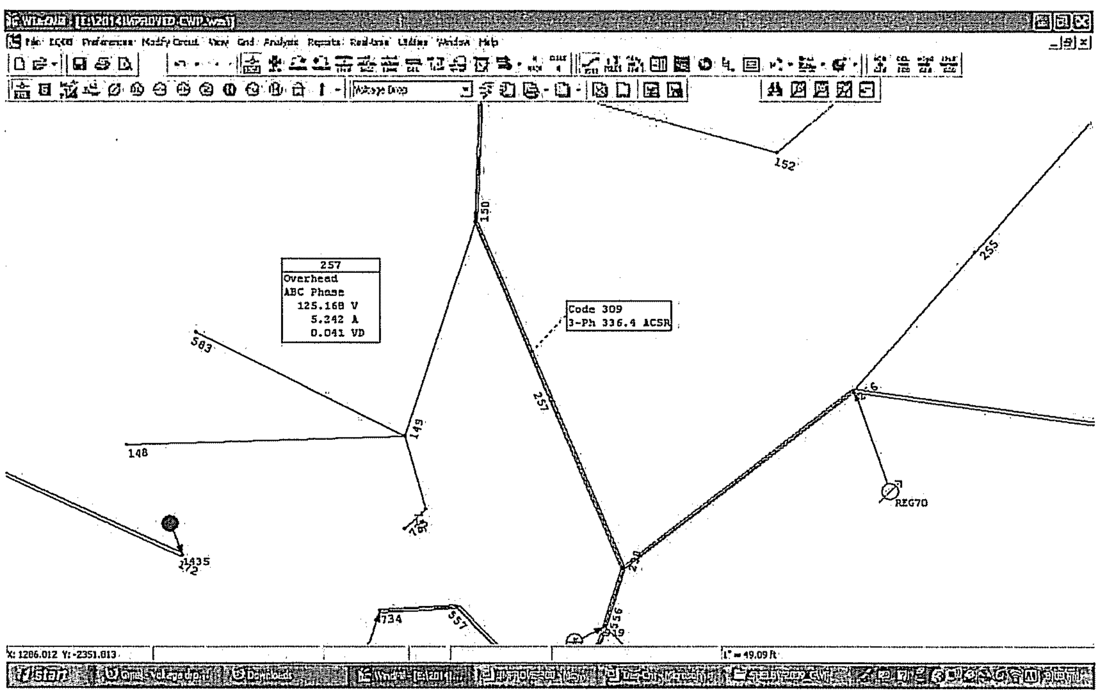
New Castle Substation
Code 309
Estimated Cost: $231,230
Year: 2012

Description of Proposed Construction
Section 257 - Convert 1.9 miles of three-phase #2 Copper to three-phase 336.4 ACSR at Batts Lane.

Reason For Proposed Construction
Design Criteria 6 is being violated. An important tie between two substations is in poor condition.

Results of Proposed Construction
Reliability and primary voltage levels will be improved.

Alternative Corrective Plan Investigated
No alternatives were considered due to the condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

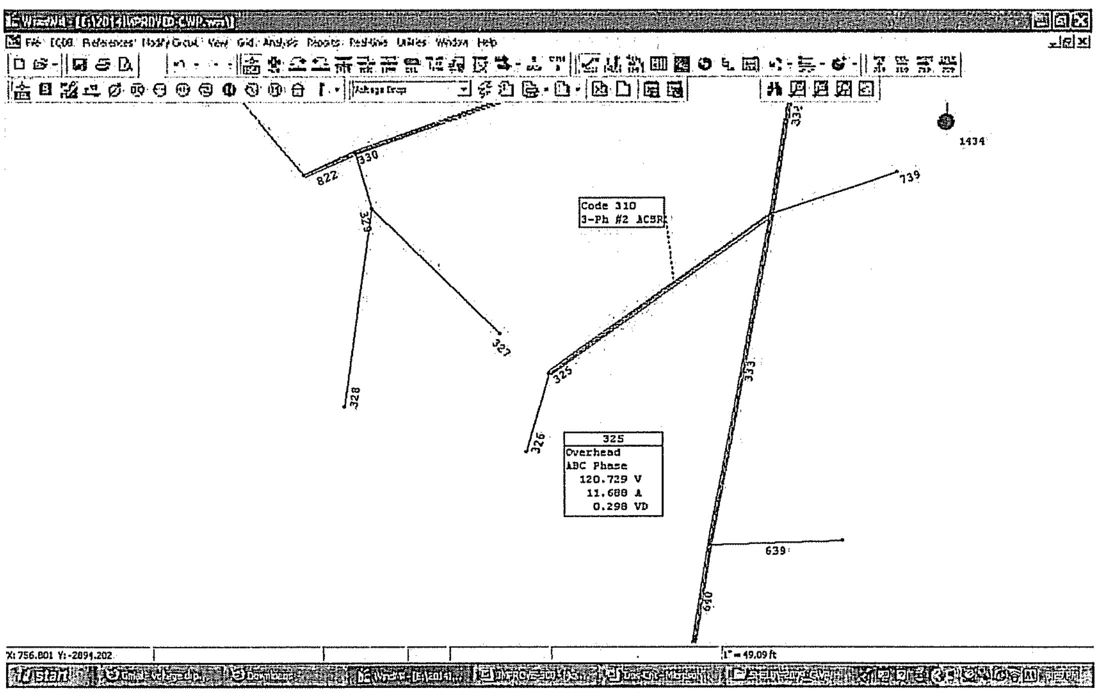
New Castle Substation
Code 310
Estimated Cost: $137,124
Year: 2012

Description of Proposed Construction
Section 325 - Convert 1.8 miles of three-phase #4 ACSR to three-phase #2 ACSR at Sunnyside Road.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Reliability and primary voltage levels will be improved.

Alternative Corrective Plan Investigated
No alternatives were considered due to the condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

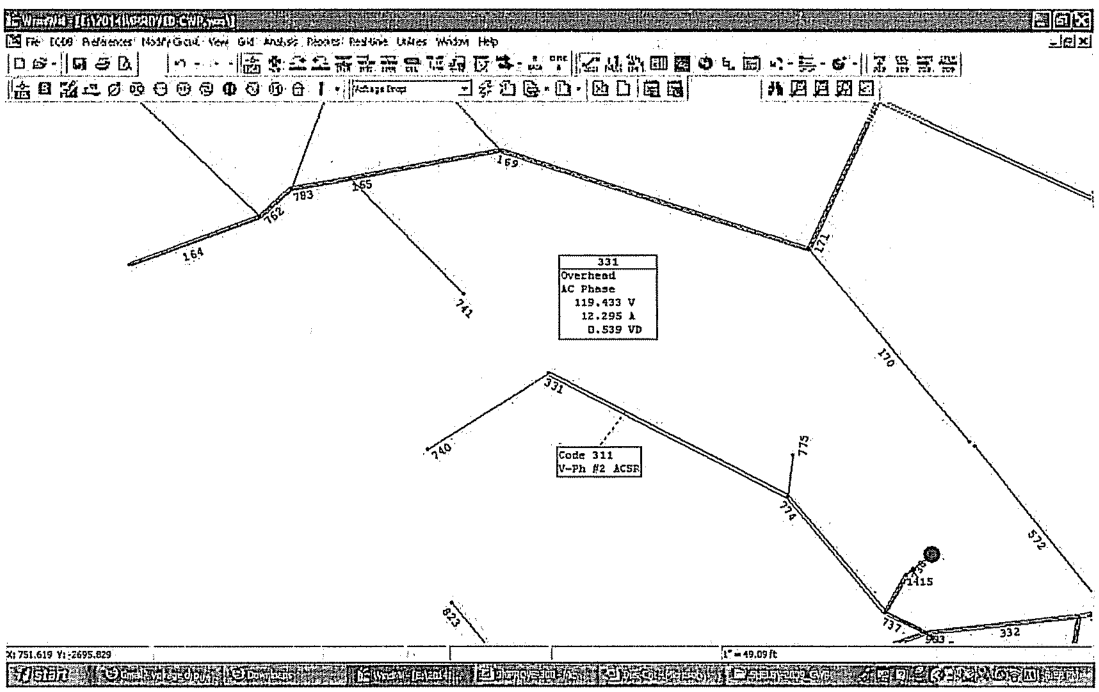
New Castle Substation
Code 311
Estimated Cost: $5,805
Year: 2012

Description of Proposed Construction
Section 331 - Convert 0.1 mile of single-phase #4 ACSR to V-phase #2 ACSR at LaGrange Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

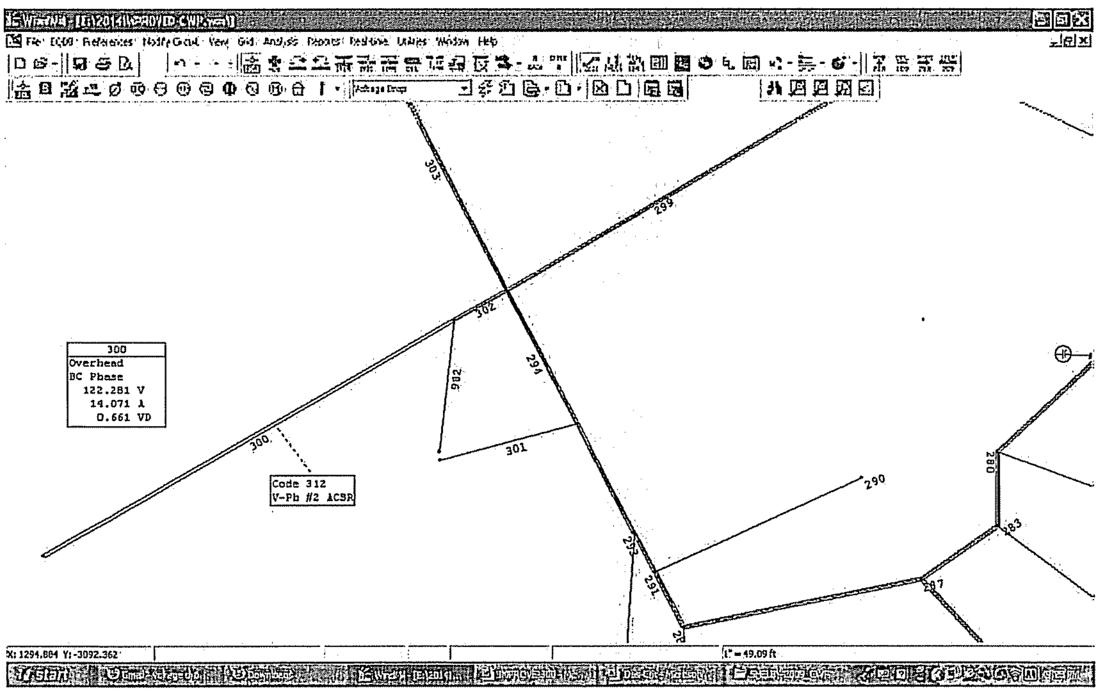
New Castle Substation
Code 312
Estimated Cost: $75,465
Year: 2011

Description of Proposed Construction
Sections 300 & 302 - Convert 1.3 miles of single-phase #2 ACSR to V-phase #2 ACSR at S. Property Road to Hwy 421.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

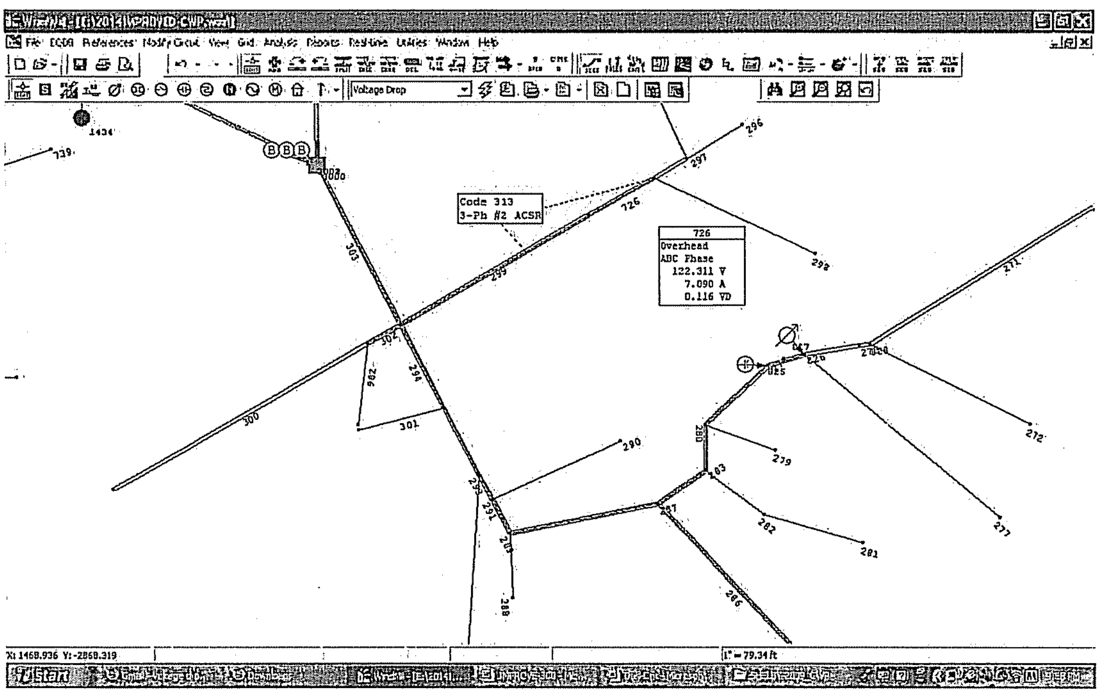
New Castle Substation
Code 313
Estimated Cost: $245,613
Year: 2012

Description of Proposed Construction
Sections 299 & 726 - Convert 3.1 miles of single-phase #2 ACSR to three-phase #2 ACSR at Point Pleasant.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

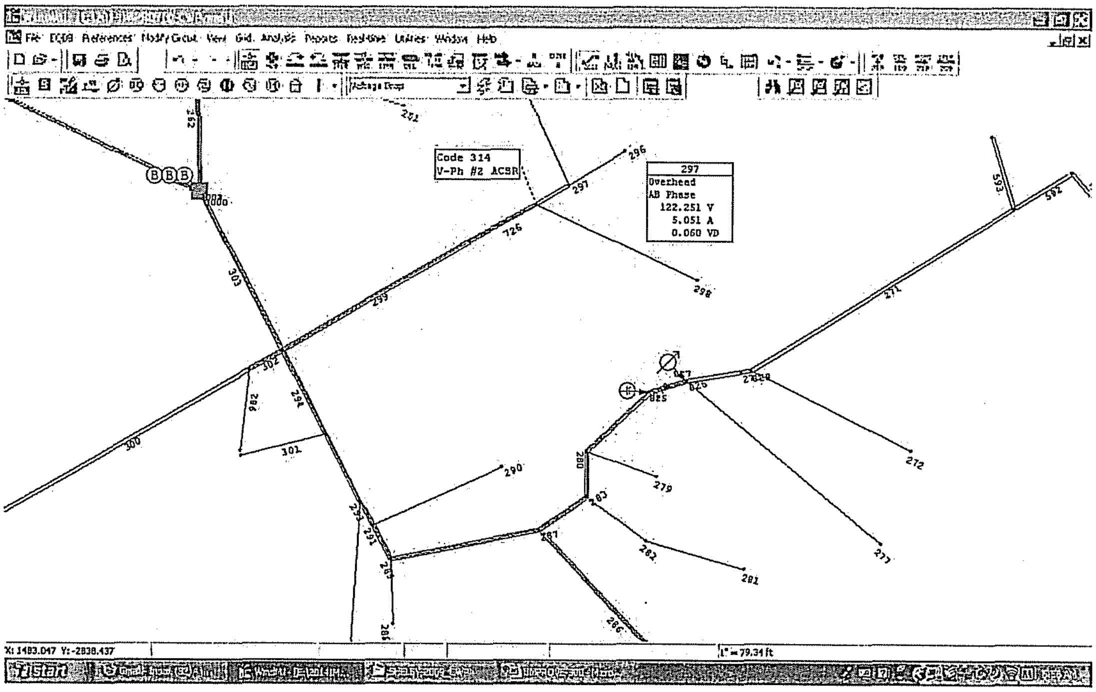
New Castle Substation
Code 314
Estimated Cost: $24,150
Year: 2012

Description of Proposed Construction
Section 297 - Convert 0.4 mile of single-phase #4 ACSR to three-phase #2 ACSR at Point Pleasant.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

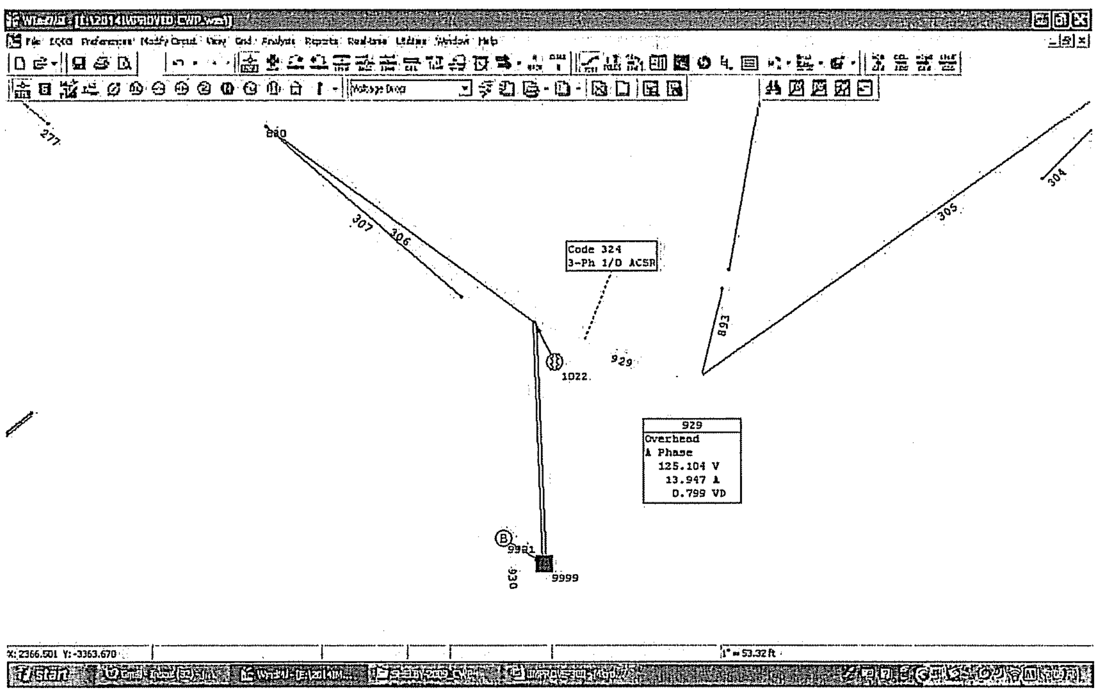
New Castle Substation - CARRYOVER
Code 324
Estimated Cost: $321,360
Year: 2013

Description of Proposed Construction
Sections 306, 308, 929 & 830 - Convert 3.9 miles of single-phase #4 ACSR to three-phase 1/0 ACSR at Raisor Lane.

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated. A long feed from Bluegrass will be eliminated except for an emergency tie.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop issues will be corrected.

Alternative Corrective Plan Investigated
No alternatives were available due to the aged conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

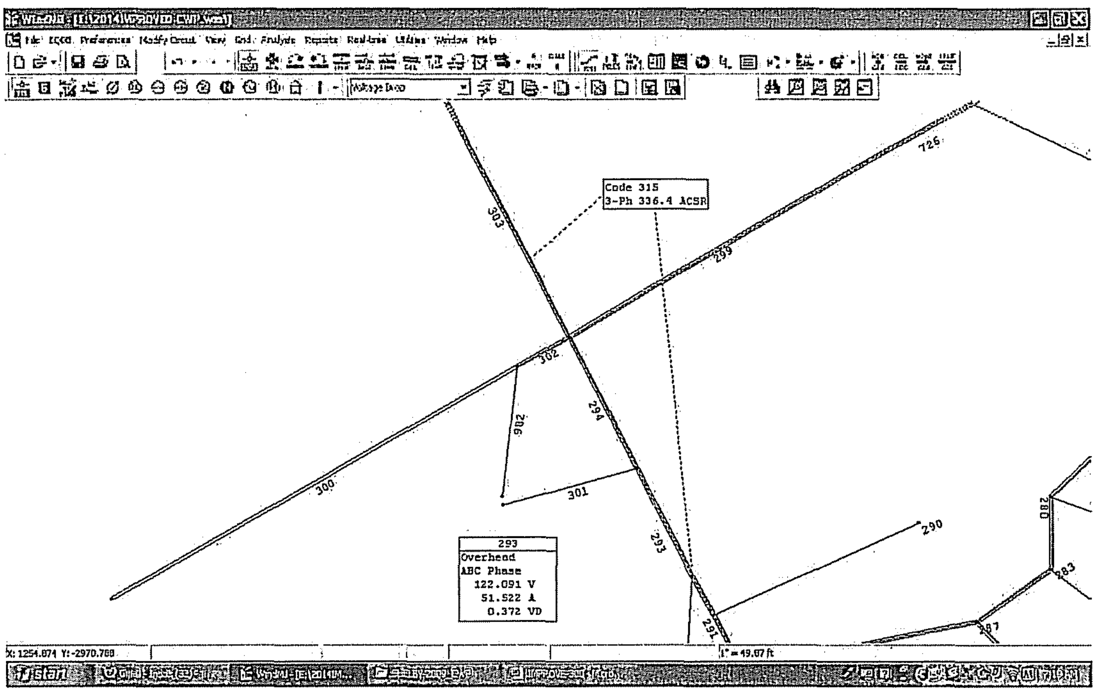
New Castle Substation
Code 315
Estimated Cost: $468,309
Year: 2012

Description of Proposed Construction
Sections 303, 294 and 293 - Convert 3.7 miles of three-phase 1/0 ACSR to three-phase 336.4 ACSR at F2 South Property Road.

Reason For Proposed Construction
Design Criteria 1 is being violated. A long feed from Bluegrass Energy will be eliminated except for an emergency tie.

Results of Proposed Construction
Voltage drop issues will be corrected.

Alternative Corrective Plan Investigated
No alternatives were available due to long the distance to other sources.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

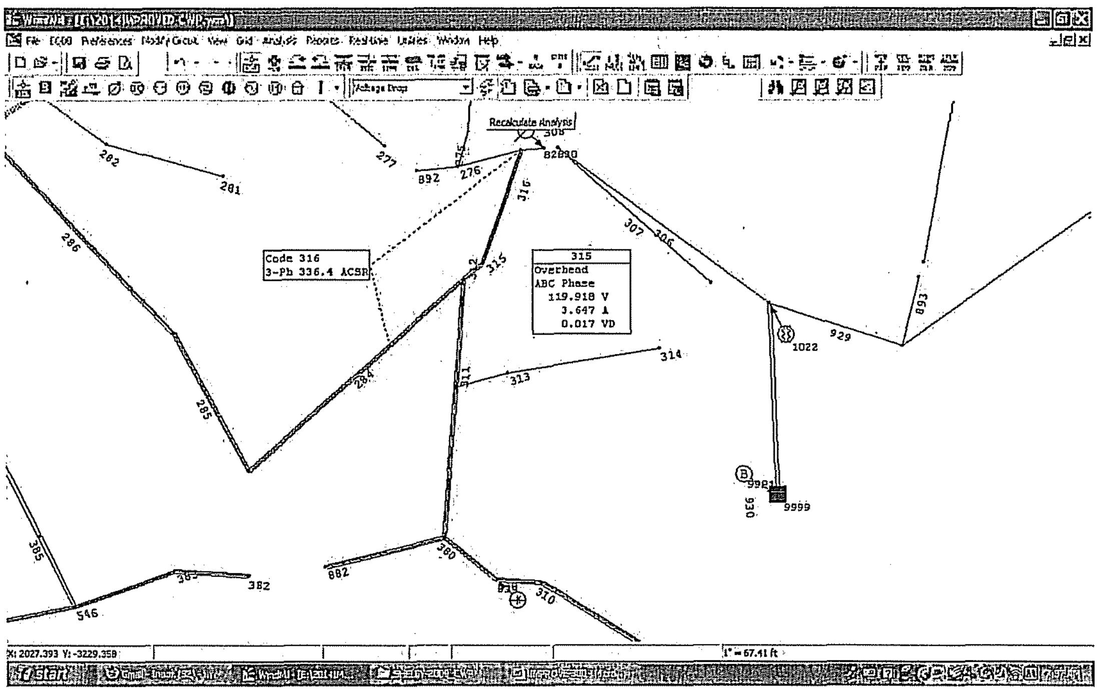
New Castle Substation
Code 316
Estimated Cost: $397,868
Year: 2010

Description of Proposed Construction
Sections 284, 312, 315 and 316 - Convert 3.4 miles of three-phase #4 ACWC to three-phase 336.4 ACSR at HWY 421 and Union Church Road.

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop issues will be corrected.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

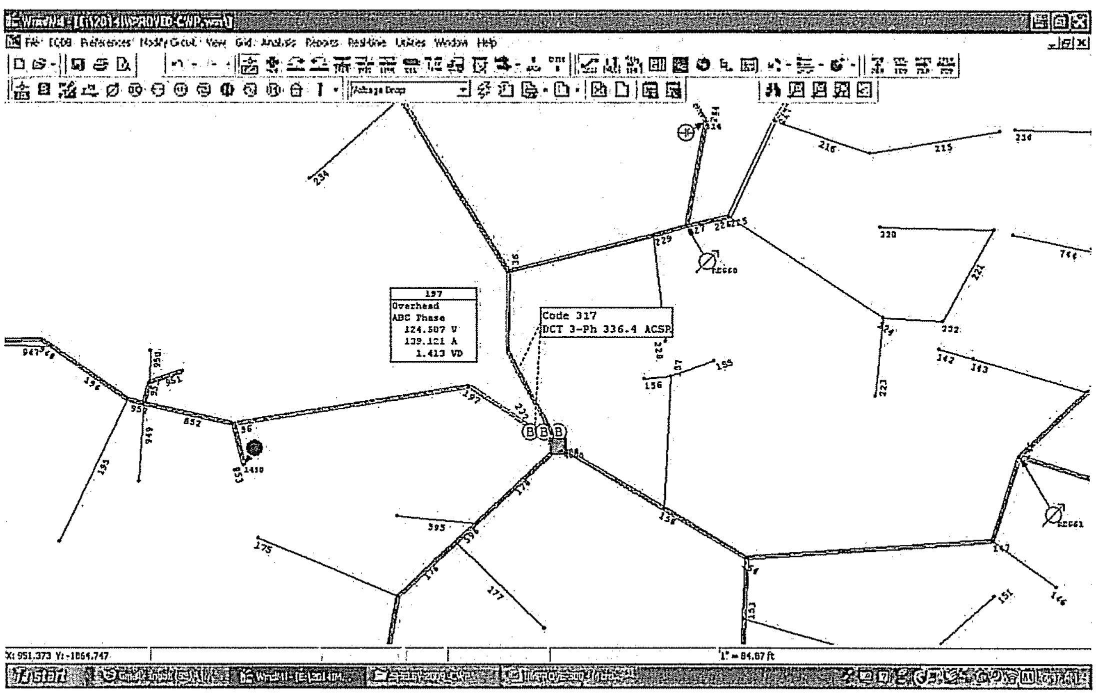
Campbellsburg Substation
Code 317
Estimated Cost: $261,600
Year: 2012

Description of Proposed Construction
Sections 237 and 197 - Convert 1.2 miles of three-phase 1/0 CU to Double Circuit, three-phase 336.4 ACSR at HWY 55.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

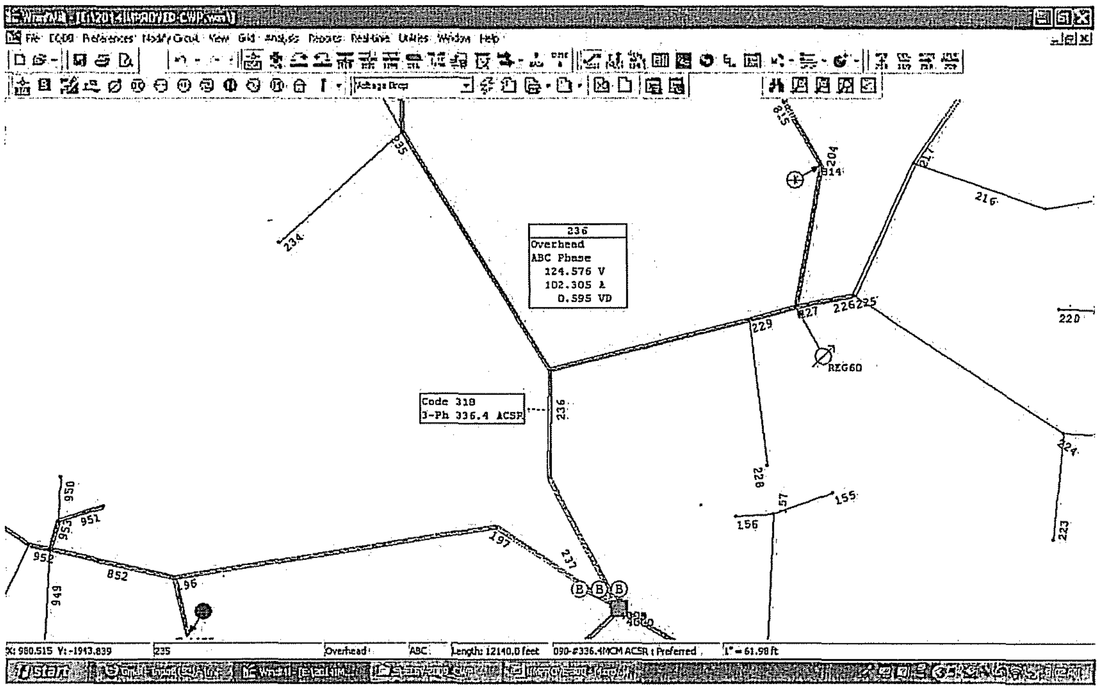
Campbellsburg Substation
Code 318
Estimated Cost: $118,467
Year: 2014

Description of Proposed Construction
Section 236 - Convert 0.9 miles of three-phase 1/0 CU to three-phase 336.4 ACSR at HWY 55 to Munfort Lane.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

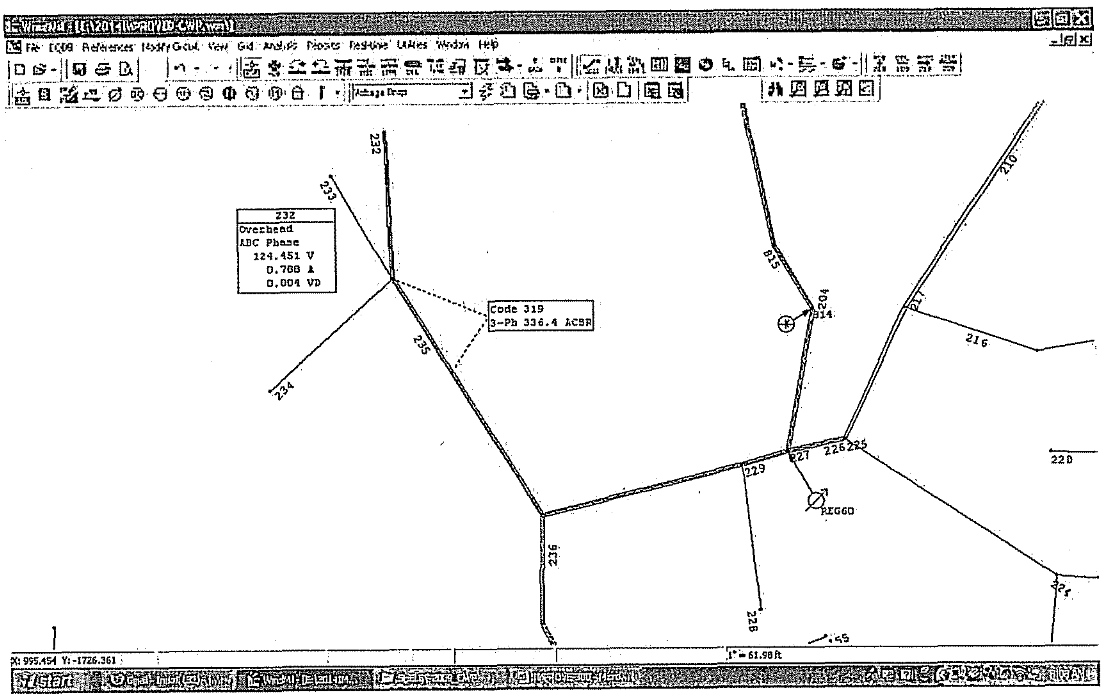
Campbellsburg Substation
Code 319
Estimated Cost: $460,705
Year: 2014

Description of Proposed Construction
Sections 232 and 235- Convert 3.5 miles of three-phase #2 CU to three-phase 336.4 ACSR at Jones Lane.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

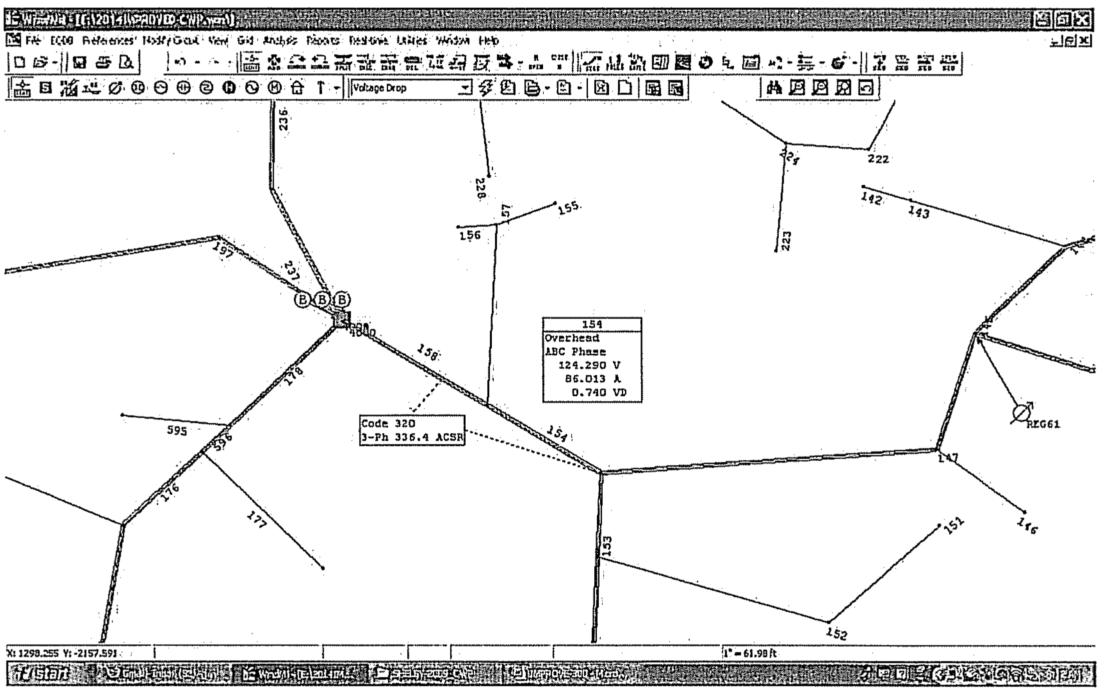
Campbellsburg Substation
Code 320
Estimated Cost: $292,550
Year: 2010

Description of Proposed Construction
Sections 154 and 158- Convert 2.5 miles of three-phase #2 CU to three-phase 336.4 ACSR at Orem Lane.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

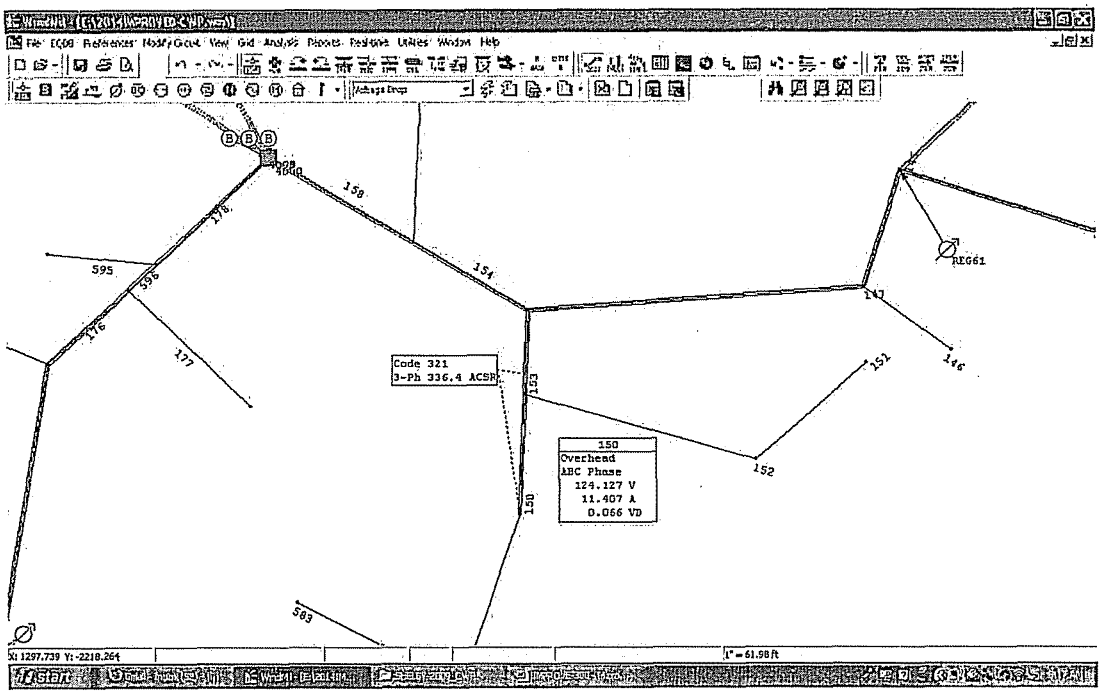
Campbellsburg Substation
Code 321
Estimated Cost: $206,890
Year: 2011

Description of Proposed Construction
Sections 150 and 153 – Convert 1.7 miles of three-phase #2 CU to three-phase 336.4 ACSR at Hwy 193.

Reason For Proposed Construction
Design Criteria 6 is being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

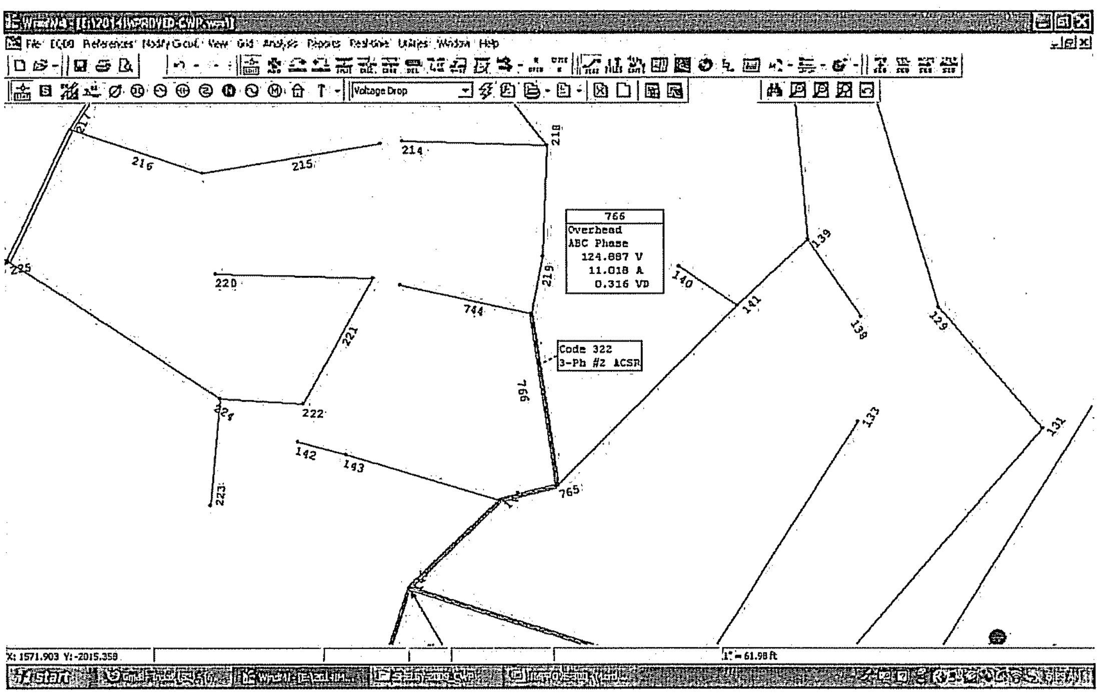
Campbellsburg Substation
Code 322
Estimated Cost: $106,652
Year: 2011

Description of Proposed Construction
Section 766 – Convert 1.4 miles of single-phase #2 ACSR to three-phase #2 ACSR at Vance Road.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Current overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

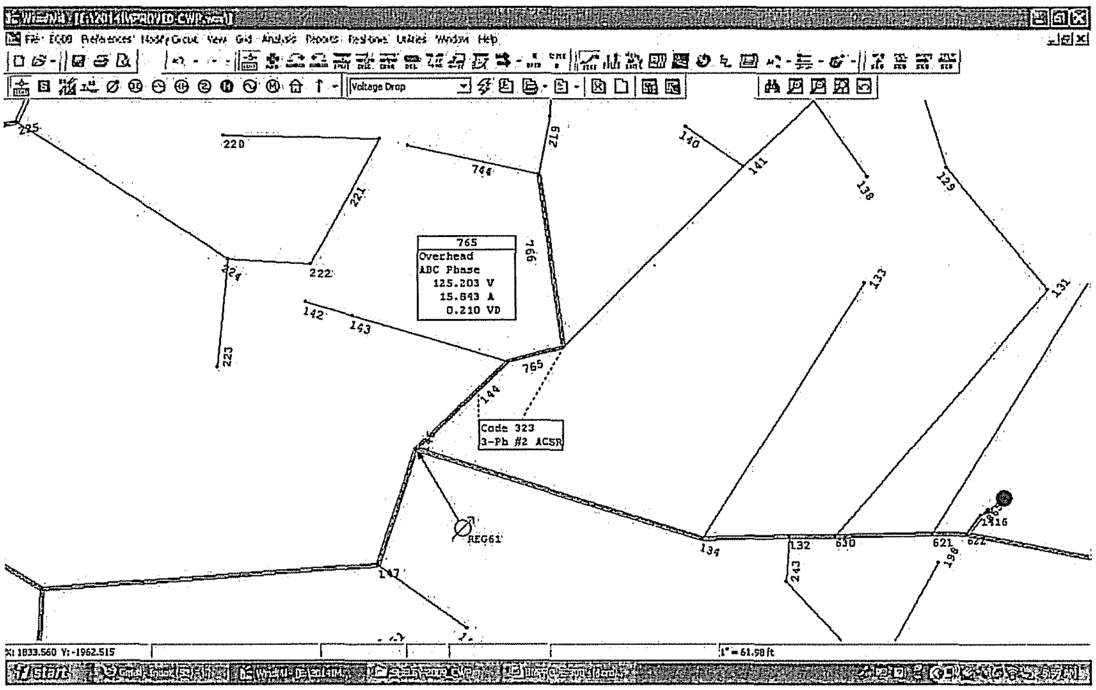
Campbellsburg Substation
Code 323
Estimated Cost: $118,845
Year: 2012

Description of Proposed Construction
Sections 765 and 144 – Convert 1.5 miles of V-phase #2 ACSR to three-phase #2 ACSR at Maddox Ridge.

Reason For Proposed Construction
Design Criteria 1 and 4 are being violated.

Results of Proposed Construction
Current overloading and voltage drop problems will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

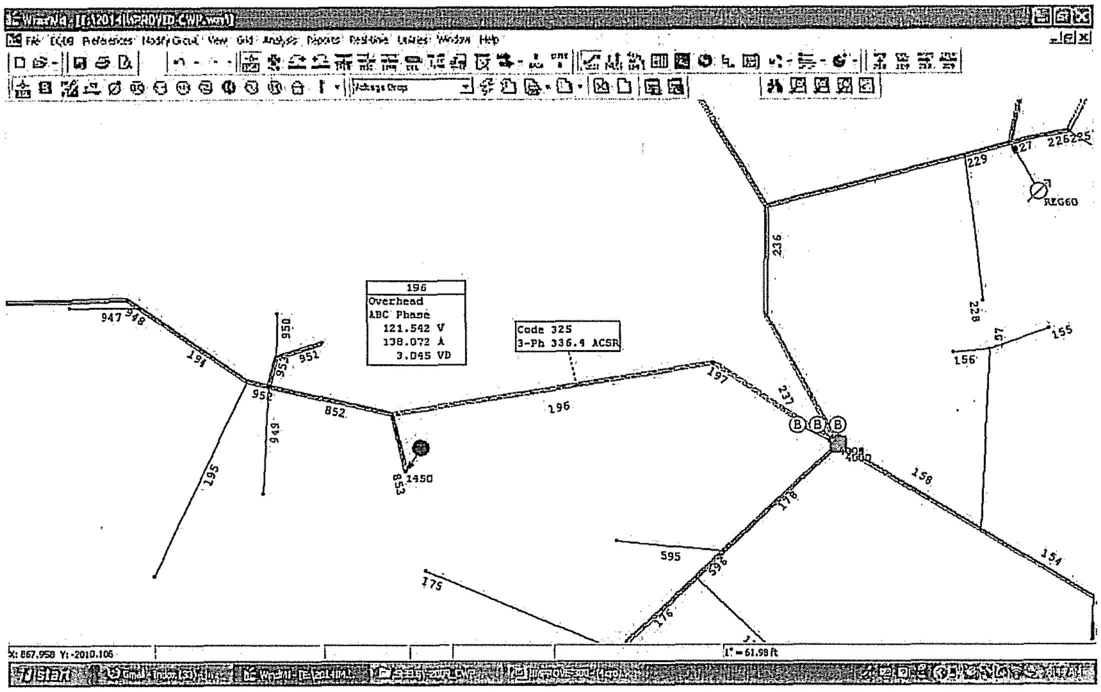
Campbellsburg Substation
Code 325
Estimated Cost: $328,590
Year: 2011

Description of Proposed Construction
Section 196 – Convert 2.7 miles of three-phase #2 CU to three-phase 336.4 ACSR at Lake Road to Industrial Park.

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

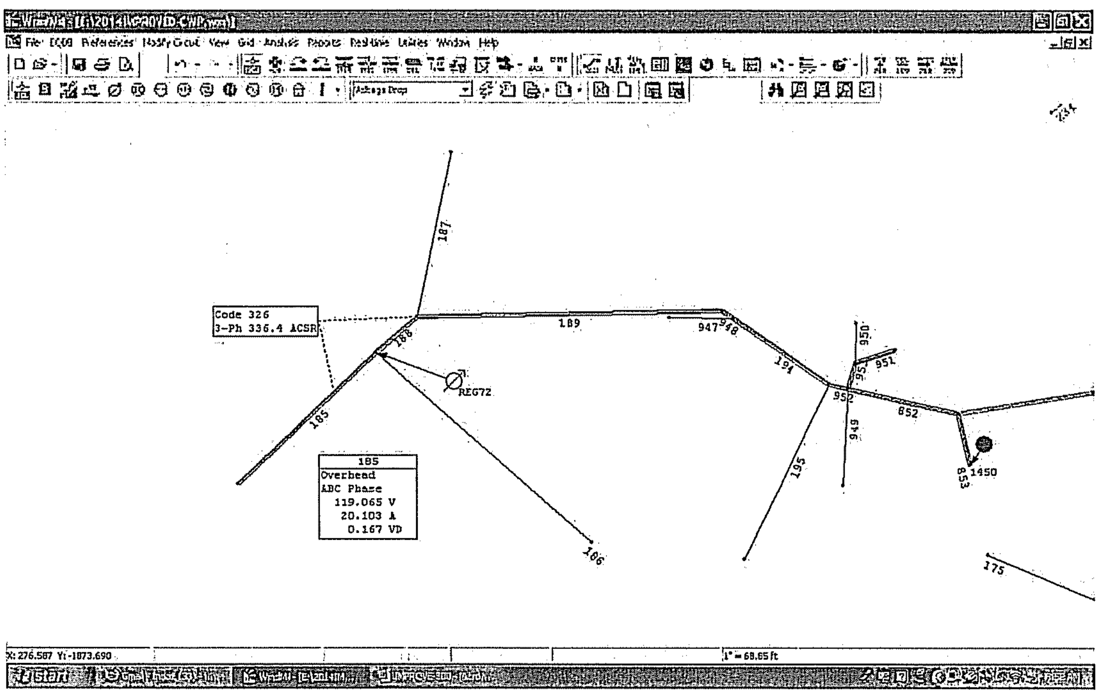
Campbellsburg Substation
Code 326
Estimated Cost: $645,507
Year: 2012

Description of Proposed Construction
Sections 188 and 185 – Convert 5.1 miles of three-phase #4 ACSR to three-phase 336.4 ACSR at Martini Lane back to Jericho Tie point.

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated.

Results of Proposed Construction
Aged conductor will be replaced. Voltage drop and reliability will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

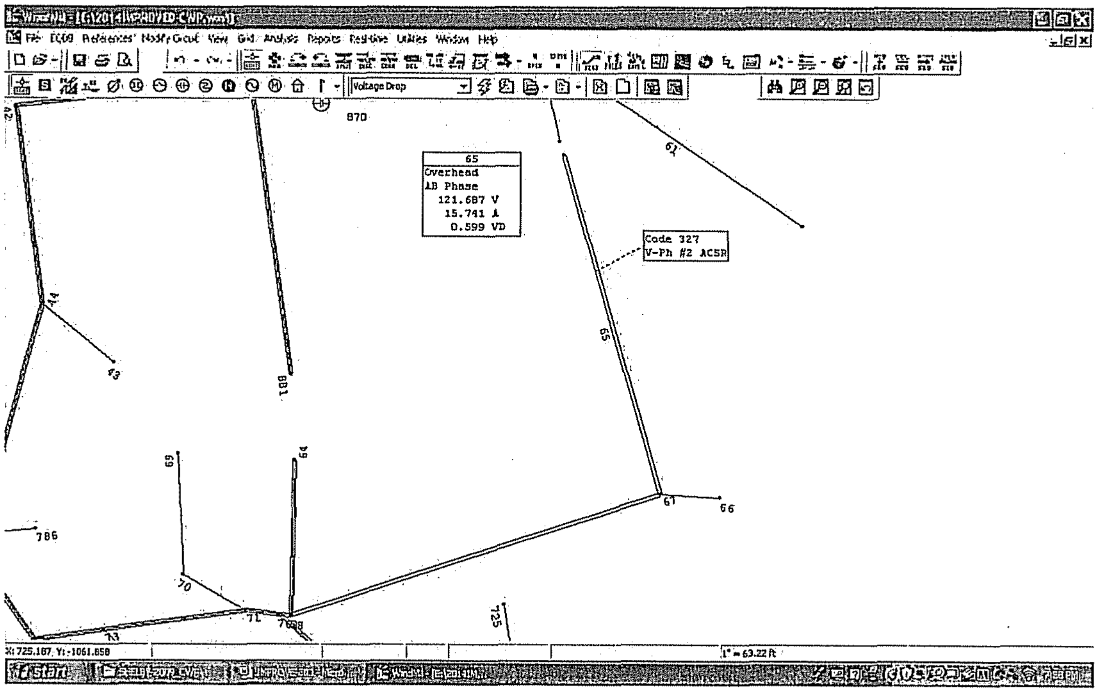
Bedford Substation
Code 327
Estimated Cost: $139,550
Year: 2010

Description of Proposed Construction
Section 65 – Convert 2.5 miles of single-phase #2 ACSR to V-phase #2 ACSR at Harbor Point.

Reason For Proposed Construction
Design Criteria 1 and 4 are being violated.

Results of Proposed Construction
Current overloading and voltage drop problems will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

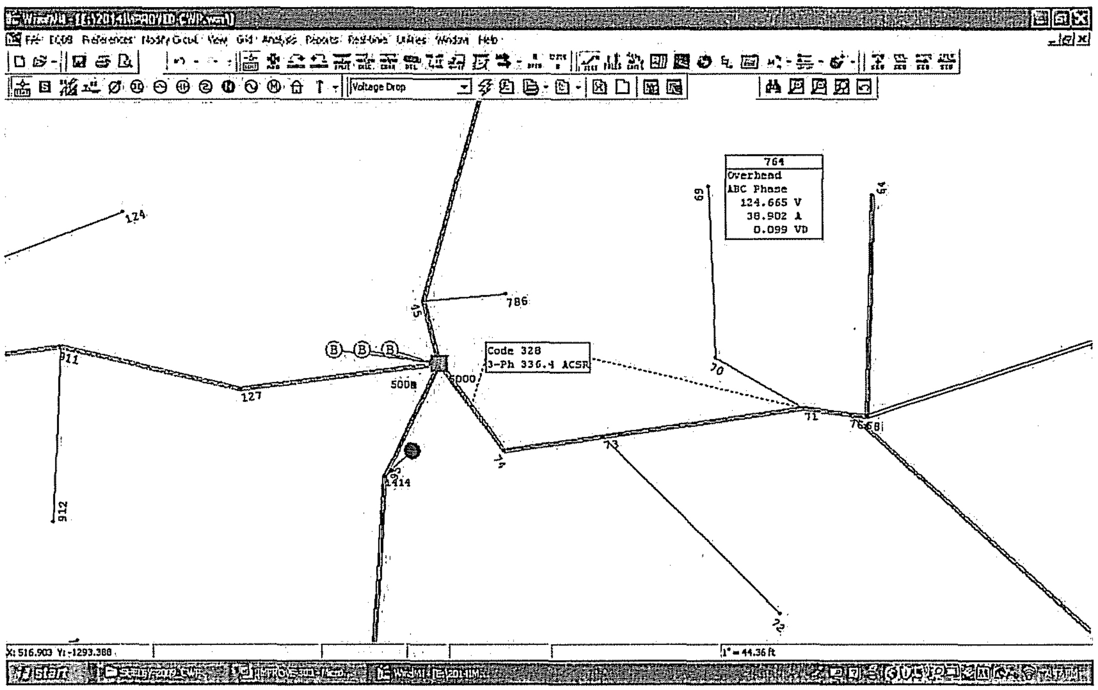
Bedford Substation
Code 328
Estimated Cost: $339,358
Year: 2010

Description of Proposed Construction
Sections 74, 73, 71 and 764 – Convert 2.9 miles of three-phase #2 CU to three-phase 336.4 ACSR at F2 SLAB.

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

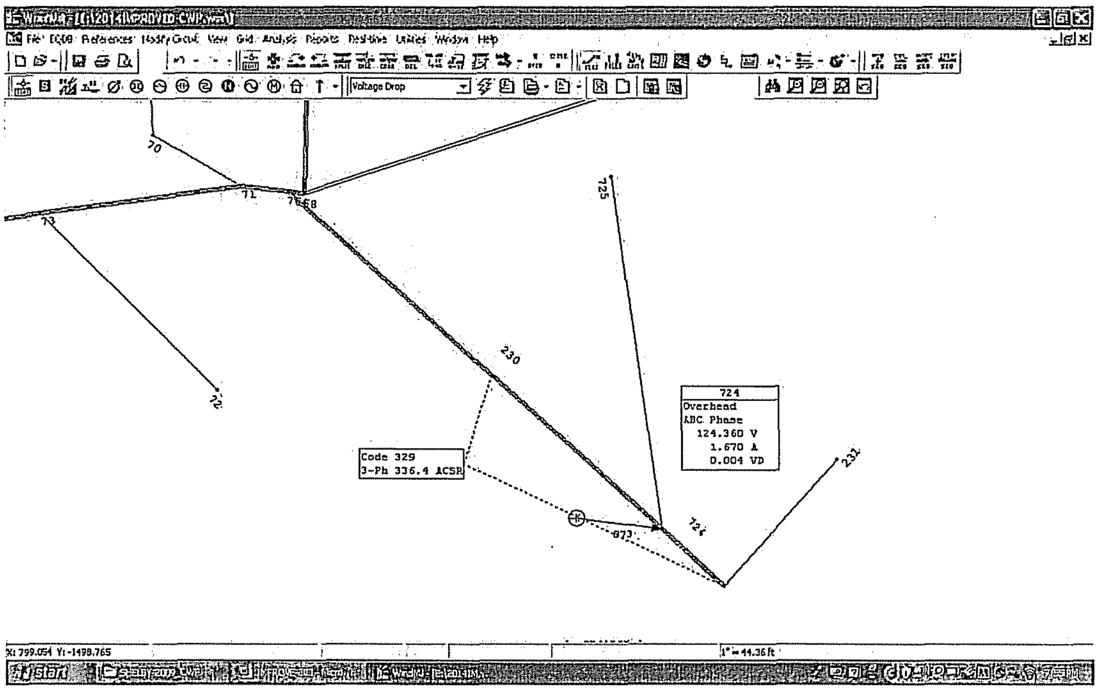
Bedford Substation
Code 329
Estimated Cost: $460,705
Year: 2014

Description of Proposed Construction
Sections 230 and 724 – Convert 3.5 miles of three-phase #2 CU to three-phase 336.4 ACSR at Hwy 316 (SLAB to Providence).

Reason For Proposed Construction
Design Criteria 1 and 6 are being violated.

Results of Proposed Construction
Aged conductor will be replaced and voltage drop will be improved.

Alternative Corrective Plan Investigated
No alternatives were available due to condition of the conductor.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

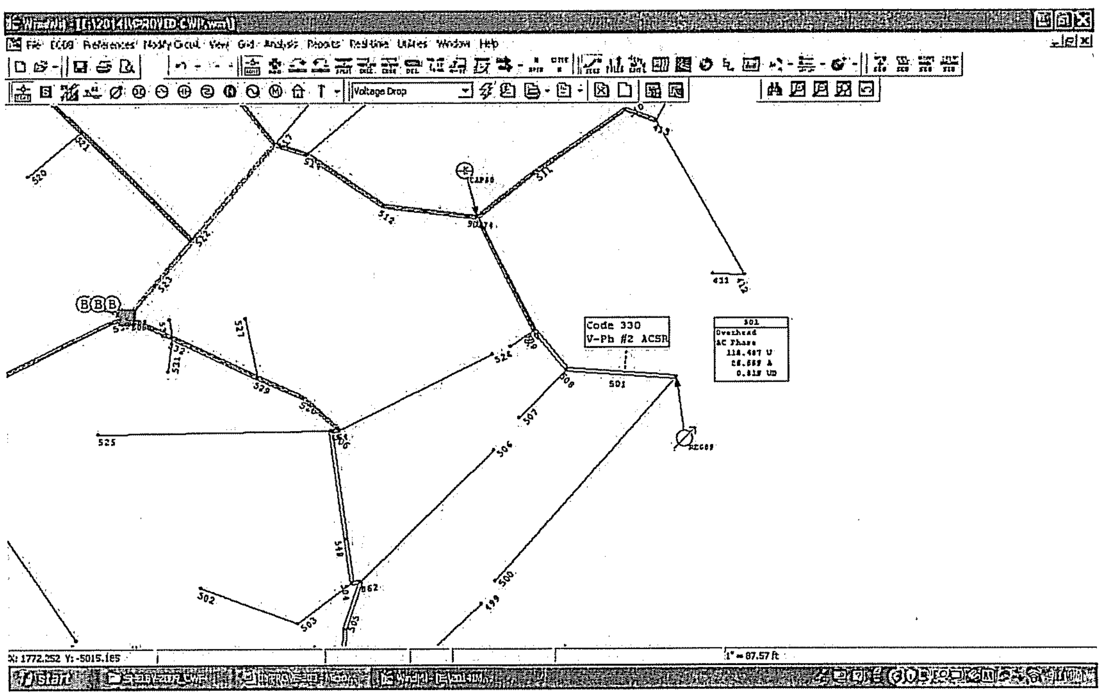
Southville Substation
Code 330
Estimated Cost: $72,566
Year: 2010

Description of Proposed Construction
Section 501 - Convert 1.3 miles of single-phase #2 ACSR to V-phase #2 ACSR at Hwy 395.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

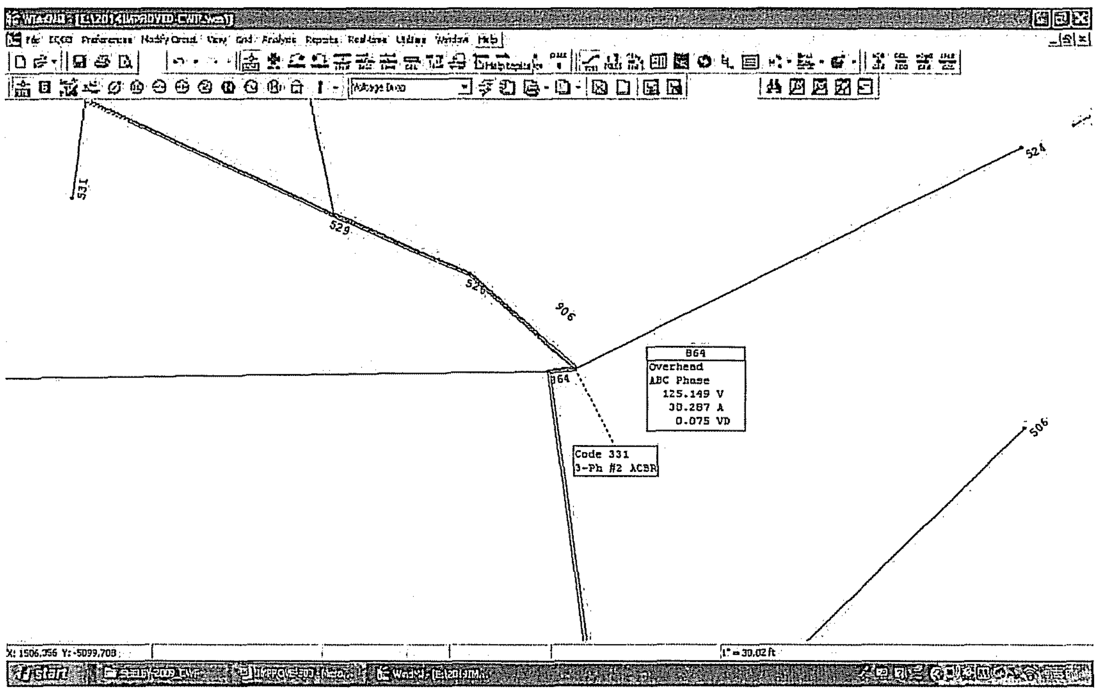
Southville Substation
Code 331
Estimated Cost: $7,325
Year: 2010

Description of Proposed Construction
Section 864 - Convert 0.1 mile of V-phase #2 ACSR to three-phase #2 ACSR at West Pea Ridge.

Reason For Proposed Construction
Design Criteria 1 is being violated.

Results of Proposed Construction
Primary voltage drop problems will be corrected.

Alternative Corrective Plan Investigated
This project will relieve the Design Criteria 1 violation as well as correct 3-ph feeder current imbalance.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

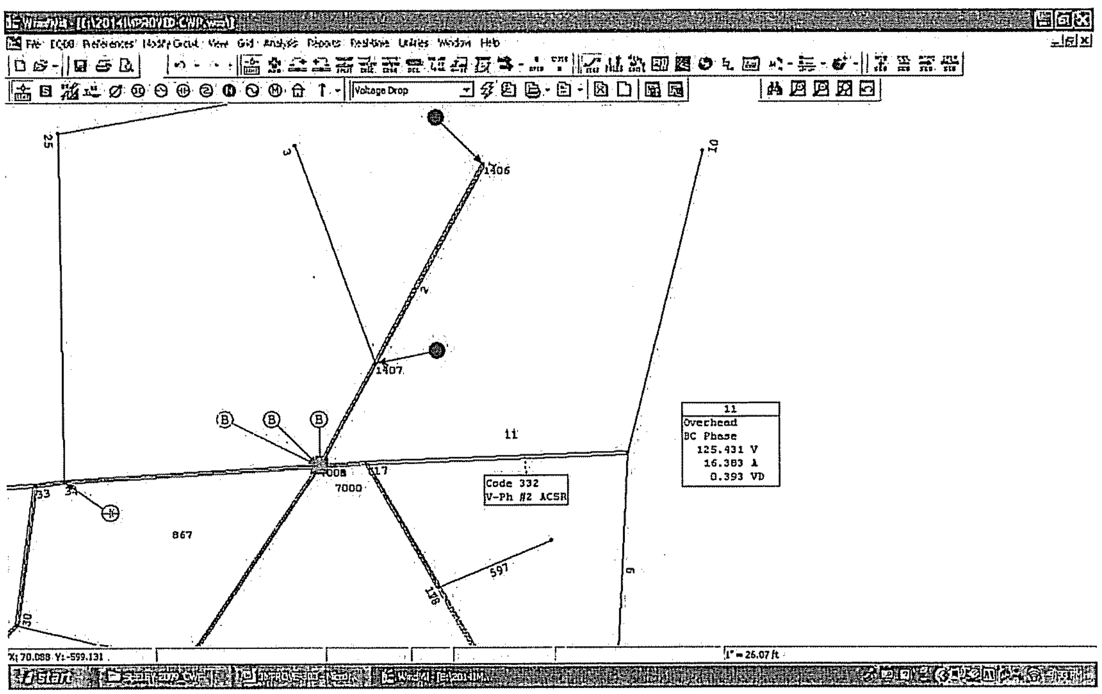
Milton Substation
Code 332
Estimated Cost: $52,245
Year: 2011

Description of Proposed Construction
Section 11 - Convert 0.9 mile of single-phase #2 ACSR to V-phase #2 ACSR at Hwy 421 to McCord Lane.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



SYSTEM IMPROVEMENTS – RUS CODE 300

LINE CONVERSION NARRATIVES

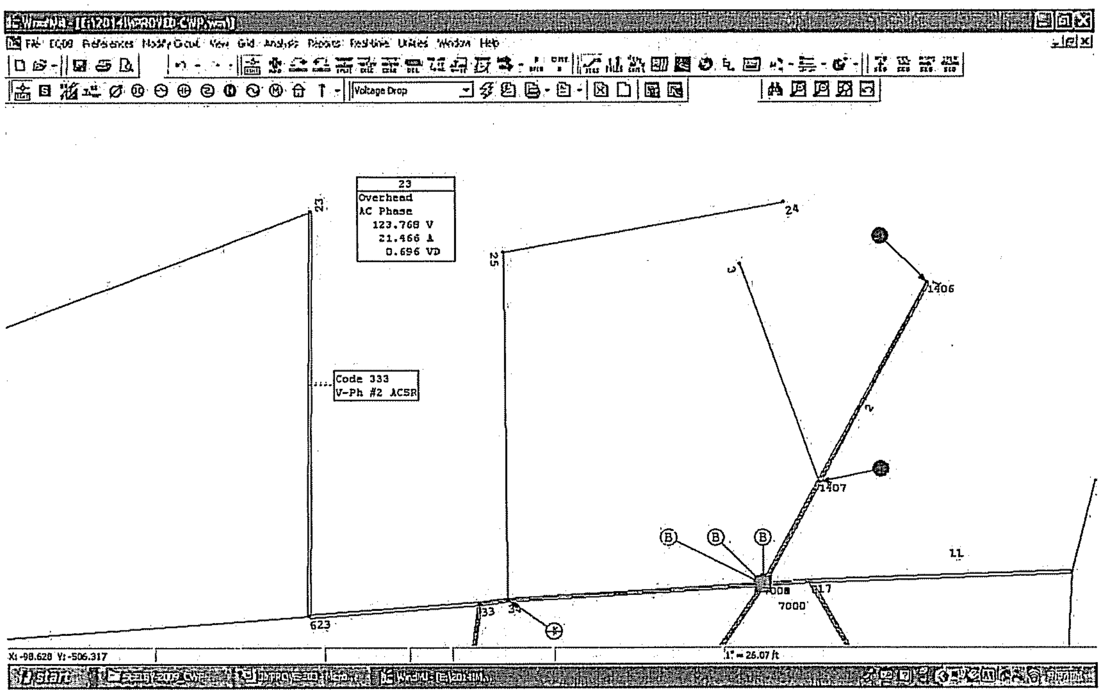
Milton Substation
Code 333
Estimated Cost: $78,488
Year: 2012

Description of Proposed Construction
Section 23 - Convert 1.3 miles of single-phase #2 ACSR to V-phase #2 ACSR at Detmer Lane.

Reason For Proposed Construction
Design Criteria 4 is being violated.

Results of Proposed Construction
Single-phase overloading will be corrected.

Alternative Corrective Plan Investigated
No viable backfeeds to relieve overloading were possible.



MISCELLANEOUS DISTRIBUTION EQUIPMENT – RUS CODE 600's

Meters and Transformers – RUS Code 601

Historical data was gathered for meters and transformers and is included in Table III-B-1.
1,298 new meters are projected at a cost of $155,862.
1,036 new transformers are projected at a cost of $1,275,655.

Service Upgrades – RUS Code 602

There are 176 service upgrades projected at a total cost of $547,454. Historical data is included in Table III-B-1.

Sectionalizing – RUS Code 603

Overcurrent analysis is performed on an ongoing basis. Device changeouts, conductor multiphasing and load shifts require overcurrent device purchases.
Oil circuit reclosers, fuses and switches are included in this category.
The total overall projected cost for sectionalizing is $400,000.

Voltage Regulators – RUS Code 604

Eight sets of voltage regulator upgrades are projected for the CWP as follows:

CFR CODE	SUBSTATION	SECT/RATING	YEAR	COST
604.1	CLAYVILLAGE	395/ (3) 150 A	2011	$45,700
604.2	CLAYVILLAGE	379/ (3) 150 A	2012	$47,600
604.3	CLAYVILLAGE	849/ (3) 100 A	2013	$40,500
604.4	NEW CASTLE	253/ (2) 100 A	2010	$24,000
604.5	CAMPBELLSBURG	227/ (3) 219 A	2010	$50,000
604.6	CAMPBELLSBURG	145/(3) 150 A	2011	$45,700
604.7	CAMPBELLSBURG	186/(1) 50 A	2013	$9,500
604.8	SOUTHVILLE	500/ (1) 100 A	2012	$13,000

Capacitor Banks – RUS Code 605

Two capacitor bank applications are projected in the CWP

CFR CODE	SUBSTATION	SECT/RATING	YEAR	COST
605.1	BEDFORD	LD50/(3) 300kvar	2010	$4,000
605.2	SOUTHVILLE	874/(3) 300kvar	2010	$4,000

MISCELLANEOUS DISTRIBUTION EQUIPMENT – RUS CODE 600's (cont.)

Pole Changes – RUS Code 606 Including Clearance Poles
There are 468 projected pole changes in the CWP. This includes all maintenance and clearance poles. The cost for the pole changes is projected to be $1,085,587. Historical cost data for pole changes may be found in Table III-B-1.

Miscellaneous Replacement – RUS Code 607
A total of $400,000 is projected for this code category. Insulators, crossarms, braces, guys, anchors and other pole-associated hardware will be replaced as needed.

Conductor Replacement – RUS Code 608
There are 80 miles of aged conductor replacement in the CWP. The projected cost is $3,112,596. This category allows conductor to be replaced on both a pre-planned and as-needed basis.

RUS CODE 700

Security Lights – RUS Code 701
A total of 548 new security lights are anticipated. The projected cost is $316,480. Security light cost history and projections are shown in Table III-B-1.

APPENDICES

APPENDIX A

ECONOMIC CONDUCTOR ANALYSIS

Shebly Energy Cooperative, Inc.
Annual Loss Cost Calculations

Month	kWh	kW	kW Loss	Load Fact	Loss Fact	kWh Loss
JANUARY	48,668,132	111,048	1.00	0.59	0.39	287
FEBRUARY	39,516,000	102,380	0.85	0.57	0.37	211
MARCH	36,666,241	93,336	0.71	0.53	0.32	167
APRIL	32,110,799	67,575	0.37	0.66	0.47	126
MAY	32,288,835	67,283	0.37	0.65	0.45	124
JUNE	37,800,273	79,762	0.52	0.66	0.47	174
JULY	36,807,342	73,603	0.44	0.67	0.49	159
AUGUST	39,880,336	81,161	0.53	0.66	0.47	188
SEPTEMBER	33,532,826	67,497	0.37	0.69	0.51	136
OCTOBER	32,870,365	66,760	0.36	0.66	0.47	127
NOVEMBER	37,329,357	81,836	0.54	0.63	0.44	171
DECEMBER	44,838,622	101,266	0.83	0.60	0.39	243
TOTAL	452,309,128	993,507	6.89	7.57	5.24	2113

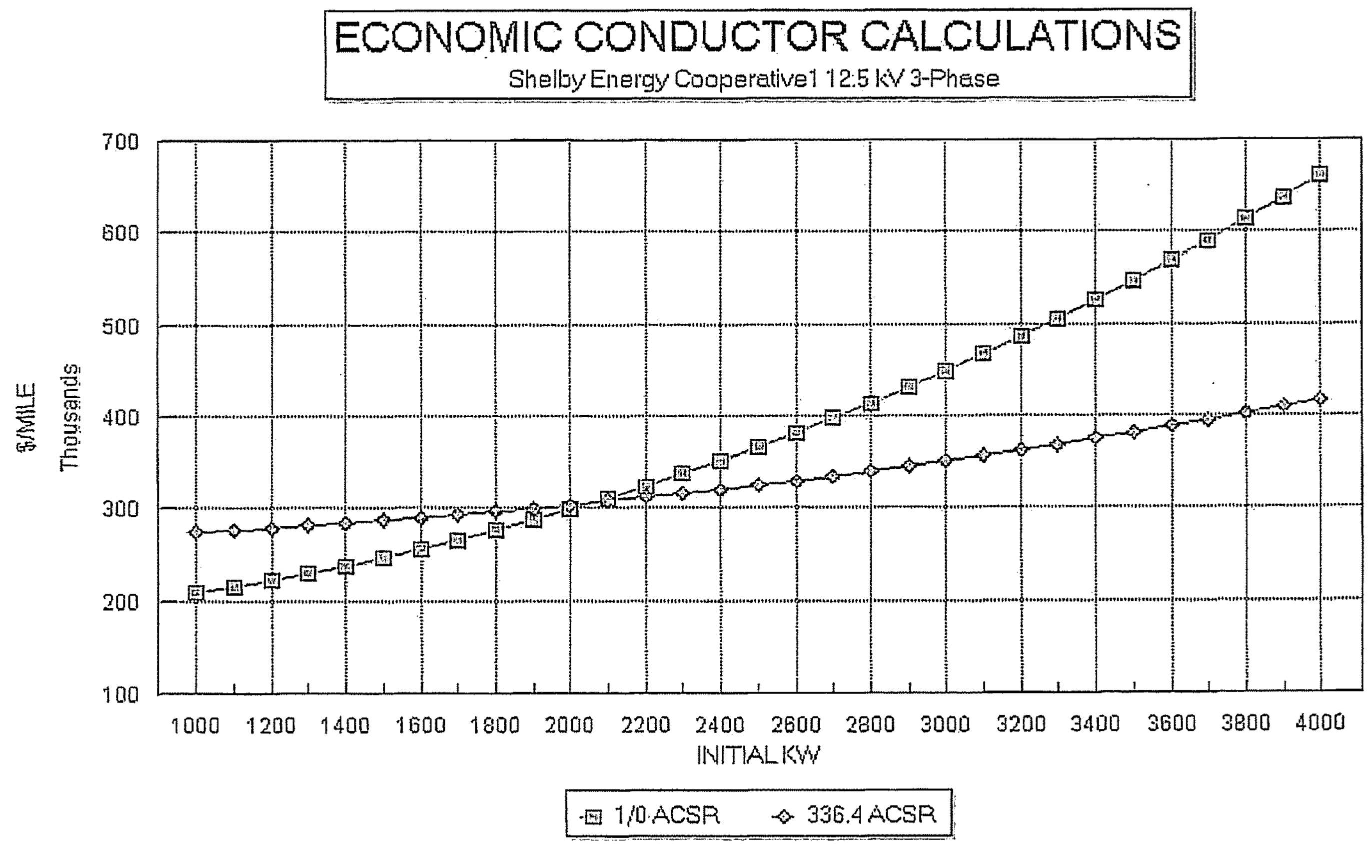
KW CHARGE = $5.71/KW	**$5.71 x 6.89(KW LOSS)=**	**$39.33**
ENERGY = $0.040/KWH	**$0.04x 2113(KWH LOSS)=**	**$84.53**
TOTAL LOSS COST/KW PEAK	**$123.87**	

"N" = 6.89/12 = 0.57

Shelby Energy Cooperative Inc
12.5 KV 3-Phase
ECONOMIC CONDUCTOR CALCULATIONS

O&M	TAX	INS	INT	$/KW	$/KWH	KW
4.40%	0.20%	0.30%	5.00%	5.71	0.040	1000
RMO	RAT	KWI	KWHI	LGR	INF	m
12	0.0%	6.00%	6.00%	3.00%	4.00%	30
LF	PF	CF	N	KV	P	
49.0%	96.0%	90.0%	0.57	7.2	3	

CONDUCTOR	1/0 ACSR	336.4 ACSR
COST/MI	$78,520	$117,020
OHMS/MI	0.885	0.278
TCOST/MI	$427,375	$557,264
PWCOST/MI	$208,301	$275,051

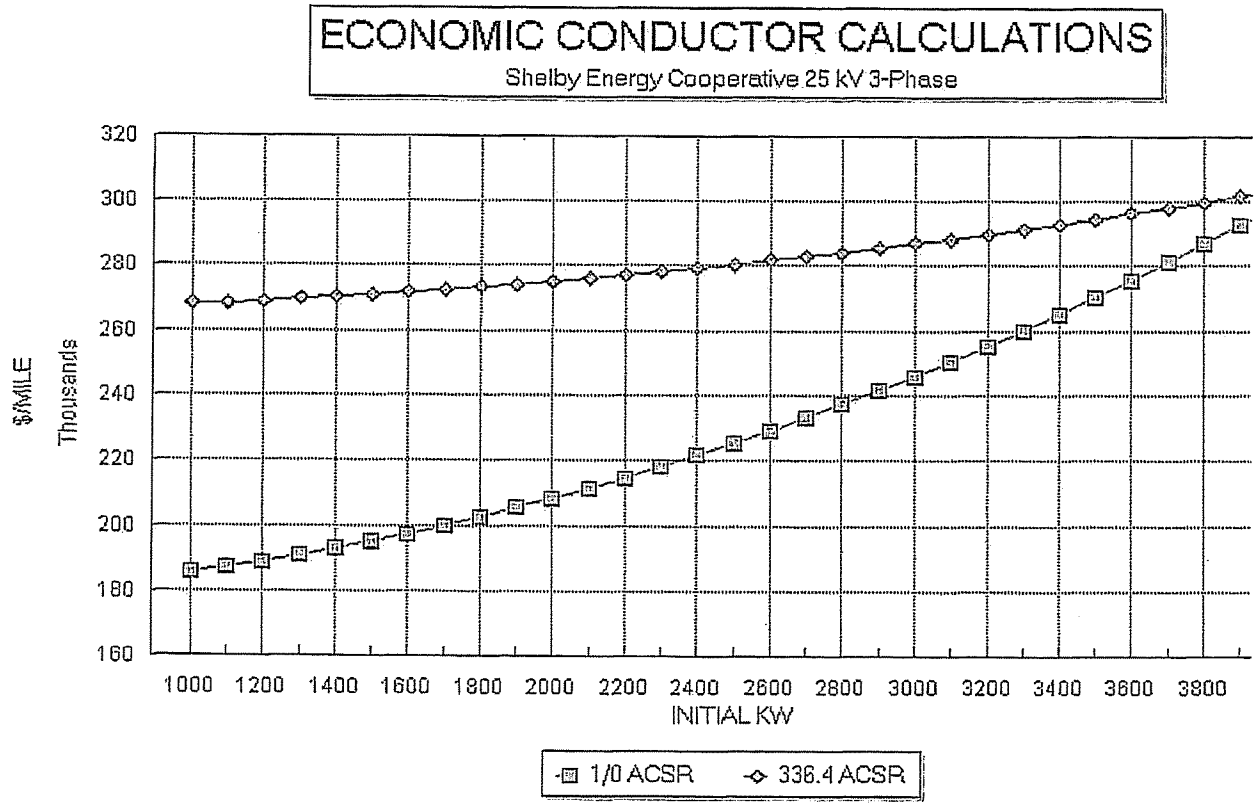


ECONOMIC CONDUCTOR CALCULATIONS
Shelby Energy Cooperative1 12.5 kV 3-Phase
700
600
500
400
300
200
100
$/MILE
Thousands
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000
INITIAL KW
1/0 ACSR
336.4 ACSR

Shelby Energy Cooperative Inc.
25 kV 3-Phase
ECONOMIC CONDUCTOR CALCULATIONS

O&M	TAX	INS.	INT	$/KW	$/KWH	KW
4.40%	0.20%	0.30%	5.00%	5.71	0.040	1000
RMO	RAT	KWI	KWHI	LGR	INF	m
12	0.0%	6.00%	6.00%	3.00%	4.00%	30
LF	PF	CF	N	KV	P	
49.0%	96.0%	90.0%	0.57	14.4	3	

CONDUCTOR	1/0 ACSR	336.4 ACSR
COST/MI	$78,520	$117,020
OHMS/MI	0.885	0.278
TCOST/MI	$376,578	$541,307
PWCOST/MI	$185,738	$267,963



ECONOMIC CONDUCTOR CALCULATIONS
Shelby Energy Cooperative 25 kV 3-Phase
$/MILE
Thousands
320
300
280
260
240
220
200
180
160
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
INITIAL KW
1/0 ACSR
336.4 ACSR

APPENDIX B

EKPC LONG RANGE PLAN REVIEW

- **The only major EKPC project during the 2010-2014 CWP period is a conductor upgrade from the Owen Switch Station to New Castle. 19.9 miles of 69 kV transmission will be upgraded to 565.5 ACSR conductor by 12/1/2012.**

AMENDMENT 1

SHELBY ENERGY COOPERATIVE INC.
Amendment to Current Approved Construction Work Plan

Amendment No.	New RUS Code No.	Work Plan Period	Borrower Designation
2010 ~ 1	601 & 705	2010 – 2014	KY 30 Shelby

Changes Proposed:

16,000	Meters & related equipment	$	130.00	Avg per meter
10	Substation packages & related equip	$	88,000.00	Avg per substation

Total cost: $ 2,960,000

Reason for Change:

Implementation of AMI system-wide

Method of Financing:

Loan Funds	
General Funds	X
Contributions in Aid	

Status of BER: N/A ~ Code 601 and 705 (Meters & Substation Equipment)

Estimated Cost: $ 2,960,000

Engineering Support Attached: Discussed with GFR

Registered Engineer: (as required) Gary E Grubbs — 13008 (P.E. Number)

Requested by: Debbie Martin, President & CEO — 06/23/2010 (Date)

Approved by: Mike Norman, RUS General Field Representative — 6/24/2010 (Date)

Subject to BER Approval? Yes: No: X

Status of Construction: Proposed 2010

MODEL ANALYSIS

Detail

Balanced Voltage Drop Report
Source: 9999

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

07/20/2010 13:43 Page 1

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
9999		ABC	FOX CREEK	15.12Y	126.0	0.00	0.00	3.26	5	147	17	99	0.00	0.0	0.000	0.000	0	0	0	157

----------- Feeder No. 1 (9991) Beginning with Device 9991 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
9991	9999	A C	_	15.12Y	126.0	0.00	0.00	4.90	0	147	17	99	0.00	0.0	0.000	0.000	0	0	0	157
930	9991	A C	102-#1/0 A	15.12Y	126.0	0.03	0.03	4.90	2	147	17	99	0.03	0.0	0.551	0.551	1	0	1	157
1022	930	A C	Transforme	7.56Y	125.9	0.05	0.08	4.87	14	146	17	99	-0.00	0.0	0.551	0.551	0	0	0	156
929	1022	A	110-#4 ACS	7.51Y	125.1	0.80	0.90	13.95	10	105	12	99	0.58	0.6	1.992	1.441	27	3	28	113
893	929	A	110-#4 ACS	7.51Y	125.1	0.01	0.90	0.87	1	6	1	99	0.00	0.0	2.292	0.300	6	1	4	4
305	929	A	110-#4 ACS	7.43Y	123.9	1.22	2.11	9.37	7	70	8	99	0.53	0.8	5.892	3.900	37	4	45	81
304	305	A	110-#4 ACS	7.43Y	123.8	0.04	2.15	1.15	1	8	1	99	0.00	0.0	7.392	1.500	8	1	10	10
263	305	A	110-#4 ACS	7.42Y	123.7	0.15	2.27	3.09	2	23	3	99	0.02	0.1	7.493	1.600	14	2	20	26
264	263	A	110-#4 ACS	7.42Y	123.7	0.07	2.34	1.11	1	8	1	99	0.00	0.0	10.293	2.800	8	1	6	6
306	1022	C	110-#4 ACS	7.54Y	125.6	0.35	0.40	5.54	4	42	5	99	0.08	0.2	2.710	2.159	29	3	34	43
307	306	C	110-#4 ACS	7.53Y	125.5	0.05	0.45	1.24	1	9	1	99	0.00	0.0	4.610	1.900	9	1	8	8
830	306	C	110-#4 ACS	7.54Y	125.6	0.00	0.40	0.23	0	2	0	100	0.00	0.0	2.810	0.100	2	0	1	1

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	141	5	0	0	0	0	1	0.00	147
KVAR	16	1	0	0	0	0	1		17

Lowest Voltage = 123.66 on Element 264
Max Accm VoltD = 2.34 on Element 264
Max Elem VoltD = 1.22 on Element 305

Detail

Balanced Voltage Drop Report
Source: 1200

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1200		ABC	SRC-1200	15.12Y	126.0	0.00	0.00	256.16	33	10860	4132	93	0.00	0.0	0.000	0.000	0	0	0	19 C

----------- Feeder No. 1 (1205) Beginning with Device 1205 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
1205	1200	ABC	_	15.12Y	126.0	0.00	0.00	0.00	0	0	0	100	0.00	0.0	0.000	0.000	0	0	0	0

----------- Feeder No. 2 (1206) Beginning with Device 1206 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1206	1200	ABC	_	15.12Y	126.0	0.00	0.00	182.80	0	7543	3444	91	0.00	0.0	0.000	0.000	0	0	0	9 C
920	1206	ABC	090-#336.4	15.11Y	126.0	0.04	0.04	92.99	18	3838	1750	91	1.01	0.0	0.140	0.140	0	0	0	4
921	920	ABC	090-#336.4	15.11Y	125.9	0.04	0.08	92.99	18	3837	1749	91	0.64	0.0	0.408	0.268	3687	1680	4	4
954	920	ABC	090-#336.4	15.11Y	126.0	0.00	0.04	0.00	0	0	0	100	0.00	0.0	0.222	0.082	0	0	0	0
960	1206	ABC	4/0 SPACER	15.07Y	125.6	0.45	0.45	89.81	34	3705	1694	91	11.10	0.3	1.061	1.061	0	0	1	5
957	960	ABC	4/0 SPACER	15.05Y	125.4	0.17	0.61	89.81	34	3694	1683	91	3.59	0.1	1.553	0.492	1410	642	2	4
961	957	ABC	4/0 SPACER	15.03Y	125.3	0.13	0.74	54.22	20	2228	1014	91	1.94	0.1	2.061	0.508	0	0	0	2
962	961	ABC	4/0 SPACER	15.02Y	125.1	0.13	0.87	54.22	20	2226	1012	91	1.91	0.1	2.560	0.500	0	0	0	2
1449	962	ABC	054-1/0 25	15.01Y	125.1	0.02	0.89	54.22	23	2224	1010	91	0.24	0.0	2.644	0.083	2149	979	2	2

----------- Feeder No. 3 (1207) Beginning with Device 1207 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
1207	1200	ABC	_	15.12Y	126.0	0.00	0.00	74.68	0	3317	689	98	0.00	0.0	0.000	0.083	0	0	0	10
914	1207	ABC	090-#336.4	15.12Y	126.0	0.03	0.03	74.68	14	3317	689	98	0.70	0.0	0.151	0.151	0	0	0	10
955	914	ABC	096-#4/0 A	15.12Y	126.0	0.01	0.04	65.59	19	2930	513	99	0.17	0.0	0.180	0.029	0	0	1	9
922	955	ABC	090-#336.4	15.11Y	125.9	0.02	0.06	65.59	12	2930	513	99	0.44	0.0	0.302	0.121	0	0	0	8
P 923	922	ABC	090-#336.4	15.11Y	125.9	0.00	0.06	-0.02	0	0	-1	0	0.00	0.0	0.359	0.058	0	0	1	1 P
P 1457	923	ABC	054-1/0 25	15.11Y	125.9	0.00	0.06	-0.02	0	0	-1	0	0.00	0.0	0.378	0.019	0	0	0	0 P
856	922	ABC	090-#336.4	15.10Y	125.8	0.10	0.16	65.59	12	2929	513	99	1.92	0.1	0.902	0.600	330	150	2	7
729	856	ABC	090-#336.4	15.10Y	125.8	0.03	0.20	57.57	11	2584	354	99	0.55	0.0	1.102	0.200	0	0	0	5
916	729	ABC	Cap (750)	15.10Y	125.8	0.00	0.20	57.57	0	2583	353	99	0.00	0.0	1.102	0.200	0	0	0	5
860	916	ABC	090-#336.4	15.09Y	125.8	0.01	0.21	19.02	4	784	357	91	0.03	0.0	1.402	0.300	754	344	4	4
1440	916	ABC	Node	15.10Y	125.8	0.00	0.20	43.67	0	1800	820	91	0.00	0.0	1.102	0.300	1731	789	1	1
1456	914	ABC	054-1/0 25	15.12Y	126.0	0.00	0.03	9.35	4	386	175	91	0.00	0.0	0.173	0.022	371	169	1	1

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	10432	403	0	0	0	0	24	0.00	10860
KVAR	4753	184	-824	-5	0	0	25		4132

Lowest Voltage = 125.11 on Element 1449
Max Accm VoltD = 0.89 on Element 1449
Max Elem VoltD = 0.45 on Element 960

Detail

Balanced Voltage Drop Report
Source: 1010

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1010		ABC	SRC-1010	15.12Y	126.0	0.00	0.00	188.48	24	8044	2897	94	0.00	0.0	0.000	0.000	0	0	0	835 C

----------- Feeder No. 15 (1005) Beginning with Device 1005 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1005	1010	ABC	_	15.12Y	126.0	0.00	0.00	188.48	0	8044	2897	94	0.00	0.0	0.000	0.000	0	0	0	835 C
468	1005	ABC	090-#336.4	15.10Y	125.8	0.19	0.19	188.48	36	8044	2897	94	7.49	0.1	0.253	0.253	0	0	0	835
802	468	ABC	090-#336.4	15.08Y	125.7	0.15	0.34	188.48	36	8036	2879	94	5.93	0.1	0.453	0.200	1	0	1	835
805	802	ABC	090-#336.4	15.07Y	125.6	0.07	0.41	188.46	36	8030	2865	94	2.96	0.0	0.553	0.100	0	0	0	834
1452	805	ABC	054-1/0 25	15.07Y	125.6	0.00	0.42	9.60	4	391	188	90	0.00	0.0	0.601	0.048	377	183	1	1
759	805	ABC	090-#336.4	15.02Y	125.2	0.42	0.84	178.92	34	7635	2671	94	16.01	0.2	1.153	0.600	7	3	1	833
855	759	ABC	090-#336.4	15.02Y	125.1	0.01	0.85	29.27	6	1188	573	90	0.08	0.0	1.353	0.200	703	338	4	5
1455	855	ABC	Node	15.02Y	125.1	0.00	0.85	11.35	0	460	223	90	0.00	0.0	1.353	0.200	445	215	1	1
850	855	ABC	090-#336.4	15.02Y	125.1	0.00	0.85	0.00	0	0	0	100	0.00	0.0	1.537	0.184	0	0	0	0
854	759	ABC	090-#336.4	15.01Y	125.1	0.05	0.88	149.71	28	6424	2058	95	1.87	0.0	1.253	0.100	0	0	0	827
1454	854	ABC	Node	15.01Y	125.1	0.00	0.88	15.71	0	637	309	90	0.00	0.0	1.253	0.100	616	298	1	1
793	854	ABC	090-#336.4	14.99Y	124.9	0.19	1.07	134.17	25	5785	1748	96	5.49	0.1	1.653	0.400	522	252	6	826

728	793	ABC	090-#336.4	14.97Y	124.7	0.20	1.27	114.85	22	4985	1353	97	5.45	0.1	2.152	0.500	49	21	5	816
843	728	ABC	090-#336.4	14.93Y	124.5	0.27	1.55	113.63	21	4929	1319	97	8.59	0.2	2.952	0.800	13	6	4	811
844	843	ABC	Cap (450)	14.93Y	124.5	0.00	1.55	0.00	0	0	0	100	0.00	0.0	2.952	0.800	0	0	0	0
467	843	ABC	090-#336.4	14.89Y	124.1	0.40	1.94	113.31	21	4907	1302	97	10.38	0.2	3.952	1.000	160	69	58	807
778	467	ABC	090-#336.4	14.86Y	123.9	0.19	2.14	109.36	21	4732	1208	97	4.94	0.1	4.452	0.500	49	21	9	749
784	778	ABC	098-#3/0 A	14.85Y	123.8	0.11	2.25	58.94	20	2532	704	96	1.71	0.1	4.752	0.300	67	29	15	273
877	784	ABC	098-#3/0 A	14.85Y	123.7	0.03	2.28	57.27	19	2461	672	96	0.55	0.0	4.852	0.100	10	4	3	258
878	877	A	052-1/0 15	14.84Y	123.7	0.01	2.29	4.68	2	66	23	94	0.00	0.0	5.252	0.400	64	28	11	11
879	877	ABC	098-#3/0 A	14.84Y	123.7	0.03	2.31	55.45	18	2384	644	97	0.51	0.0	4.952	0.100	37	16	6	244
902	879	A	052-1/0 15	14.84Y	123.7	0.03	2.34	5.80	2	82	27	95	0.01	0.0	5.552	0.600	80	34	14	14
851	879	ABC	098-#3/0 A	14.81Y	123.5	0.23	2.54	52.61	18	2265	600	97	3.62	0.2	5.752	0.800	70	30	16	224
NODE44	851	ABC	Node	14.81Y	123.5	0.00	2.54	50.89	0	2190	566	97	0.00	0.0	5.752	0.800	500	164	0	208
842	NODE44	ABC	Cap (300)	14.81Y	123.5	0.00	2.54	38.80	0	1678	398	97	0.00	0.0	5.752	0.800	0	0	0	208
459	842	ABC	098-#3/0 A	14.79Y	123.2	0.23	2.78	40.76	14	1678	683	93	2.10	0.1	6.752	1.000	516	223	114	208
458	459	B	110-#4 ACS	14.78Y	123.1	0.09	2.87	12.85	9	172	82	90	0.09	0.1	7.352	0.600	168	80	6	6
457	459	ABC	096-#4/0 A	14.76Y	123.0	0.18	2.96	23.56	7	977	370	94	0.84	0.1	8.550	1.798	457	197	88	88
NODE45	457	ABC	Node	14.76Y	123.0	0.00	2.96	12.13	0	510	168	95	0.00	0.0	8.550	1.798	500	164	0	0
1021	NODE45	ABC	Transforme	7.38Y	123.0	0.00	2.96	0.00	0	0	0	100	0.00	0.0	8.550	1.798	0	0	0	0
466	778	ABC	090-#336.4	14.82Y	123.5	0.33	2.47	49.25	9	2145	470	98	3.93	0.2	6.552	2.100	170	73	36	467
465	466	C	106-#2 ACS	14.79Y	123.3	0.28	2.75	15.02	8	204	88	92	0.28	0.1	8.652	2.100	200	86	37	37
463	466	ABC	090-#336.4	14.79Y	123.3	0.26	2.73	40.19	8	1762	298	99	2.64	0.1	8.752	2.200	200	86	46	394
833	463	ABC	Cap (450)	14.79Y	123.3	0.00	2.73	35.34	0	1555	203	99	0.00	0.0	8.752	2.200	0	0	0	348
834	833	ABC	090-#336.4	14.79Y	123.3	0.01	2.74	38.22	7	1555	678	92	0.12	0.0	8.852	0.100	0	0	0	348
461	834	ABC	090-#336.4	14.79Y	123.3	0.01	2.75	4.66	1	190	82	92	0.01	0.0	9.352	0.500	33	14	7	38
460	461	A	110-#4 ACS	14.76Y	123.0	0.28	3.03	11.49	8	156	67	92	0.23	0.1	11.352	2.000	153	66	31	31
801	834	ABC	090-#336.4	14.79Y	123.2	0.03	2.77	33.57	6	1365	596	92	0.19	0.0	9.052	0.200	11	5	3	310
1012	801	ABC	Transforme	7.35Y	122.6	0.68	3.45	33.28	48	1353	590	92	-0.00	0.0	9.052	0.200	0	0	0	307
462	1012	ABC	090-#336.4	7.34Y	122.3	0.27	3.72	66.56	13	1353	570	92	1.79	0.1	9.552	0.500	54	23	15	307
453	462	BC	102-#1/0 A	7.30Y	121.7	0.55	4.27	41.90	18	572	225	93	2.05	0.4	10.152	0.600	21	9	6	128
452	453	C	110-#4 ACS	7.30Y	121.7	0.01	4.29	1.03	1	7	3	92	0.00	0.0	10.652	0.500	7	3	2	2
451	453	BC	102-#1/0 A	7.25Y	120.9	0.87	5.14	39.80	17	542	211	93	2.88	0.5	11.252	1.100	114	49	29	120
449	451	B	118-#8 A-C	7.23Y	120.4	0.43	5.57	13.99	14	93	40	92	0.23	0.2	12.152	0.900	93	40	27	27
573	451	BC	106-#2 ACS	7.23Y	120.6	0.29	5.43	24.20	13	331	118	94	0.69	0.2	11.652	0.400	13	6	2	64
450	573	BC	106-#2 ACS	7.22Y	120.3	0.27	5.70	23.21	13	317	112	94	0.55	0.2	12.152	0.500	146	63	36	62
OH46	450	C	110-#4 ACS	7.19Y	119.9	0.44	6.13	24.39	17	169	48	96	0.39	0.2	12.897	0.744	169	48	26	26
454	462	ABC	090-#336.4	7.30Y	121.7	0.61	4.33	35.93	7	725	317	92	1.91	0.3	11.952	2.400	239	103	53	164
456	454	ABC	106-#2 ACS	7.27Y	121.1	0.55	4.88	19.16	11	385	166	92	1.11	0.3	13.952	2.000	363	157	81	85
641	456	ABC	106-#2 ACS	7.27Y	121.1	0.00	4.88	0.90	1	18	8	91	0.00	0.0	14.252	0.300	18	8	4	4
895	454	ABC	110-#4 ACS	7.30Y	121.6	0.02	4.35	4.76	3	96	41	92	0.02	0.0	12.052	0.100	0	0	0	26
455	895	B	110-#4 ACS	7.29Y	121.5	0.10	4.45	6.03	4	40	17	92	0.02	0.1	12.752	0.701	40	17	9	9
448	895	ABC	110-#4 ACS	7.29Y	121.5	0.10	4.46	2.75	2	55	24	92	0.03	0.1	13.952	1.900	55	24	17	17
1444	793	AB	Node	14.99Y	124.9	0.00	1.07	4.14	0	112	54	90	0.00	0.0	1.653	1.900	108	52	1	1
1446	793	ABC	Node	14.99Y	124.9	0.00	1.07	3.53	0	144	68	90	0.00	0.0	1.653	1.900	139	66	3	3
760	854	ABC	090-#336.4	15.01Y	125.1	0.00	0.88	0.00	0	0	0	100	0.00	0.0	1.453	0.201	0	0	0	0

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	7754	193	0	0	0	0	98	0.00	8044
KVAR	3375	86	-760	-16	0	0	212		2897

Lowest Voltage = 119.87 on Element OH46
Max Accm VoltD = 6.13 on Element OH46
Max Elem VoltD = 0.87 on Element 451

Detail

Balanced Voltage Drop Report
Source: Bekaert #3

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Element Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru	
C Bekaert #3		ABC	SRC-9000	15.12Y	126.0	0.00	0.00	234.49	30	10202	3007	96	0.00	0.0	0.000	0.000	0	0	0	3	C
feeder 1	Bekaert #3	ABC	Node	15.12Y	126.0	0.00	0.00	234.49	0	10202	3007	96	0.00	0.0	0.000	0.000	0	0	0	3	
----------- Feeder No. 93 (9002) Beginning with Device 9002 -----------																					
C 9002	feeder 1	ABC	_	15.12Y	126.0	0.00	0.00	137.91	0	6040	1627	97	0.00	0.0	0.000	0.000	0	0	0	3	C
956	9002	ABC	4/0 SPACER	15.04Y	125.4	0.64	0.64	137.91	51	6040	1627	97	26.18	0.4	1.061	1.061	0	0	0	3	
959	956	ABC	4/0 SPACER	14.97Y	124.8	0.60	1.24	137.91	51	6014	1603	97	24.69	0.4	2.061	1.000	0	0	0	3	
799	959	ABC	102-#1/0 A	14.90Y	124.1	0.62	1.86	137.91	60	5989	1579	97	25.32	0.4	2.560	0.500	0	0	0	3	
800	799	ABC	102-#1/0 A	14.87Y	123.9	0.23	2.09	137.91	60	5964	1555	97	9.25	0.2	2.760	0.200	567	254	1	3	
917	800	ABC	Cap (1050)	14.87Y	123.9	0.00	2.09	123.84	0	5372	1286	97	0.00	0.0	2.760	0.200	0	0	0	2	
C 1447	917	ABC	054-1/0 25	14.87Y	123.9	0.01	2.10	131.96	56	5372	2405	91	0.43	0.0	2.786	0.026	5234	2343	2	2	C
OH41	feeder 1	ABC	336.4 SPAC	15.08Y	125.7	0.33	0.33	96.68	27	4162	1380	95	7.65	0.2	1.000	1.000	0	0	0	0	
Schools	OH41	ABC	Node	15.08Y	125.7	0.00	0.33	96.68	0	4155	1366	95	0.00	0.0	1.000	1.000	4000	1315	0	0	

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	9800	308	0	0	0	0	94	0.00	10202
KVAR	3912	120	-1120	-1	0	0	95		3007

Lowest Voltage = 123.90 on Element 1447
Max Accm VoltD = 2.10 on Element 1447
Max Elem VoltD = 0.64 on Element 956

Detail

Balanced Voltage Drop Report
Source: 9000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Element Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru	
9000		ABC	SRC-9000	15.12Y	126.0	0.00	0.00	90.44	12	3815	1508	93	0.00	0.0	0.000	0.000	0	0	0	1	
----------- Feeder No. 91 (9001) Beginning with Device 9001 -----------																					
9001	9000	ABC	_	15.12Y	126.0	0.00	0.00	90.44	0	3815	1508	93	0.00	0.0	0.000	0.000	0	0	0	1	
1025	9001	ABC	Transforme	7.93Y	124.8	1.17	1.17	90.44	78	3815	1508	93	-0.00	0.0	0.000	0.000	0	0	0	1	
C 1451	1025	ABC	003-1000MC	7.92Y	124.7	0.11	1.28	170.90	30	3815	1401	94	1.76	0.0	0.284	0.284	3694	1357	1	1	C

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	3694	120	0	0	0	0	2	0.00	3815
KVAR	1357	44	0	-2	0	0	109		1508

Lowest Voltage = 124.72 on Element 1451
Max Accm VoltD = 1.28 on Element 1451
Max Elem VoltD = 1.17 on Element 1025

Balanced Voltage Drop Report
Source: 5000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
C 5000		ABC	SRC-5000	7.56Y	126.0	0.00	0.00	371.02	25	8079	2353	96	0.00	0.0	0.000	0.000	0	0	0	1668 C

----------- Feeder No. 0 (5008) Beginning with Device 5008 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
C 5008	5000	ABC	_	7.56Y	126.0	0.00	0.00	166.47	0	3589	1171	95	0.00	0.0	0.000	0.000	0	0	0	971 C

----------- Feeder No. 51 (5001) Beginning with Device 5001 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
5001	5008	ABC	_	7.56Y	126.0	0.00	0.00	98.88	0	2188	493	98	0.00	0.0	0.000	0.000	0	0	0	598
45	5001	ABC	090-#336.4	7.54Y	125.7	0.34	0.34	98.88	19	2188	493	98	4.06	0.2	0.500	0.500	9	4	4	598
44	45	ABC	090-#336.4	7.46Y	124.4	1.28	1.62	96.20	18	2127	457	98	15.28	0.7	2.500	2.000	22	10	8	584
42	44	ABC	090-#336.4	7.40Y	123.4	1.00	2.62	95.10	18	2089	411	98	11.92	0.6	4.200	1.700	147	70	33	575
53	42	ABC	096-#4/0 A	7.36Y	122.7	0.64	3.27	87.86	26	1926	312	99	8.03	0.4	5.000	0.800	50	24	14	542
52	53	ABC	106-#2 ACS	7.26Y	120.9	1.79	5.06	33.65	19	742	51	100	9.74	1.3	7.600	2.600	188	89	54	215
51	52	C	110-#4 ACS	7.23Y	120.5	0.39	5.45	9.47	7	62	29	91	0.13	0.2	9.300	1.700	62	29	25	25
50	52	ABC	106-#2 ACS	7.22Y	120.4	0.59	5.65	22.31	12	480	-74	-99	2.63	0.5	8.900	1.300	23	11	9	136
CAP64	50	ABC	Cap (300)	7.22Y	120.4	0.00	5.65	21.36	0	455	-86	-98	0.00	0.0	8.900	1.300	0	0	0	127
49	CAP64	BC	106-#2 ACS	7.16Y	119.3	1.08	6.73	28.38	16	370	175	90	2.16	0.6	11.400	2.500	369	175	96	96
48	CAP64	AB	106-#2 ACS	7.22Y	120.3	0.07	5.72	6.45	4	84	40	90	0.04	0.1	9.299	0.399	13	6	4	31
46	48	A	110-#4 ACS	7.19Y	119.9	0.38	6.10	6.22	4	41	19	91	0.08	0.2	11.799	2.500	40	19	15	15
47	48	B	110-#4 ACS	7.20Y	120.0	0.24	5.96	4.73	3	31	15	90	0.04	0.1	11.399	2.100	31	15	12	12
918	53	ABC	Cap (300)	7.36Y	122.7	0.00	3.27	51.91	0	1125	222	98	0.00	0.0	5.000	2.100	0	0	0	313
54	918	ABC	106-#2 ACS	7.25Y	120.9	1.82	5.09	56.41	31	1125	536	90	15.71	1.4	6.201	1.201	38	18	14	313
63	54	ABC	102-#1/0 A	7.24Y	120.6	0.27	5.36	47.11	20	926	440	90	1.76	0.2	6.501	0.300	9	4	4	253
870	63	ABC	Cap (600)	7.24Y	120.6	0.00	5.36	31.68	0	622	295	90	0.00	0.0	6.501	0.300	0	0	0	161
62	870	ABC	102-#1/0 A	7.19Y	119.9	0.75	6.11	31.68	14	622	295	90	2.95	0.5	8.401	1.900	351	166	90	161
746	62	C	110-#4 ACS	7.17Y	119.5	0.36	6.47	13.39	10	87	41	90	0.17	0.2	9.501	1.100	87	41	16	16
747	62	AB	106-#2 ACS	7.19Y	119.8	0.12	6.23	13.84	8	180	85	90	0.17	0.1	8.701	0.300	20	10	4	55
571	747	A	106-#2 ACS	7.18Y	119.7	0.03	6.26	3.22	2	21	10	90	0.00	0.0	9.210	0.510	21	10	7	7
61	747	B	110-#4 ACS	7.12Y	118.7	1.05	7.27	21.36	15	139	66	90	0.79	0.6	10.701	2.000	139	66	44	44
60	63	A C	110-#4 ACS	7.23Y	120.4	0.20	5.55	22.45	16	294	139	90	0.49	0.2	6.701	0.200	2	1	1	88
59	60	C	106-#2 ACS	7.18Y	119.7	0.71	6.26	15.69	9	102	49	90	0.38	0.4	9.100	2.400	96	45	29	31
58	59	C	106-#2 ACS	7.18Y	119.7	0.01	6.27	0.96	1	6	3	89	0.00	0.0	9.399	0.299	6	3	2	2
57	60	A	106-#2 ACS	7.14Y	119.0	1.46	7.02	28.83	16	188	89	90	1.84	1.0	8.500	1.799	76	36	21	56
56	57	A	106-#2 ACS	7.13Y	118.8	0.21	7.23	8.49	5	55	26	90	0.06	0.1	9.900	1.400	55	26	17	17
55	57	A	106-#2 ACS	7.12Y	118.7	0.25	7.26	8.72	5	56	27	90	0.07	0.1	10.100	1.600	57	27	18	18
881	54	ABC	106-#2 ACS	7.24Y	120.7	0.25	5.34	7.38	4	145	69	90	0.19	0.1	8.701	2.500	144	68	46	46
43	44	C	110-#4 ACS	7.46Y	124.4	0.00	1.62	0.11	0	1	0	100	0.00	0.0	3.300	0.800	1	0	1	1
786	45	B	117-#6 A-C	7.53Y	125.6	0.08	0.42	6.81	5	46	22	90	0.02	0.0	1.000	0.500	45	21	10	10

----------- Feeder No. 52 (5002) Beginning with Device 5002 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
5002	5008	ABC	_	7.56Y	126.0	0.00	0.00	68.64	0	1402	677	90	0.00	0.0	0.000	0.500	0	0	0	373
74	5002	ABC	090-#336.4	7.53Y	125.5	0.46	0.46	68.64	13	1402	677	90	2.93	0.2	0.800	0.800	114	54	31	373
73	74	ABC	090-#336.4	7.51Y	125.2	0.29	0.76	62.86	12	1280	615	90	1.63	0.1	1.400	0.600	276	131	66	342
71	73	ABC	090-#336.4	7.49Y	124.8	0.48	1.24	46.14	9	938	450	90	2.06	0.2	2.601	1.201	34	16	9	262
764	71	ABC	090-#336.4	7.48Y	124.7	0.10	1.33	38.90	7	789	375	90	0.36	0.0	2.900	0.299	43	20	14	223
68	764	ABC	106-#2 ACS	7.48Y	124.6	0.06	1.39	21.07	12	427	203	90	0.19	0.0	3.000	0.100	0	0	0	115
67	68	AB	106-#2 ACS	7.34Y	122.3	2.32	3.71	28.73	16	388	184	90	6.09	1.6	6.300	3.300	149	70	44	104
65	67	AB	106-#2 ACS	7.30Y	121.7	0.60	4.31	15.74	9	209	99	90	0.66	0.3	8.790	2.490	205	97	53	53
66	67	B	110-#4 ACS	7.33Y	122.2	0.04	3.75	3.23	2	21	10	90	0.00	0.0	6.800	0.500	21	10	7	7
64	68	ABC	106-#2 ACS	7.47Y	124.6	0.03	1.42	1.92	1	39	18	91	0.01	0.0	4.300	1.300	38	18	11	11
230	764	ABC	090-#336.4	7.46Y	124.4	0.30	1.64	15.64	3	317	151	90	0.37	0.1	5.900	3.000	165	78	54	94
873	230	ABC	Cap (600)	7.46Y	124.4	0.00	1.64	7.23	0	146	69	90	0.00	0.0	5.900	3.000	0	0	0	40
724	873	ABC	090-#336.4	7.46Y	124.4	0.00	1.64	1.67	0	34	16	90	0.00	0.0	6.400	0.500	26	12	7	11
231	724	B	110-#4 ACS	7.46Y	124.3	0.03	1.66	1.03	1	7	3	92	0.00	0.0	7.400	1.000	7	3	4	4
725	873	A	106-#2 ACS	7.42Y	123.7	0.62	2.25	16.68	9	112	53	90	0.35	0.3	8.000	2.100	109	52	29	29
70	71	A	110-#4 ACS	7.47Y	124.5	0.27	1.50	16.46	12	111	53	90	0.16	0.1	3.202	0.600	97	46	26	30
69	70	A	110-#4 ACS	7.47Y	124.5	0.04	1.54	1.62	1	11	5	91	0.00	0.0	4.201	1.000	11	5	4	4
72	73	C	110-#4 ACS	7.50Y	124.9	0.30	1.05	8.07	6	55	26	90	0.09	0.2	2.900	1.500	53	25	14	14

----------- Feeder No. 0 (5009) Beginning with Device 5009 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
C 5009	5000	ABC	_	7.56Y	126.0	0.00	0.00	204.70	0	4490	1182	97	0.00	0.0	0.000	1.500	0	0	0	697 C

----------- Feeder No. 53 (5003) Beginning with Device 5003 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
5003	5009	ABC	_	7.56Y	126.0	0.00	0.00	91.20	0	1846	934	89	0.00	0.0	0.000	1.500	0	0	0	362
95	5003	ABC	090-#336.4	7.53Y	125.5	0.49	0.49	91.20	17	1846	934	89	4.14	0.2	0.600	0.600	15	7	3	362
94	95	ABC	090-#336.4	7.45Y	124.1	1.41	1.90	89.67	17	1810	909	89	11.35	0.6	2.500	1.899	238	113	51	357
93	94	ABC	090-#336.4	7.38Y	122.9	1.17	3.08	64.02	12	1280	637	90	6.77	0.5	4.700	2.200	154	73	44	220
875	93	ABC	Cap (600)	7.38Y	122.9	0.00	3.08	56.17	0	1116	547	90	0.00	0.0	4.700	2.200	0	0	0	176
787	875	ABC	090-#336.4	7.36Y	122.7	0.20	3.27	56.17	11	1116	547	90	1.03	0.1	5.100	0.400	26	12	6	176
92	787	B	106-#2 ACS	7.27Y	121.1	1.64	4.91	31.21	17	208	99	90	2.07	1.0	7.200	2.100	119	56	27	64
91	92	B	106-#2 ACS	7.26Y	121.0	0.13	5.05	6.36	4	42	20	90	0.03	0.1	8.400	1.200	41	20	13	13
90	92	B	106-#2 ACS	7.25Y	120.8	0.28	5.20	6.64	4	44	21	90	0.06	0.1	9.600	2.400	43	20	24	24
89	787	ABC	090-#336.4	7.33Y	122.1	0.61	3.89	44.43	8	880	434	90	2.53	0.3	6.700	1.600	43	20	13	106
88	89	A C	110-#4 ACS	7.30Y	121.7	0.40	4.29	7.52	5	99	48	90	0.26	0.3	8.400	1.700	56	27	18	19
1405	88	A C	Node	7.30Y	121.7	0.00	4.29	3.20	0	42	20	90	0.00	0.0	8.400	1.700	42	20	1	1
87	89	ABC	090-#336.4	7.30Y	121.7	0.38	4.27	37.24	7	735	360	90	1.32	0.2	7.900	1.200	46	22	9	74
886	87	ABC	090-#336.4	7.30Y	121.6	0.09	4.36	34.91	7	688	335	90	0.39	0.1	8.300	0.400	26	13	9	65
83	886	ABC	098-#3/0 A	7.25Y	120.9	0.75	5.12	33.56	11	661	322	90	2.94	0.4	9.900	1.600	22	11	7	56
560	83	ABC	098-#3/0 A	7.23Y	120.5	0.35	5.47	32.41	11	635	307	90	1.29	0.2	10.700	0.800	65	31	17	49
82	560	B	110-#4 ACS	7.20Y	120.0	0.57	6.04	15.44	11	101	48	90	0.42	0.4	11.600	0.900	31	15	9	28
80	82	B	110-#4 ACS	7.19Y	119.9	0.09	6.13	5.91	4	38	18	90	0.02	0.0	12.200	0.600	38	18	10	10
81	82	B	110-#4 ACS	7.19Y	119.9	0.10	6.15	4.69	3	31	14	91	0.02	0.1	12.500	0.900	31	14	9	9
883	560	B	110-#4 ACS	7.23Y	120.5	0.02	5.49	1.04	1	7	3	92	0.00	0.0	11.600	0.900	7	3	2	2
1402	560	ABC	Node	7.23Y	120.5	0.00	5.47	23.58	0	460	223	90	0.00	0.0	10.700	0.900	459	222	2	2
190	94	ABC	090-#336.4	7.44Y	124.0	0.12	2.03	13.54	3	273	130	90	0.14	0.1	3.701	1.201	73	34	24	86
628	190	ABC	090-#336.4	7.44Y	123.9	0.05	2.07	9.83	2	198	94	90	0.04	0.0	4.301	0.600	42	20	13	62
191	628	C	110-#4 ACS	7.42Y	123.7	0.23	2.30	7.16	5	48	23	90	0.06	0.1	5.600	1.299	47	22	14	14
192	628	C	110-#4 ACS	7.42Y	123.6	0.33	2.40	8.48	6	57	27	90	0.10	0.2	5.901	1.600	56	26	20	20
193	628	ABC	090-#336.4	7.43Y	123.9	0.02	2.09	2.48	0	50	24	90	0.00	0.0	6.200	1.899	49	23	15	15
1414	95	AB	Node	7.53Y	125.5	0.00	0.49	1.18	0	16	8	89	0.00	0.0	0.600	1.899	15	7	2	2

----------- Feeder No. 54 (5004) Beginning with Device 5004 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru
C 5004	5009	ABC	_	7.56Y	126.0	0.00	0.00	117.09	0	2644	248	100	0.00	0.0	0.000	1.899	0	0	0	335 C
127	5004	ABC	090-#336.4	7.52Y	125.4	0.59	0.59	117.09	22	2644	248	100	10.29	0.4	0.900	0.900	0	0	1	335
911	127	ABC	090-#336.4	7.49Y	124.8	0.65	1.24	117.09	22	2634	225	100	11.53	0.4	2.000	1.100	212	102	9	334
912	911	A	117-#6 A-C	7.47Y	124.4	0.34	1.57	13.22	9	89	42	90	0.15	0.2	3.046	1.046	87	41	22	22
126	911	ABC	090-#336.4	7.46Y	124.3	0.46	1.70	103.04	19	2313	50	100	8.18	0.4	2.946	0.946	52	24	14	303
125	126	C	106-#2 ACS	7.45Y	124.1	0.21	1.91	18.72	10	126	60	90	0.17	0.1	3.346	0.400	49	23	9	29
124	125	C	110-#4 ACS	7.44Y	124.0	0.04	1.95	1.21	1	8	4	89	0.00	0.0	4.846	1.500	8	4	3	3
123	125	C	106-#2 ACS	7.43Y	123.9	0.19	2.09	9.95	6	67	32	90	0.08	0.1	4.046	0.700	32	15	8	17
750	123	C	110-#4 ACS	7.43Y	123.9	0.02	2.11	1.10	1	7	4	87	0.00	0.0	4.646	0.600	7	3	3	3
118	123	C	106-#2 ACS	7.43Y	123.8	0.13	2.22	4.00	2	27	13	90	0.02	0.1	5.846	1.800	26	12	6	6
122	126	ABC	090-#336.4	7.45Y	124.2	0.12	1.82	95.04	18	2126	-54	-100	2.26	0.1	3.246	0.300	1	1	3	260
121	122	B	110-#4 ACS	7.43Y	123.8	0.33	2.16	9.09	6	61	29	90	0.11	0.2	4.746	1.500	60	28	18	18
120	122	ABC	090-#336.4	7.42Y	123.7	0.48	2.30	92.30	17	2061	-89	-100	9.39	0.5	4.846	1.600	356	169	84	239
113	120	ABC	090-#336.4	7.42Y	123.7	0.02	2.32	75.31	14	1649	-302	-98	0.47	0.0	4.946	0.100	0	0	0	146
110	113	C	110-#4 ACS	7.37Y	122.9	0.79	3.11	21.12	15	142	67	90	0.87	0.6	5.746	0.800	11	5	6	45
109	110	C	110-#4 ACS	7.37Y	122.8	0.08	3.19	3.03	2	20	10	89	0.01	0.0	6.846	1.100	20	9	6	6
108	110	C	110-#4 ACS	7.33Y	122.2	0.71	3.82	16.41	12	109	52	90	0.57	0.5	6.746	1.000	25	12	2	33

106	108	C	110-#4 ACS	7.32Y	122.0	0.18	4.00	11.95	9	79	37	91	0.11	0.1	7.046	0.300	0	0	1	29
105	106	C	110-#4 ACS	7.30Y	121.7	0.35	4.35	11.95	9	79	37	91	0.22	0.3	7.646	0.600	0	0	0	28
104	105	C	110-#4 ACS	7.28Y	121.4	0.27	4.62	10.01	7	66	31	91	0.14	0.2	8.246	0.600	11	5	4	24
103	104	C	110-#4 ACS	7.27Y	121.2	0.19	4.81	4.06	3	27	13	90	0.03	0.1	10.146	1.900	27	13	12	12
102	104	C	110-#4 ACS	7.28Y	121.3	0.06	4.68	4.24	3	28	13	91	0.01	0.0	8.846	0.600	28	13	8	8
748	105	C	110-#4 ACS	7.30Y	121.6	0.03	4.38	1.94	1	13	6	91	0.00	0.0	8.346	0.700	13	6	4	4
107	108	C	110-#4 ACS	7.33Y	122.2	0.01	3.83	0.62	0	4	2	89	0.00	0.0	7.145	0.399	4	2	2	2
112	113	ABC	090-#336.4	7.41Y	123.4	0.25	2.57	69.72	13	1507	-370	-97	7.84	0.5	6.946	2.000	51	24	15	101
792	112	ABC	090-#336.4	7.40Y	123.4	0.03	2.60	67.72	13	1447	-413	-96	1.15	0.1	7.246	0.300	0	0	0	86
767	792	ABC	090-#336.4	7.40Y	123.4	0.01	2.61	63.59	12	1336	-459	-95	0.67	0.1	7.446	0.200	0	0	0	51
770	767	ABC	090-#336.4	7.40Y	123.4	0.01	2.62	63.59	12	1335	-461	-95	0.67	0.1	7.645	0.200	0	0	0	51
771	770	ABC	090-#336.4	7.40Y	123.4	-0.01	2.62	62.47	12	1303	-477	-94	1.63	0.1	8.245	0.600	244	118	2	50
810	771	ABC	Cap (450)	7.40Y	123.4	0.00	2.62	54.57	0	1052	-602	-87	0.00	0.0	8.245	0.600	0	0	0	48
811	810	ABC	Cap (600)	7.40Y	123.4	0.00	2.62	47.70	0	1052	-126	-99	0.00	0.0	8.245	0.600	0	0	0	48
812	811	ABC	090-#336.4	7.40Y	123.3	0.04	2.65	52.60	10	1052	508	90	0.23	0.0	8.345	0.100	0	0	0	48
635	812	ABC	096-#4/0 A	7.38Y	123.0	0.40	3.05	52.60	15	1052	508	90	1.92	0.2	9.145	0.800	479	229	33	48
84	635	ABC	096-#4/0 A	7.36Y	122.7	0.27	3.32	26.15	8	521	252	90	0.74	0.1	10.045	0.900	61	29	8	14
552	84	ABC	096-#4/0 A	7.35Y	122.6	0.11	3.43	23.02	7	458	221	90	0.28	0.1	10.445	0.400	0	0	0	6
85	552	ABC	110-#4 ACS	7.31Y	121.9	0.70	4.14	22.32	16	443	214	90	2.62	0.6	11.245	0.800	10	5	2	3
749	85	A	110-#4 ACS	7.31Y	121.9	0.00	4.14	0.00	0	0	0	100	0.00	0.0	11.545	0.300	0	0	0	0
1404	85	ABC	Node	7.31Y	121.9	0.00	4.14	21.79	0	430	208	90	0.00	0.0	11.245	0.300	425	206	1	1
86	552	ABC	096-#4/0 A	7.35Y	122.6	0.00	3.44	0.71	0	14	7	89	0.00	0.0	10.745	0.299	14	7	3	3
1400	635	ABC	Node	7.38Y	123.0	0.00	3.05	1.99	0	40	19	90	0.00	0.0	9.145	0.299	39	18	1	1
1441	770	ABC	Node	7.40Y	123.4	0.00	2.62	1.58	0	32	15	91	0.00	0.0	7.645	0.299	31	15	1	1
1442	770	ABC	Node	7.40Y	123.4	0.00	2.62	0.00	0	0	0	100	0.00	0.0	7.645	0.299	0	0	0	0
768	792	B	106-#2 ACS	7.37Y	122.8	0.61	3.21	15.97	9	110	44	93	0.50	0.5	8.346	1.100	0	0	0	35
111	768	B	110-#4 ACS	7.34Y	122.4	0.37	3.58	15.97	11	109	43	93	0.30	0.3	8.845	0.500	11	5	6	35
101	111	B	110-#4 ACS	7.29Y	121.5	0.94	4.52	14.29	10	98	38	93	0.48	0.5	11.546	2.701	96	37	29	29
119	120	B	110-#4 ACS	7.41Y	123.5	0.16	2.46	5.46	4	37	17	91	0.03	0.1	6.046	1.200	36	17	9	9

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	7759	127	0	0	0	0	192	0.00	8079
KVAR	3680	60	-1726	0	0	0	339		2353

Lowest Voltage = 118.73 on Element 61
Max Accm VoltD = 7.27 on Element 61
Max Elem VoltD = 2.32 on Element 67

Balanced Voltage Drop Report
Source: 3000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	KW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 3000		ABC	SRC-3000	7.56Y	126.0	0.00	0.00	289.26	19	6245	2008	95	0.00	0.0	0.000	0.000	0	0	0	1353 C
----------- Feeder No. 31 (3001) Beginning with Device 3001 -----------																				
3001	3000	ABC	_	7.56Y	126.0	0.00	0.00	48.57	0	1096	114	99	0.00	0.0	0.000	0.000	0	0	0	328
262	3001	ABC	090-#336.4	7.53Y	125.6	0.42	0.42	48.57	9	1096	114	99	2.95	0.3	1.600	1.600	68	26	20	328
261	262	C	110-#4 ACS	7.52Y	125.4	0.22	0.64	3.87	3	27	11	93	0.03	0.1	3.900	2.300	26	10	7	7
260	262	ABC	090-#336.4	7.53Y	125.4	0.16	0.58	44.12	8	995	69	100	1.08	0.1	2.295	0.695	42	16	15	301
557	260	ABC	036-#2 COP	7.52Y	125.3	0.13	0.71	7.12	3	150	58	93	0.12	0.1	3.395	1.100	28	11	8	26
734	557	ABC	110-#4 ACS	7.51Y	125.2	0.08	0.79	5.76	4	121	47	93	0.06	0.1	3.895	0.500	73	28	16	18
1432	734	ABC	Node	7.51Y	125.2	0.00	0.79	2.15	0	45	18	93	0.00	0.0	3.895	0.500	44	17	2	2
556	260	ABC	090-#336.4	7.52Y	125.3	0.10	0.68	35.46	7	800	-9	-100	0.68	0.1	2.995	0.700	54	21	12	260
919	556	ABC	Cap (300)	7.52Y	125.3	0.00	0.68	33.01	0	744	-32	-100	0.00	0.0	2.995	0.700	0	0	0	248
258	919	ABC	090-#336.4	7.51Y	125.2	0.11	0.79	33.95	6	712	282	93	0.37	0.1	3.395	0.400	26	10	6	236
257	258	ABC	090-#336.4	7.51Y	125.2	0.04	0.83	5.24	1	110	43	93	0.01	0.0	5.295	1.900	106	41	28	28
256	258	ABC	096-#4/0 A	7.48Y	124.6	0.57	1.36	27.44	8	575	228	93	1.70	0.3	5.295	1.900	75	29	29	202
255	256	C	110-#4 ACS	7.46Y	124.4	0.29	1.65	6.09	4	42	17	93	0.08	0.2	6.496	1.201	15	6	6	16
254	255	C	110-#4 ACS	7.45Y	124.2	0.19	1.83	3.81	3	27	10	94	0.03	0.1	8.496	2.000	26	10	10	10
REG70	256	AB	SystemRegu	7.56Y	126.0	-1.36	0.00	32.55	33	453	179	93	percent Boost= 1.08 Tap= 1.7							157
253	REG70	AB	106-#2 ACS	7.43Y	123.9	2.09	2.09	32.20	18	453	179	93	6.21	1.4	7.695	2.400	99	38	39	157
252	253	AB	110-#4 ACS	7.40Y	123.4	0.53	2.62	24.88	18	345	134	93	1.40	0.4	8.195	0.500	15	6	6	118
251	252	AB	106-#2 ACS	7.38Y	123.0	0.38	3.00	12.92	7	178	69	93	0.48	0.3	9.295	1.100	42	16	12	63
250	251	AB	106-#2 ACS	7.37Y	122.8	0.21	3.21	9.78	5	135	52	93	0.21	0.2	9.995	0.700	1	0	3	51
249	250	AB	106-#2 ACS	7.36Y	122.6	0.15	3.35	9.69	5	133	52	93	0.15	0.1	10.495	0.500	0	0	0	48
248	249	B	110-#4 ACS	7.34Y	122.3	0.32	3.67	6.28	4	43	17	93	0.07	0.2	12.595	2.100	42	16	9	9
247	249	AB	106-#2 ACS	7.36Y	122.6	0.04	3.39	6.55	4	90	35	93	0.03	0.0	10.696	0.201	0	0	0	39
246	247	B	110-#4 ACS	7.35Y	122.5	0.09	3.49	1.83	1	13	5	93	0.01	0.0	12.796	2.100	12	5	10	10
245	247	A	106-#2 ACS	7.30Y	121.6	0.98	4.37	11.27	6	77	30	93	0.38	0.5	15.696	5.000	76	29	29	29
244	252	A	110-#4 ACS	7.32Y	122.1	1.32	3.94	21.66	15	149	58	93	1.02	0.7	10.695	2.500	146	57	49	49
259	919	C	110-#4 ACS	7.51Y	125.2	0.17	0.85	4.58	3	32	12	94	0.03	0.1	4.495	1.500	31	12	12	12
----------- Feeder No. 32 (3002) Beginning with Device 3002 -----------																				
3002	3000	ABC	_	7.56Y	126.0	0.00	0.00	91.14	0	2000	524	97	0.00	0.0	0.000	1.500	0	0	0	550
303	3002	ABC	102-#1/0 A	7.38Y	123.0	2.96	2.96	91.14	40	2000	524	97	39.37	2.0	1.900	1.900	141	55	30	550
302	303	ABC	106-#2 ACS	7.38Y	122.9	0.10	3.06	9.62	5	199	77	93	0.15	0.1	2.299	0.399	5	2	2	55
300	302	BC	106-#2 ACS	7.34Y	122.3	0.66	3.72	14.07	8	193	75	93	0.66	0.3	5.399	3.100	190	74	53	53
982	302	C	106-#2 ACS	7.38Y	122.9	0.00	3.06	0.00	0	0	0	100	0.00	0.0	3.299	0.999	0	0	0	0
294	303	ABC	096-#4/0 A	7.35Y	122.5	0.57	3.54	61.04	18	1330	241	98	4.86	0.4	2.900	1.000	32	13	9	374
301	294	B	110-#4 ACS	7.31Y	121.8	0.66	4.19	24.45	17	167	65	93	0.57	0.3	4.001	1.101	165	64	40	40
293	294	ABC	096-#4/0 A	7.33Y	122.1	0.37	3.91	51.52	15	1125	155	99	2.82	0.3	3.699	0.799	6	3	2	325
291	293	ABC	096-#4/0 A	7.32Y	122.0	0.11	4.02	44.16	13	966	89	100	0.78	0.1	3.999	0.300	0	0	0	284
290	291	A	110-#4 ACS	7.31Y	121.8	0.16	4.18	4.45	3	30	12	93	0.03	0.1	5.499	1.500	30	12	9	9
289	291	ABC	096-#4/0 A	7.31Y	121.8	0.14	4.16	42.74	13	935	76	100	0.96	0.1	4.399	0.400	17	7	5	275
288	289	B	110-#4 ACS	7.31Y	121.8	0.03	4.19	1.62	1	11	4	94	0.00	0.0	5.099	0.700	11	4	5	5
287	289	ABC	096-#4/0 A	7.28Y	121.3	0.54	4.70	41.40	12	906	63	100	3.61	0.4	5.999	1.600	14	5	4	265
283	287	ABC	106-#2 ACS	7.25Y	120.8	0.48	5.19	34.48	19	753	-1	-100	2.99	0.4	6.599	0.600	7	3	1	225
282	283	A	110-#4 ACS	7.24Y	120.7	0.08	5.27	2.92	2	20	8	93	0.01	0.1	7.399	0.800	12	5	5	8
281	282	A	110-#4 ACS	7.24Y	120.7	0.03	5.30	1.18	1	8	3	94	0.00	0.0	8.499	1.100	8	3	3	3
280	283	ABC	106-#2 ACS	7.23Y	120.4	0.38	5.57	33.24	18	723	-14	-100	2.30	0.3	7.099	0.500	14	6	2	216
279	280	A	110-#4 ACS	7.22Y	120.4	0.03	5.60	1.70	1	11	4	94	0.00	0.0	7.899	0.800	11	4	3	3
278	280	ABC	106-#2 ACS	7.19Y	119.8	0.62	6.19	32.06	18	695	-25	-100	3.57	0.5	7.999	0.900	71	28	12	211
825	278	ABC	Cap (300)	7.19Y	119.8	0.00	6.19	28.86	0	620	-55	-100	0.00	0.0	7.999	0.900	0	0	0	199
826	825	ABC	106-#2 ACS	7.17Y	119.5	0.30	6.49	30.90	17	620	244	93	1.51	0.2	8.399	0.400	47	18	12	199
827	826	ABC	REG-003	7.56Y	126.0	-6.49	0.00	28.55	29	571	225	93	percent Boost= 5.15 Tap= 8.2							187
273	827	AB	106-#2 ACS	7.53Y	125.5	0.53	0.53	31.49	17	443	175	93	1.57	0.4	8.999	0.600	70	27	17	153
828	273	AB	106-#2 ACS	7.52Y	125.4	0.08	0.61	26.31	15	368	146	93	0.22	0.1	9.099	0.100	0	0	0	136
272	828	A	110-#4 ACS	7.51Y	125.2	0.15	0.76	3.20	2	22	9	93	0.02	0.1	10.999	1.900	22	8	9	9
271	828	AB	106-#2 ACS	7.39Y	123.2	2.23	2.84	24.71	14	346	137	93	5.03	1.5	12.475	3.377	84	33	24	127
592	271	AB	106-#2 ACS	7.37Y	122.8	0.33	3.17	17.53	10	241	95	93	0.58	0.2	13.099	0.623	0	0	1	99
270	592	AB	106-#2 ACS	7.32Y	122.0	0.83	4.00	17.52	10	240	94	93	1.32	0.5	14.899	1.800	65	25	23	98
269	270	A	110-#4 ACS	7.31Y	121.9	0.10	4.10	3.23	2	22	9	93	0.01	0.1	16.199	1.300	22	8	14	14
268	270	AB	106-#2 ACS	7.28Y	121.4	0.62	4.62	11.07	6	151	59	93	0.59	0.4	17.199	2.300	60	23	22	61
267	268	B	110-#4 ACS	7.25Y	120.9	0.51	5.13	6.73	5	46	18	93	0.12	0.3	20.299	3.100	45	18	16	16
REG39	268	A	REG-003	7.56Y	126.0	-4.62	0.00	6.48	6	44	17	93	percent Boost= 3.66 Tap= 5.9							23
266	REG39	A	110-#4 ACS	7.51Y	125.2	0.77	0.77	6.24	4	44	17	93	0.24	0.6	19.998	2.799	8	3	9	23
265	266	A	110-#4 ACS	7.50Y	124.9	0.30	1.07	5.10	4	36	14	93	0.05	0.2	22.398	2.400	34	13	14	14
593	271	AB	106-#2 ACS	7.39Y	123.2	0.01	2.85	0.94	1	13	5	93	0.00	0.0	13.161	0.686	13	5	4	4
277	827	C	110-#4 ACS	7.49Y	124.8	1.20	1.20	18.26	13	129	50	93	0.78	0.6	11.099	2.700	123	48	34	34
286	287	ABC	096-#4/0 A	7.27Y	121.2	0.05	4.76	6.64	2	135	53	93	0.03	0.0	7.299	1.300	108	42	25	36
285	286	ABC	096-#4/0 A	7.27Y	121.2	0.01	4.77	1.32	0	27	10	94	0.00	0.0	8.799	1.500	27	10	11	11
284	285	ABC	096-#4/0 A	7.27Y	121.2	0.00	4.77	0.00	0	0	0	100	0.00	0.0	9.399	0.600	0	0	0	0
292	293	C	110-#4 ACS	7.26Y	120.9	1.17	5.08	21.87	16	149	58	93	0.92	0.6	5.899	2.200	147	57	39	39

299	303	ABC	106-#2 ACS	7.35Y	122.4	0.61	3.57	13.89	8	287	111	93	1.19	0.4	4.200	2.300	137	53	47	91	
726	299	ABC	106-#2 ACS	7.34Y	122.3	0.12	3.69	7.09	4	146	57	93	0.12	0.1	4.999	0.799	55	21	10	44	
297	726	AB	106-#2 ACS	7.34Y	122.3	0.06	3.75	5.05	3	69	27	93	0.03	0.0	5.399	0.399	2	1	1	28	
296	297	B	110-#4 ACS	7.33Y	122.2	0.00	3.75	0.14	0	1	0	100	0.00	0.0	6.099	0.700	1	0	3	3	
295	297	A	110-#4 ACS	7.31Y	121.9	0.40	4.15	9.63	7	66	26	93	0.14	0.2	7.099	1.700	65	25	24	24	
298	726	C	110-#4 ACS	7.33Y	122.2	0.14	3.83	2.99	2	20	8	93	0.01	0.1	6.899	1.900	20	8	6	6	

----------- Feeder No. 33 (3003) Beginning with Device 3003 -----------

C 3003	3000	ABC	_	7.56Y	126.0	0.00	0.00	151.49	0	3150	1371	92	0.00	0.0	0.000	1.900	0	0	0	475	C
336	3003	ABC	090-#336.4	7.37Y	122.8	3.25	3.25	151.49	29	3150	1371	92	48.10	1.5	2.600	2.600	126	49	32	475	
1434	336	ABC	Node	7.37Y	122.8	0.00	3.25	0.00	0	0	0	100	0.00	0.0	2.600	2.600	0	0	0	0	
632	336	ABC	090-#336.4	7.33Y	122.1	0.62	3.86	145.27	27	2973	1210	93	8.85	0.3	3.127	0.527	166	64	36	443	
586	632	A	106-#2 ACS	7.32Y	122.0	0.14	4.01	15.70	9	107	42	93	0.07	0.1	3.667	0.540	106	41	22	22	
636	632	ABC	090-#336.4	7.31Y	121.8	0.30	4.16	131.84	25	2689	1083	93	3.93	0.1	3.399	0.272	12	4	3	385	
572	636	B	106-#2 ACS	7.30Y	121.7	0.15	4.32	7.40	4	50	20	93	0.04	0.1	4.599	1.200	50	19	15	15	
335	636	ABC	090-#336.4	7.30Y	121.6	0.21	4.37	128.80	24	2623	1049	93	2.76	0.1	3.599	0.200	11	4	2	367	
334	335	ABC	098-#3/0 A	7.26Y	121.0	0.60	4.97	38.23	13	779	306	93	2.75	0.4	4.799	1.200	62	24	15	184	
739	334	C	110-#4 ACS	7.25Y	120.9	0.17	5.14	8.15	6	55	21	93	0.05	0.1	5.652	0.852	55	21	14	14	
333	334	ABC	106-#2 ACS	7.23Y	120.6	0.47	5.45	20.74	12	421	164	93	1.30	0.3	6.099	1.300	257	100	60	94	
639	333	A	106-#2 ACS	7.22Y	120.4	0.14	5.59	13.34	7	90	35	93	0.06	0.1	6.699	0.600	90	35	17	17	
640	333	ABC	106-#2 ACS	7.23Y	120.5	0.06	5.51	3.54	2	72	28	93	0.04	0.1	6.799	0.700	0	0	0	17	
868	640	B	110-#4 ACS	7.20Y	120.1	0.44	5.95	10.62	8	72	28	93	0.17	0.2	8.499	1.700	71	28	17	17	
325	334	ABC	106-#2 ACS	7.24Y	120.7	0.30	5.27	11.69	6	237	92	93	0.41	0.2	6.599	1.800	208	81	51	61	
326	325	A	110-#4 ACS	7.24Y	120.7	0.05	5.32	4.12	3	28	11	93	0.01	0.0	7.099	0.500	28	11	10	10	
332	335	ABC	090-#336.4	7.25Y	120.9	0.72	5.09	90.04	17	1830	733	93	6.41	0.4	4.599	1.000	114	44	31	181	
737	332	ABC	096-#4/0 A	7.24Y	120.6	0.28	5.38	76.95	23	1431	870	85	2.25	0.2	4.883	0.284	0	0	0	85	
738	737	ABC	096-#4/0 A	7.22Y	120.4	0.24	5.61	62.60	18	1133	750	83	1.48	0.1	5.167	0.284	1	1	1	3	
1415	738	ABC	Node	7.22Y	120.4	0.00	5.61	62.53	0	1130	747	83	0.00	0.0	5.167	0.284	1127	745	2	2	
774	737	A C	106-#2 ACS	7.20Y	120.0	0.65	6.03	21.93	12	296	115	93	1.40	0.5	5.883	1.000	16	6	13	82	
775	774	C	106-#2 ACS	7.19Y	119.9	0.07	6.10	16.84	9	113	44	93	0.04	0.0	6.133	0.250	113	44	28	28	
331	774	A C	106-#2 ACS	7.17Y	119.4	0.54	6.57	12.29	7	165	64	93	0.63	0.4	7.583	1.700	49	19	16	41	
740	331	C	110-#4 ACS	7.14Y	119.0	0.40	6.96	17.23	12	115	45	93	0.25	0.2	8.530	0.947	115	45	25	25	
903	332	ABC	Cap (300)	7.25Y	120.9	0.00	5.09	15.60	0	277	-196	-82	0.00	0.0	4.599	0.947	0	0	0	65	
330	903	ABC	090-#336.4	7.24Y	120.7	0.20	5.30	13.67	3	277	108	93	0.26	0.1	6.599	2.000	53	21	14	65	
329	330	A	110-#4 ACS	7.24Y	120.6	0.11	5.41	5.87	4	40	15	94	0.04	0.1	6.999	0.399	0	0	0	10	
328	329	A	110-#4 ACS	7.23Y	120.5	0.14	5.55	4.41	3	30	12	93	0.02	0.1	8.298	1.299	30	12	8	8	
327	329	A	110-#4 ACS	7.23Y	120.5	0.04	5.45	1.46	1	10	4	93	0.00	0.0	8.199	1.200	10	4	2	2	
822	330	ABC	090-#336.4	7.24Y	120.7	0.03	5.32	9.05	2	183	71	93	0.03	0.0	7.099	0.500	26	10	10	41	
823	822	C	110-#4 ACS	7.20Y	119.9	0.74	6.06	23.31	17	157	61	93	0.62	0.4	8.399	1.300	156	61	31	31	
1433	336	ABC	Node	7.37Y	122.8	0.00	3.25	0.00	0	0	0	100	0.00	0.0	2.600	1.300	0	0	0	0	

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total	
KW	5991	78	0	0	0	0	176	0.00	6245	Lowest Voltage = 119.04 on Element 740
KVAR	2635	31	-931	0	0	0	273		2008	Max Accm VoltD = 6.96 on Element 740
										Max Elem VoltD = 3.25 on Element 336

Detail

Balanced Voltage Drop Report
Source: 4000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	KW Loss	% Loss	mi From Src	Element Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru	
C 4000		ABC	SRC-4000	7.56Y	126.0	0.00	0.00	428.65	29	9193	3162	95	0.00	0.0	0.000	0.000	0	0	0	2216	C

----------- Feeder No. 0 (4008) Beginning with Device 4008 -----------

C 4008	4000	ABC	_	7.56Y	126.0	0.00	0.00	192.41	0	4209	1152	96	0.00	0.0	0.000	0.000	0	0	0	1273	C

----------- Feeder No. 41 (4001) Beginning with Device 4001 -----------

C 4001	4008	ABC	_	7.56Y	126.0	0.00	0.00	104.79	0	2326	489	98	0.00	0.0	0.000	0.000	0	0	0	649	C
237	4001	ABC	090-#336.4	7.51Y	125.2	0.83	0.83	104.79	20	2326	489	98	10.76	0.5	1.200	1.200	52	16	11	649	
236	237	ABC	090-#336.4	7.47Y	124.6	0.59	1.42	102.30	19	2261	447	98	7.63	0.3	2.100	0.900	70	22	16	638	
235	236	ABC	090-#336.4	7.47Y	124.5	0.12	1.55	9.13	2	195	61	95	0.10	0.1	4.399	2.299	92	29	28	56	
232	235	ABC	090-#336.4	7.47Y	124.5	0.00	1.55	0.79	0	17	5	96	0.00	0.0	5.600	1.201	16	5	4	4	
233	235	C	110-#4 ACS	7.46Y	124.4	0.07	1.62	3.05	2	22	7	95	0.01	0.0	5.399	1.000	21	7	8	8	
234	235	C	106-#2 ACS	7.45Y	124.2	0.21	1.75	8.71	5	62	19	96	0.06	0.1	5.799	1.400	60	19	16	16	
229	236	ABC	096-#4/0 A	7.39Y	123.2	1.41	2.83	89.90	26	1986	346	99	17.71	0.9	3.801	1.701	76	24	22	566	
228	229	C	110-#4 ACS	7.38Y	123.1	0.09	2.92	2.95	2	21	6	96	0.01	0.0	5.001	1.201	20	6	7	7	
227	229	ABC	096-#4/0 A	7.37Y	122.9	0.31	3.14	85.31	25	1870	285	99	3.80	0.2	4.200	0.399	44	14	10	537	
H REG60	227	ABC	REG-002	7.56Y	126.0	-3.14	-0.00	83.21	36	1821	264	99	percent Boost= 2.50 Tap= 4.0							527	H
226	REG60	ABC	102-#1/0 A	7.55Y	125.8	0.18	0.18	32.92	14	711	228	95	0.86	0.1	4.499	0.299	2	0	1	202	
225	226	ABC	102-#1/0 A	7.54Y	125.7	0.12	0.30	32.85	14	709	226	95	0.58	0.1	4.700	0.201	0	0	0	201	
224	225	C	106-#2 ACS	7.46Y	124.3	1.40	1.70	24.89	14	179	56	95	1.55	0.9	6.800	2.100	75	23	25	57	
223	224	C	106-#2 ACS	7.46Y	124.3	0.03	1.74	2.14	1	15	5	95	0.00	0.0	7.700	0.900	15	5	5	5	
222	224	C	106-#2 ACS	7.44Y	124.1	0.25	1.95	11.95	7	85	27	95	0.14	0.2	7.500	0.700	24	7	6	27	
221	222	C	110-#4 ACS	7.40Y	123.4	0.69	2.64	8.54	6	61	19	95	0.28	0.5	9.500	2.000	19	6	7	21	
220	221	C	110-#4 ACS	7.39Y	123.1	0.25	2.89	5.76	4	41	13	95	0.05	0.1	11.300	1.800	40	12	14	14	
217	225	AB	102-#1/0 A	7.49Y	124.8	0.93	1.23	36.83	16	529	169	95	3.13	0.6	5.901	1.201	25	8	5	144	
210	217	AB	106-#2 ACS	7.35Y	122.6	2.21	3.44	34.61	19	494	156	95	7.02	1.4	8.601	2.700	203	63	55	138	
209	210	B	106-#2 ACS	7.31Y	121.8	0.73	4.17	23.90	13	168	53	95	0.85	0.5	9.600	1.000	34	11	9	50	
208	209	B	110-#4 ACS	7.27Y	121.2	0.59	4.76	16.26	12	113	35	96	0.35	0.3	11.100	1.500	112	35	33	33	
555	209	B	106-#2 ACS	7.31Y	121.8	0.02	4.19	2.64	1	18	6	95	0.00	0.0	10.100	0.500	18	6	8	8	
212	210	A	106-#2 ACS	7.33Y	122.1	0.41	3.85	15.93	9	112	35	95	0.33	0.3	9.400	0.799	11	3	3	33	
211	212	A	106-#2 ACS	7.30Y	121.6	0.54	4.40	14.39	8	101	31	96	0.27	0.3	11.600	2.200	99	31	30	30	
216	217	A	106-#2 ACS	7.48Y	124.7	0.02	1.26	0.82	0	6	2	95	0.00	0.0	6.701	0.800	0	0	0	1	
215	216	A	106-#2 ACS	7.48Y	124.7	0.02	1.27	0.82	0	6	2	95	0.00	0.0	7.801	1.100	6	2	1	1	
204	REG60	ABC	098-#3/0 A	7.53Y	125.4	0.55	0.55	48.97	16	1110	36	100	4.62	0.4	5.400	1.200	51	16	20	325	
814	204	ABC	Cap (300)	7.53Y	125.4	0.00	0.55	46.60	0	1052	13	100	0.00	0.0	5.400	1.200	0	0	0	305	
815	814	ABC	098-#3/0 A	7.51Y	125.1	0.33	0.88	48.98	16	1052	341	95	2.26	0.2	6.000	0.600	81	25	25	305	
203	815	ABC	098-#3/0 A	7.43Y	123.9	1.23	2.11	45.07	15	966	313	95	6.94	0.7	8.200	2.200	88	27	32	280	
202	203	C	110-#4 ACS	7.41Y	123.5	0.37	2.48	9.01	6	64	20	95	0.12	0.2	9.900	1.700	62	19	20	20	
618	203	ABC	098-#3/0 A	7.42Y	123.7	0.14	2.25	37.85	13	805	255	95	0.70	0.1	8.500	0.300	34	11	11	228	
201	618	ABC	098-#3/0 A	7.41Y	123.4	0.31	2.56	34.76	12	738	233	95	1.39	0.2	9.200	0.700	17	5	5	206	
200	201	ABC	102-#1/0 A	7.39Y	123.2	0.22	2.79	16.64	7	353	111	95	0.50	0.1	10.000	0.800	65	20	17	94	
199	200	ABC	102-#1/0 A	7.38Y	123.0	0.19	2.97	13.49	6	286	89	95	0.35	0.1	10.800	0.800	35	11	13	77	
337	199	ABC	102-#1/0 A	7.37Y	122.8	0.27	3.24	11.80	5	250	78	95	0.36	0.1	12.700	1.900	168	52	44	64	
887	337	AB	106-#2 ACS	7.36Y	122.7	0.02	3.27	5.55	3	78	24	96	0.01	0.0	12.900	0.200	40	12	6	20	
901	887	B	110-#4 ACS	7.36Y	122.7	0.05	3.32	5.37	4	38	12	95	0.01	0.0	13.300	0.400	37	12	14	14	
205	201	A C	106-#2 ACS	7.35Y	122.5	0.98	3.55	25.94	14	367	115	95	2.55	0.7	10.600	1.400	70	22	16	107	
206	205	A C	106-#2 ACS	7.32Y	122.1	0.40	3.94	20.86	12	293	91	96	0.83	0.3	11.300	0.700	55	17	16	91	
207	206	A C	106-#2 ACS	7.29Y	121.4	0.63	4.57	16.87	9	236	74	95	0.76	0.3	13.800	2.500	233	72	75	75	
554	207	A	106-#2 ACS	7.29Y	121.4	0.00	4.57	0.00	0	0	0	100	0.00	0.0	14.000	0.200	0	0	0	0	
619	618	B	110-#4 ACS	7.42Y	123.7	0.07	2.33	4.36	3	31	10	95	0.01	0.0	9.200	0.700	30	9	11	11	

----------- Feeder No. 42 (4002) Beginning with Device 4002 -----------

4002	4008	ABC	_	7.56Y	126.0	0.00	0.00	88.03	0	1883	664	94	0.00	0.0	0.000	0.700	0	0	0	624	
158	4002	ABC	090-#336.4	7.50Y	125.0	0.97	0.97	88.03	17	1883	664	94	9.02	0.5	1.400	1.400	7	2	3	624	
157	158	B	110-#4 ACS	7.49Y	124.8	0.28	1.25	5.12	4	37	11	96	0.06	0.2	2.900	1.500	17	5	3	10	
156	157	B	110-#4 ACS	7.48Y	124.7	0.01	1.26	0.79	1	6	2	95	0.00	0.0	3.200	0.300	6	2	2	2	
155	157	B	110-#4 ACS	7.48Y	124.7	0.02	1.27	1.83	1	13	4	96	0.00	0.0	3.400	0.500	13	4	5	5	
154	158	ABC	090-#336.4	7.46Y	124.3	0.74	1.71	86.01	16	1831	629	95	6.78	0.4	2.500	1.100	4	1	1	611	

147	154	ABC	098-#3/0 A	7.31Y	121.9	2.39	4.10	67.55	23	1432	484	95	20.22	1.4	5.300	2.800	99	31	31	483	
145	147	ABC	098-#3/0 A	7.27Y	121.1	0.79	4.89	61.55	21	1285	416	95	6.25	0.5	6.300	1.000	28	9	8	445	
REG61	145	ABC	REG-005	7.56Y	126.0	-4.89	0.00	60.18	40	1250	398	95	percent Boost= 3.88 Tap= 6.2							437	
144	REG61	ABC	106-#2 ACS	7.52Y	125.4	0.59	0.59	22.76	13	493	155	95	2.02	0.4	7.335	1.035	62	19	13	153	
143	144	B	106-#2 ACS	7.51Y	125.2	0.26	0.85	11.75	7	84	26	96	0.11	0.1	8.634	1.299	81	25	22	22	
142	143	B	106-#2 ACS	7.51Y	125.2	0.00	0.85	0.00	0	0	0	100	0.00	0.0	9.034	0.399	0	0	0	0	
765	144	ABC	106-#2 ACS	7.51Y	125.2	0.21	0.80	15.84	9	341	107	95	0.52	0.2	7.835	0.500	6	2	3	118	
141	765	B	110-#4 ACS	7.45Y	124.1	1.06	1.85	13.65	10	98	31	95	0.66	0.7	9.935	2.100	45	14	16	39	
140	141	B	110-#4 ACS	7.45Y	124.1	0.01	1.86	0.58	0	4	1	97	0.00	0.0	10.535	0.600	4	1	3	3	
139	141	B	110-#4 ACS	7.44Y	123.9	0.21	2.07	6.64	5	47	15	95	0.07	0.1	10.735	0.800	16	5	3	20	
135	139	B	110-#4 ACS	7.42Y	123.7	0.19	2.25	4.06	3	29	9	96	0.03	0.1	12.635	1.899	28	9	15	15	
138	139	B	110-#4 ACS	7.44Y	123.9	0.00	2.07	0.25	0	2	1	89	0.00	0.0	11.535	0.800	2	1	2	2	
766	765	ABC	106-#2 ACS	7.49Y	124.9	0.32	1.11	11.02	6	237	74	95	0.51	0.2	9.235	1.400	86	27	17	76	
219	766	A	106-#2 ACS	7.47Y	124.5	0.34	1.46	20.59	11	147	46	95	0.36	0.2	9.735	0.500	6	2	4	59	
218	219	A	106-#2 ACS	7.44Y	124.1	0.47	1.93	19.68	11	140	44	95	0.41	0.3	10.635	0.900	61	19	21	55	
214	218	A	110-#4 ACS	7.44Y	124.0	0.11	2.04	3.69	3	26	8	96	0.01	0.1	11.835	1.200	26	8	10	10	
213	218	A	106-#2 ACS	7.43Y	123.8	0.25	2.18	7.24	4	51	16	95	0.06	0.1	12.635	2.000	50	16	24	24	
744	766	A	106-#2 ACS	7.49Y	124.9	0.00	1.11	0.00	0	0	0	100	0.00	0.0	10.035	0.800	0	0	0	0	
134	REG61	ABC	098-#3/0 A	7.50Y	125.0	1.01	1.01	35.08	12	758	243	95	4.26	0.6	8.800	2.500	161	50	46	284	
133	134	A	110-#4 ACS	7.49Y	124.9	0.09	1.11	1.55	1	11	3	96	0.01	0.0	11.300	2.500	11	3	6	6	
132	134	ABC	098-#3/0 A	7.49Y	124.8	0.24	1.25	26.81	9	575	182	95	0.80	0.1	9.500	0.700	34	11	10	232	
630	132	ABC	098-#3/0 A	7.48Y	124.7	0.09	1.34	17.94	6	384	121	95	0.22	0.1	9.900	0.399	0	0	0	167	
131	630	B	110-#4 ACS	7.33Y	122.2	2.45	3.80	24.09	17	172	54	95	2.74	1.6	12.600	2.700	73	23	22	52	
129	131	B	110-#4 ACS	7.30Y	121.6	0.56	4.36	13.58	10	95	30	95	0.32	0.3	13.900	1.300	64	20	19	30	
136	129	B	110-#4 ACS	7.28Y	121.4	0.23	4.59	4.31	3	30	9	96	0.04	0.1	16.100	2.200	30	9	11	11	
621	630	ABC	098-#3/0 A	7.47Y	124.6	0.10	1.44	9.90	3	212	66	95	0.13	0.1	10.700	0.800	4	1	1	115	
130	621	A	110-#4 ACS	7.45Y	124.2	0.39	1.83	6.01	4	43	13	96	0.08	0.2	13.400	2.700	42	13	21	21	
622	621	ABC	090-#336.4	7.47Y	124.5	0.02	1.46	7.70	1	165	51	96	0.01	0.0	11.000	0.300	0	0	0	93	
561	622	ABC	098-#3/0 A	7.46Y	124.4	0.14	1.60	7.70	3	165	51	96	0.14	0.1	12.400	1.400	0	0	0	92	
631	561	ABC	106-#2 ACS	7.46Y	124.4	0.04	1.64	7.70	4	165	51	96	0.03	0.0	12.800	0.400	160	50	92	92	
865	622	ABC	098-#3/0 A	7.47Y	124.5	0.00	1.46	0.00	0	0	0	100	0.00	0.0	11.200	0.200	0	0	0	1	
1416	865	ABC	Node	7.47Y	124.5	0.00	1.46	0.00	0	0	0	100	0.00	0.0	11.200	0.200	0	0	1	1	
243	132	C	106-#2 ACS	7.47Y	124.5	0.29	1.54	21.66	12	155	49	95	0.33	0.2	9.900	0.400	4	1	1	55	
242	243	C	106-#2 ACS	7.43Y	123.8	0.70	2.24	21.11	12	150	47	95	0.70	0.5	11.000	1.100	35	11	11	54	
198	242	C	106-#2 ACS	7.42Y	123.7	0.02	2.26	1.19	1	8	3	94	0.00	0.0	12.101	1.100	8	3	6	6	
241	242	C	110-#4 ACS	7.40Y	123.4	0.38	2.62	14.84	11	105	33	95	0.26	0.2	11.700	0.700	49	15	13	37	
240	241	C	110-#4 ACS	7.40Y	123.3	0.10	2.73	7.81	6	55	17	96	0.04	0.1	11.999	0.299	8	3	1	24	
239	240	C	110-#4 ACS	7.39Y	123.1	0.15	2.87	3.02	2	21	7	95	0.02	0.1	13.999	2.000	21	6	11	11	
238	240	C	110-#4 ACS	7.39Y	123.1	0.13	2.86	3.59	3	25	8	95	0.02	0.1	12.999	1.000	12	4	5	12	
861	238	C	110-#4 ACS	7.39Y	123.1	0.06	2.91	1.81	1	13	4	96	0.00	0.0	14.299	1.300	12	4	7	7	
146	147	B	110-#4 ACS	7.31Y	121.8	0.08	4.18	3.66	3	26	8	96	0.01	0.0	6.200	0.900	25	8	7	7	
153	154	ABC	090-#336.4	7.45Y	124.2	0.10	1.81	18.28	3	388	128	95	0.19	0.0	3.200	0.700	17	5	6	127	
152	153	B	110-#4 ACS	7.40Y	123.3	0.88	2.69	18.12	13	129	40	96	0.58	0.4	5.200	2.000	124	39	46	49	
151	152	B	110-#4 ACS	7.40Y	123.3	0.00	2.69	0.13	0	1	0	100	0.00	0.0	6.400	1.200	1	0	3	3	
150	153	ABC	090-#336.4	7.45Y	124.1	0.07	1.87	11.41	2	241	82	95	0.07	0.0	4.200	1.000	120	44	24	72	
149	150	C	110-#4 ACS	7.38Y	123.0	1.10	2.98	16.67	12	118	37	95	0.94	0.8	5.700	1.500	20	6	10	48	
736	149	C	110-#4 ACS	7.38Y	123.0	0.01	2.99	0.97	1	7	2	96	0.00	0.0	6.200	0.500	7	2	3	3	
735	736	C	110-#4 ACS	7.38Y	123.0	0.00	2.99	0.00	0	0	0	100	0.00	0.0	6.401	0.201	0	0	0	0	
148	149	C	110-#4 ACS	7.36Y	122.7	0.31	3.29	7.15	5	50	16	95	0.08	0.2	7.500	1.800	49	15	18	18	
583	149	C	110-#4 ACS	7.37Y	122.8	0.21	3.18	5.68	4	40	12	96	0.04	0.1	7.200	1.500	39	12	17	17	

----------- Feeder No. 0 (4009) Beginning with Device 4009 -----------

C 4009	4000	ABC	_	7.56Y	126.0	0.00	0.00	236.95	0	4984	2010	93	0.00	0.0	0.000	1.500	0	0	0	943	C

----------- Feeder No. 43 (4003) Beginning with Device 4003 -----------

4003	4009	ABC	_	7.56Y	126.0	0.00	0.00	97.98	0	2095	742	94	0.00	0.0	0.000	1.500	0	0	0	484	
178	4003	ABC	096-#4/0 A	7.48Y	124.7	1.34	1.34	97.98	29	2095	742	94	15.54	0.7	1.222	1.222	20	6	7	484	
595	178	B	106-#2 ACS	7.45Y	124.1	0.52	1.86	18.19	10	130	41	95	0.31	0.2	2.945	1.723	126	39	27	27	
596	178	ABC	096-#4/0 A	7.46Y	124.3	0.39	1.73	90.96	27	1929	668	94	4.16	0.2	1.600	0.378	5	1	3	450	
177	596	A	110-#4 ACS	7.42Y	123.7	0.53	2.26	15.74	11	112	35	95	0.30	0.3	3.000	1.400	109	34	28	28	
176	596	ABC	096-#4/0 A	7.41Y	123.4	0.85	2.58	85.49	25	1808	624	95	8.58	0.5	2.499	0.899	49	15	16	419	
175	176	A	110-#4 ACS	7.40Y	123.3	0.13	2.70	3.07	2	22	7	95	0.01	0.1	4.199	1.700	21	7	7	7	
174	176	ABC	096-#4/0 A	7.28Y	121.3	2.10	4.67	82.12	24	1727	587	95	20.16	1.2	4.899	2.400	140	44	40	396	
H 871	174	ABC	REG-002	7.56Y	126.0	-4.67	-0.00	75.35	32	1565	508	95	percent Boost= 3.71 Tap= 5.9							356	H
173	871	B	110-#4 ACS	7.48Y	124.6	1.39	1.39	21.30	15	154	48	95	1.07	0.7	7.600	2.701	148	46	48	48	
172	871	A C	110-#4 ACS	7.51Y	125.2	0.76	0.76	13.52	10	195	61	95	0.75	0.4	7.500	2.600	187	58	50	51	
1435	172	A C	Node	7.51Y	125.2	0.00	0.76	0.00	0	0	0	100	0.00	0.0	7.500	2.600	0	0	1	1	
171	871	ABC	096-#4/0 A	7.52Y	125.3	0.68	0.68	56.44	17	1216	399	95	4.66	0.4	6.000	1.100	6	2	4	257	
169	171	ABC	096-#4/0 A	7.45Y	124.2	1.09	1.77	48.10	14	1032	335	95	6.29	0.6	8.100	2.100	37	11	15	203	
168	169	C	110-#4 ACS	7.40Y	123.3	0.94	2.72	23.04	16	164	51	95	0.95	0.6	9.300	1.200	94	29	14	31	
167	168	C	110-#4 ACS	7.39Y	123.2	0.13	2.85	9.51	7	67	21	95	0.06	0.1	9.599	0.300	8	3	2	17	
551	167	C	110-#4 ACS	7.38Y	122.9	0.22	3.07	8.31	6	59	18	96	0.07	0.1	10.700	1.100	57	18	15	15	
165	169	ABC	098-#3/0 A	7.42Y	123.7	0.49	2.26	38.66	13	824	261	95	2.42	0.3	9.099	1.000	36	11	8	157	
741	165	B	110-#4 ACS	7.40Y	123.4	0.36	2.63	13.62	10	97	30	96	0.18	0.2	10.199	1.100	94	29	23	23	
783	165	ABC	098-#3/0 A	7.41Y	123.6	0.17	2.43	32.39	11	688	216	95	0.69	0.1	9.499	0.400	16	5	5	126	
779	783	C	106-#2 ACS	7.40Y	123.3	0.25	2.68	18.43	10	130	41	95	0.16	0.1	10.299	0.800	127	40	23	23	
762	783	ABC	098-#3/0 A	7.41Y	123.5	0.10	2.53	25.47	8	541	169	95	0.32	0.1	9.799	0.300	14	4	4	98	
763	762	C	106-#2 ACS	7.37Y	122.8	0.63	3.16	26.46	15	187	58	96	0.58	0.3	11.199	1.400	183	57	39	39	
164	762	ABC	098-#3/0 A	7.40Y	123.4	0.10	2.63	15.99	5	339	106	95	0.14	0.0	10.799	1.000	332	103	55	55	
170	171	B	106-#2 ACS	7.48Y	124.7	0.62	1.30	24.13	13	173	54	95	0.52	0.3	7.500	1.500	167	52	50	50	

----------- Feeder No. 44 (4004) Beginning with Device 4004 -----------

C 4004	4009	ABC	_	7.56Y	126.0	0.00	0.00	139.12	0	2889	1268	92	0.00	0.0	0.000	1.500	0	0	0	459	C
197	4004	ABC	090-#336.4	7.48Y	124.6	1.41	1.41	139.12	26	2889	1268	92	19.25	0.7	1.200	1.200	22	7	4	459	
196	197	ABC	090-#336.4	7.29Y	121.5	3.04	4.46	138.07	26	2847	1216	92	41.21	1.4	3.900	2.700	145	45	41	455	
852	196	ABC	090-#336.4	7.26Y	121.0	0.55	5.01	95.34	18	1936	776	93	6.44	0.3	4.839	0.939	239	74	21	408	
952	852	ABC	090-#336.4	7.25Y	120.9	0.11	5.12	65.30	12	1304	567	92	0.93	0.1	5.100	0.261	0	0	0	322	
194	952	ABC	090-#336.4	7.22Y	120.4	0.48	5.60	62.16	12	1238	545	92	2.77	0.2	6.071	0.971	192	60	43	304	
947	194	A	106-#2 ACS	7.21Y	120.2	0.20	5.79	19.56	11	135	42	95	0.13	0.1	6.655	0.583	135	42	31	31	
948	194	ABC	090-#336.4	7.22Y	120.3	0.13	5.73	46.45	9	907	437	90	0.59	0.1	6.399	0.328	6	2	3	230	
189	948	ABC	090-#336.4	7.16Y	119.4	0.91	6.65	46.15	9	900	434	90	3.56	0.4	9.099	2.700	300	142	80	227	
188	189	ABC	090-#336.4	7.15Y	119.2	0.12	6.77	28.25	5	548	260	90	0.32	0.1	9.599	0.500	17	8	5	135	
185	188	ABC	090-#336.4	7.14Y	119.1	0.17	6.93	20.10	4	390	185	90	0.21	0.1	11.499	1.900	392	185	90	90	
REG72	188	A	REG-001	7.56Y	126.0	-6.77	0.00	21.78	44	141	67	90	percent Boost= 5.37 Tap= 8.6							40	
186	REG72	A	106-#2 ACS	7.50Y	125.0	0.98	0.98	20.61	11	141	67	90	0.68	0.5	12.300	2.701	135	64	40	40	
187	189	C	110-#4 ACS	7.14Y	119.1	0.30	6.94	7.61	5	49	23	91	0.08	0.2	10.699	1.600	49	23	12	12	
195	952	A	110-#4 ACS	7.23Y	120.5	0.41	5.53	9.49	7	66	20	96	0.14	0.2	6.899	1.799	65	20	18	18	
953	852	ABC	106-#2 ACS	7.26Y	121.0	0.04	5.04	8.04	4	165	57	95	0.05	0.0	5.030	0.191	3	1	2	29	
951	953	ABC	106-#2 ACS	7.26Y	120.9	0.01	5.05	2.45	1	49	21	92	0.00	0.0	5.248	0.218	49	21	1	1	
950	953	B	106-#2 ACS	7.25Y	120.9	0.10	5.14	16.30	9	113	35	96	0.05	0.0	5.372	0.341	112	35	26	26	
949	852	B	106-#2 ACS	7.23Y	120.6	0.41	5.42	31.67	18	219	68	96	0.45	0.2	5.601	0.762	218	68	36	36	
853	196	ABC	102-#1/0 A	7.28Y	121.3	0.20	4.66	35.77	16	723	300	92	0.85	0.1	4.400	0.500	499	205	4	6	
1450	853	ABC	Node	7.28Y	121.3	0.00	4.66	10.86	0	218	93	92	0.00	0.0	4.400	0.500	216	92	2	2	

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	8746	165	0	0	0	0	282	0.00	9193
KVAR	2952	53	-328	0	0	0	485		3162

Lowest Voltage = 119.06 on Element 187
Max Accm VoltD = 6.94 on Element 187
Max Elem VoltD = 3.04 on Element 196

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1000		ABC	SRC-1000	15.12Y	126.0	0.00	0.00	211.82	27	9050	3226	94	0.00	0.0	0.000	0.000	0	0	0	1147 C

----------- Feeder No. 0 (1008) Beginning with Device 1008 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
1008	1000	ABC	_	15.12Y	126.0	0.00	0.00	23.63	0	1011	355	94	0.00	0.0	0.000	0.000	0	0	0	144

----------- Feeder No. 12 (1002) Beginning with Device 1002 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
1002	1008	ABC	_	15.12Y	126.0	0.00	0.00	23.63	0	1011	355	94	0.00	0.0	0.000	0.000	0	0	0	144
549	1002	ABC	090-#336.4	15.12Y	126.0	0.02	0.02	23.63	4	1011	355	94	0.12	0.0	0.253	0.253	0	0	0	144
803	549	ABC	090-#336.4	15.12Y	126.0	0.00	0.02	1.49	0	63	24	93	0.00	0.0	0.453	0.200	0	0	0	8
806	803	ABC	090-#336.4	15.12Y	126.0	0.00	0.03	1.49	0	63	24	93	0.00	0.0	0.852	0.400	0	0	0	8
550	806	ABC	106-#2 ACS	15.12Y	126.0	0.01	0.04	1.49	1	63	24	93	0.00	0.0	1.352	0.500	8	2	5	8
1403	550	ABC	Node	15.12Y	126.0	0.00	0.04	1.31	0	55	22	93	0.00	0.0	1.352	0.500	53	21	3	3
876	549	ABC	096-#4/0 A	15.11Y	126.0	0.02	0.05	22.13	7	948	331	94	0.13	0.0	0.453	0.200	0	0	0	136
807	876	ABC	096-#4/0 A	15.11Y	125.9	0.02	0.06	22.13	7	948	331	94	0.09	0.0	0.653	0.200	384	144	16	136
483	807	ABC	106-#2 ACS	15.10Y	125.8	0.11	0.17	12.72	7	548	181	95	0.40	0.1	1.353	0.700	107	41	2	120
482	483	ABC	106-#2 ACS	15.07Y	125.6	0.22	0.40	10.10	6	436	138	95	0.66	0.2	3.253	1.900	105	33	28	118
481	482	B	118-#8 A-C	15.06Y	125.5	0.13	0.53	5.06	5	73	23	95	0.05	0.1	4.753	1.500	70	22	20	20
480	482	ABC	106-#2 ACS	15.05Y	125.5	0.15	0.55	5.90	3	254	80	95	0.26	0.1	5.453	2.200	59	19	19	70
478	480	ABC	106-#2 ACS	15.05Y	125.4	0.05	0.60	3.95	2	170	54	95	0.04	0.0	7.253	1.800	164	52	44	44
1020	478	ABC	Transforme	7.52Y	125.4	0.00	0.60	0.00	0	0	0	100	0.00	0.0	7.253	1.800	0	0	0	0
479	480	B	110-#4 ACS	15.05Y	125.4	0.03	0.57	1.57	1	23	7	96	0.00	0.0	6.853	1.400	22	7	7	7

----------- Feeder No. 0 (1009) Beginning with Device 1009 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1009	1000	ABC	_	15.12Y	126.0	0.00	0.00	188.19	0	8039	2871	94	0.00	0.0	0.000	1.400	0	0	0	1003 C

----------- Feeder No. 13 (1003) Beginning with Device 1003 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
1003	1009	ABC		15.12Y	126.0	0.00	0.00	84.66	0	3598	1341	94	0.00	0.0	0.000	1.400	0	0	0	625
761	1003	ABC	098-#3/0 A	15.05Y	125.4	0.62	0.62	84.66	28	3598	1341	94	12.93	0.4	1.100	1.100	104	33	33	625
785	761	ABC	098-#3/0 A	15.02Y	125.2	0.22	0.84	82.16	27	3477	1288	94	4.51	0.1	1.500	0.400	24	8	6	592
496	785	ABC	098-#3/0 A	14.94Y	124.5	0.65	1.49	81.58	27	3448	1274	94	13.25	0.4	2.700	1.200	53	17	10	586
490	496	ABC	106-#2 ACS	14.90Y	124.2	0.32	1.81	23.51	13	1000	334	95	2.30	0.2	3.756	1.056	80	25	18	228
579	490	ABC	106-#2 ACS	14.88Y	124.0	0.19	2.00	19.49	11	826	278	95	1.19	0.1	4.500	0.744	7	2	4	196
869	579	ABC	106-#2 ACS	14.83Y	123.6	0.39	2.40	19.32	11	817	275	95	2.45	0.3	6.200	1.700	84	27	11	192
1019	869	AB	Transforme	7.35Y	122.5	1.11	3.50	11.30	65	317	110	94	0.00	0.0	6.200	1.700	0	0	0	71
489	1019	AB	106-#2 ACS	7.29Y	121.5	1.02	4.52	22.59	13	317	100	95	1.64	0.5	9.200	3.000	311	98	71	71
1023	869	BC	Transforme	7.38Y	123.0	0.56	2.96	14.64	42	412	137	95	0.00	0.0	6.200	3.000	0	0	0	110
485	1023	BC	106-#2 ACS	7.32Y	122.0	1.02	3.98	29.28	16	412	131	95	2.61	0.6	7.800	1.600	222	70	52	110
723	485	BC	106-#2 ACS	7.30Y	121.6	0.40	4.37	13.18	7	184	58	95	0.56	0.3	8.800	1.000	0	0	0	58
484	723	B	110-#4 ACS	7.30Y	121.6	0.04	4.41	2.07	1	14	5	94	0.00	0.0	9.600	0.800	14	4	2	2
624	723	C	106-#2 ACS	7.26Y	121.1	0.57	4.94	24.29	13	169	54	95	0.48	0.3	10.160	1.360	167	53	56	56
578	490	C	106-#2 ACS	14.90Y	124.2	0.03	1.84	6.28	3	89	28	95	0.01	0.0	4.306	0.550	87	27	14	14
1014	496	ABC	Transforme	7.41Y	123.5	1.01	2.50	56.80	82	2381	903	94	0.00	0.0	2.700	0.550	0	0	0	348
495	1014	ABC	102-#1/0 A	7.33Y	122.2	1.25	3.76	113.61	49	2381	843	94	20.12	0.8	3.300	0.600	69	22	16	348
543	495	ABC	106-#2 ACS	7.33Y	122.1	0.12	3.88	8.45	5	176	60	95	0.14	0.1	4.077	0.777	91	29	17	26
494	543	ABC	106-#2 ACS	7.32Y	122.0	0.08	3.96	4.05	2	84	31	94	0.05	0.1	5.021	0.944	28	9	6	9
925	494	B	110-#4 ACS	7.32Y	122.0	0.00	3.96	0.00	0	0	0	100	0.00	0.0	5.653	0.632	0	0	0	0
924	494	ABC	106-#2 ACS	7.32Y	122.0	0.03	3.99	2.70	1	55	22	93	0.01	0.0	5.423	0.402	1	0	1	3
1417	924	ABC	Node	7.32Y	122.0	0.00	3.99	2.63	0	54	21	93	0.00	0.0	5.423	0.402	53	21	2	2
493	495	ABC	102-#1/0 A	7.29Y	121.5	0.76	4.51	101.81	44	2114	742	94	10.96	0.5	3.700	0.400	19	6	4	306
491	493	ABC	102-#1/0 A	7.22Y	120.3	1.18	5.70	65.54	28	1347	489	94	10.13	0.8	4.800	1.100	336	106	45	133
797	491	ABC	106-#2 ACS	7.19Y	119.9	0.40	6.09	49.26	27	1000	372	94	3.07	0.3	5.100	0.300	4	1	2	88
798	797	ABC	106-#2 ACS	7.18Y	119.7	0.20	6.29	29.24	16	587	232	93	0.60	0.1	5.600	0.500	587	232	6	6
727	797	ABC	102-#1/0 A	7.19Y	119.8	0.10	6.20	19.85	9	406	138	95	0.21	0.1	5.700	0.600	406	138	80	80
492	493	ABC	098-#3/0 A	7.26Y	121.1	0.41	4.92	35.38	12	736	237	95	1.63	0.2	4.800	1.100	280	88	64	169
542	492	ABC	098-#3/0 A	7.23Y	120.6	0.50	5.42	21.83	7	453	146	95	1.40	0.3	6.600	1.800	16	5	4	105
487	542	ABC	098-#3/0 A	7.22Y	120.4	0.17	5.59	21.06	7	436	138	95	0.43	0.1	7.301	0.701	100	32	20	101
486	487	B	106-#2 ACS	7.18Y	119.7	0.74	6.33	22.72	13	156	50	95	0.58	0.4	9.201	1.900	156	49	34	34
488	487	A	106-#2 ACS	7.18Y	119.7	0.75	6.35	25.86	14	178	56	95	0.67	0.4	9.001	1.700	177	56	47	47

----------- Feeder No. 14 (1004) Beginning with Device 1004 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1004	1009	ABC	_	15.12Y	126.0	0.00	0.00	103.55	0	4441	1530	95	0.00	0.0	0.000	1.700	0	0	0	378 C
439	1004	ABC	102-#1/0 A	14.79Y	123.2	2.76	2.76	103.55	45	4441	1530	95	78.21	1.8	3.100	3.100	601	233	22	378
NODE43	439	ABC	Node	14.79Y	123.2	0.00	2.76	88.74	0	3745	1216	95	0.00	0.0	3.100	3.100	2000	657	0	356
776	NODE43	ABC	102-#1/0 A	14.76Y	123.0	0.22	2.97	40.25	18	1701	544	95	2.46	0.1	3.700	0.600	103	32	17	356
438	776	ABC	102-#1/0 A	14.69Y	122.4	0.65	3.62	33.73	15	1423	454	95	6.16	0.4	5.900	2.200	131	41	34	307
437	438	AB	106-#2 ACS	14.66Y	122.1	0.24	3.86	17.07	9	478	151	95	0.70	0.1	7.184	1.284	263	83	45	95
732	437	AB	106-#2 ACS	14.65Y	122.1	0.07	3.94	4.90	3	137	43	95	0.06	0.0	8.504	1.320	65	20	16	35
435	732	A	106-#2 ACS	14.64Y	122.0	0.07	4.01	3.52	2	49	16	95	0.02	0.0	10.904	2.400	49	15	13	13
436	732	A	106-#2 ACS	14.65Y	122.1	0.01	3.95	1.57	1	22	7	95	0.00	0.0	9.404	0.900	22	7	6	6
577	437	B	106-#2 ACS	14.65Y	122.1	0.04	3.90	5.26	3	74	23	95	0.02	0.0	8.101	0.917	73	23	15	15
431	438	ABC	090-#336.4	14.67Y	122.3	0.09	3.71	19.19	4	806	255	95	0.33	0.0	7.201	1.301	162	51	31	178
430	431	C	106-#2 ACS	14.65Y	122.1	0.20	3.91	14.87	8	208	66	95	0.21	0.1	8.801	1.600	205	65	50	50
429	431	ABC	090-#336.4	14.67Y	122.3	0.03	3.74	10.30	2	432	137	95	0.06	0.0	8.001	0.800	63	20	14	97
718	429	ABC	090-#336.4	14.67Y	122.3	0.00	3.74	3.11	1	131	41	95	0.00	0.0	8.300	0.299	16	5	5	27
719	718	C	110-#4 ACS	14.65Y	122.1	0.15	3.89	8.15	6	114	36	95	0.09	0.1	9.800	1.500	112	35	22	22
428	429	ABC	090-#336.4	14.67Y	122.3	0.01	3.75	5.66	1	238	75	95	0.01	0.0	8.400	0.399	34	11	7	56
620	428	C	106-#2 ACS	14.67Y	122.2	0.04	3.79	7.20	4	101	32	95	0.02	0.0	9.100	0.700	99	31	21	21
464	428	ABC	090-#336.4	14.67Y	122.2	0.01	3.75	2.44	0	102	32	95	0.00	0.0	9.600	1.200	101	32	28	28
777	776	B	106-#2 ACS	14.75Y	122.9	0.08	3.06	12.11	7	171	54	95	0.07	0.0	4.500	0.800	167	53	32	32

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	8713	154	0	0	0	0	182	0.00	9050
KVAR	2914	52	0	0	0	0	260		3226

Lowest Voltage = 119.65 on Element 488
Max Accm VoltD = 6.35 on Element 488
Max Elem VoltD = 2.76 on Element 439

Detail

Balanced Voltage Drop Report
Source: 8000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 8000		ABC	SRC-8000	8.00Y	126.0	0.00	0.00	393.42	26	8500	4117	90	0.00	0.0	0.000	0.000	0	0	0	1 C

----------- Feeder No. 81 (8001) Beginning with Device 8001 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
8001	8000	ABC	_	8.00Y	126.0	0.00	0.00	0.00	0	0	0	100	0.00	0.0	0.000	0.000	0	0	0	0

----------- Feeder No. 83 (8003) Beginning with Device 8003 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 8003	8000	ABC	_	8.00Y	126.0	0.00	0.00	393.42	0	8500	4117	90	0.00	0.0	0.000	0.000	0	0	0	1 C
1448	8003	ABC	Node	8.00Y	126.0	0.00	0.00	393.42	0	8500	4117	90	0.00	0.0	0.000	0.000	8165	3955	1	1

----------- Feeder No. 0 (OCD7) Beginning with Device OCD7 -----------

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
OCD7	1448	ABC	_	8.00Y	126.0	0.00	0.00	0.00	0	0	0	100	0.00	0.0	0.000	0.000	0	0	0	0

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	KW Loss	% Loss	mi From Src	Length (mi)	KW	KVAR	Cons On	Cons Thru	
----------- Feeder No. 82 (8002) Beginning with Device 8002 -----------																					
8002	8000	ABC	_	8.00Y	126.0	0.00	0.00	0.00	0	0	0	100	0.00	0.0	0.000	0.000	0	0	0	0	
H 1024	8002	ABC	Transforme	15.12Y	126.0	-0.02	-0.02	0.00	0	0	0	100	0.00	0.0	0.000	0.000	0	0	0	0	H
H 804	1024	ABC	090-#336.4	15.12Y	126.0	0.00	-0.02	0.00	0	0	0	100	0.00	0.0	0.100	0.100	0	0	0	0	H
H 915	804	ABC	Cap (1200)	15.12Y	126.0	0.00	-0.02	0.00	0	0	0	100	0.00	0.0	0.100	0.100	0	0	0	0	H

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	8165	335	0	0	0	0	0	0.00	8500
KVAR	3955	162	0	0	0	0	0		4117

Lowest Voltage = 126.00 on Element 8000
Max Accm VoltD = 0.00 on Element
Max Elem VoltD = 0.00 on Element

Detail

Balanced Voltage Drop Report
Source: 7000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	KW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru	
C 7000		ABC	SRC-7000	7.56Y	126.0	0.00	0.00	231.52	15	5100	1250	97	0.00	0.0	0.000	0.000	0	0	0	1436	C
----------- Feeder No. 0 (7008) Beginning with Device 7008 -----------																					
C 7008	7000	ABC	_	7.56Y	126.0	0.00	0.00	132.34	0	2888	818	96	0.00	0.0	0.000	0.000	0	0	0	768	C
----------- Feeder No. 71 (7001) Beginning with Device 7001 -----------																					
7001	7008	ABC		7.56Y	126.0	0.00	0.00	12.07	0	255	99	93	0.00	0.0	0.000	0.000	0	0	0	96	
4	7001	ABC	090-#336.4	7.56Y	126.0	0.03	0.03	12.07	2	255	99	93	0.04	0.0	0.399	0.399	65	25	35	96	
3	4	A	110-#4 ACS	7.53Y	125.6	0.39	0.43	20.11	14	142	55	93	0.28	0.2	1.199	0.800	136	52	48	48	
2	4	ABC	106-#2 ACS	7.56Y	126.0	0.01	0.04	2.16	1	46	18	93	0.00	0.0	0.699	0.300	38	15	10	12	
1	2	ABC	106-#2 ACS	7.56Y	126.0	0.00	0.05	0.27	0	6	2	95	0.00	0.0	1.199	0.500	5	2	1	2	
1406	1	BC	Node	7.56Y	126.0	0.00	0.05	0.00	0	0	0	100	0.00	0.0	1.199	0.500	0	0	1	1	
1407	4	ABC	Node	7.56Y	126.0	0.00	0.03	0.00	0	0	0	100	0.00	0.0	0.399	0.500	0	0	1	1	
----------- Feeder No. 72 (7002) Beginning with Device 7002 -----------																					
C 7002	7008	ABC	_	7.56Y	126.0	0.00	0.00	120.32	0	2632	720	96	0.00	0.0	0.000	0.500	0	0	0	672	C
617	7002	ABC	090-#336.4	7.55Y	125.8	0.18	0.18	120.32	23	2632	720	96	2.42	0.1	0.201	0.201	0	0	0	672	
11	617	BC	106-#2 ACS	7.53Y	125.4	0.39	0.57	16.38	9	231	89	93	0.63	0.3	1.101	0.900	53	21	12	62	
9	11	B	106-#2 ACS	7.52Y	125.3	0.09	0.66	5.54	3	39	15	93	0.02	0.0	2.001	0.900	38	14	8	8	
10	11	C	106-#2 ACS	7.50Y	125.1	0.37	0.94	19.36	11	136	52	93	0.24	0.2	2.201	1.100	131	50	42	42	
17	617	ABC	090-#336.4	7.52Y	125.4	0.41	0.59	109.03	21	2390	621	97	4.95	0.2	0.791	0.590	403	159	80	609	
16	17	A	102-#1/0 A	7.52Y	125.4	0.04	0.62	8.96	4	63	24	93	0.01	0.0	1.091	0.300	61	23	23	23	
15	17	ABC	090-#336.4	7.51Y	125.2	0.19	0.78	61.23	12	1286	507	93	1.16	0.1	1.190	0.399	110	42	25	335	
13	15	ABC	090-#336.4	7.50Y	125.0	0.21	0.99	51.11	10	1072	422	93	1.07	0.1	1.690	0.500	26	10	5	284	
12	13	ABC	090-#336.4	7.47Y	124.6	0.46	1.44	47.99	9	1005	394	93	2.07	0.2	2.990	1.300	207	80	66	270	
866	12	ABC	Cap (450)	7.47Y	124.6	0.00	1.44	37.80	0	790	307	93	0.00	0.0	2.990	1.300	0	0	0	204	
629	866	ABC	090-#336.4	7.46Y	124.4	0.18	1.63	37.80	7	790	307	93	0.69	0.1	3.590	0.600	35	13	6	204	
35	629	BC	110-#4 ACS	7.46Y	124.4	0.01	1.63	0.96	1	13	5	93	0.00	0.0	3.989	0.399	13	5	2	2	
36	629	ABC	090-#336.4	7.46Y	124.3	0.03	1.65	35.44	7	740	287	93	0.10	0.0	3.690	0.100	1	1	1	196	
37	36	A	110-#4 ACS	7.42Y	123.7	0.69	2.35	9.78	7	68	26	93	0.24	0.4	6.590	2.900	66	25	25	25	
38	36	ABC	090-#336.4	7.46Y	124.3	0.05	1.71	32.11	6	670	260	93	0.17	0.0	3.891	0.201	31	12	6	170	
39	38	C	110-#4 ACS	7.45Y	124.2	0.08	1.79	3.84	3	27	10	94	0.01	0.0	4.790	0.900	26	10	9	9	
40	38	ABC	090-#336.4	7.45Y	124.1	0.19	1.89	29.30	6	611	237	93	0.56	0.1	4.691	0.800	21	8	2	155	
745	40	ABC	106-#2 ACS	7.43Y	123.8	0.29	2.18	22.92	13	478	184	93	1.09	0.2	5.191	0.500	10	4	1	130	
117	745	ABC	106-#2 ACS	7.40Y	123.3	0.49	2.67	22.43	12	466	180	93	1.64	0.4	6.191	1.000	133	51	39	129	
116	117	ABC	106-#2 ACS	7.38Y	123.1	0.25	2.92	15.88	9	329	127	93	0.63	0.2	6.891	0.700	63	24	12	90	
115	116	A C	110-#4 ACS	7.35Y	122.6	0.53	3.45	16.08	11	222	85	93	0.63	0.3	8.391	1.500	217	84	67	67	
114	116	B	110-#4 ACS	7.37Y	122.9	0.20	3.12	6.21	4	43	16	94	0.04	0.1	8.191	1.300	42	16	11	11	
880	40	ABC	090-#336.4	7.44Y	124.1	0.02	1.92	5.35	1	112	43	93	0.02	0.0	5.391	0.700	13	5	1	23	
41	880	ABC	090-#336.4	7.44Y	124.1	0.03	1.94	4.74	1	99	38	93	0.01	0.0	6.691	1.300	96	37	22	22	
6	13	ABC	106-#2 ACS	7.50Y	125.0	0.01	1.00	1.84	1	39	15	93	0.00	0.0	2.290	0.600	37	14	9	9	
14	15	C	110-#4 ACS	7.48Y	124.6	0.58	1.36	14.09	10	99	38	93	0.29	0.3	2.890	1.700	95	37	26	26	
137	17	ABC	4/0 SPACER	7.52Y	125.4	0.06	0.65	27.63	10	618	-86	-99	0.39	0.1	1.183	0.392	0	0	0	171	
8	137	A	110-#4 ACS	7.52Y	125.3	0.03	0.68	6.06	4	43	16	94	0.01	0.0	1.384	0.201	41	16	8	8	
7	137	ABC	4/0 SPACER	7.52Y	125.3	0.07	0.72	25.89	10	575	-103	-98	0.42	0.1	1.683	0.500	27	10	7	163	
562	7	ABC	106-#2 ACS	7.51Y	125.1	0.18	0.90	24.75	14	546	-115	-98	0.96	0.2	2.082	0.399	53	20	17	156	
563	562	A	110-#4 ACS	7.49Y	124.9	0.24	1.14	10.88	8	76	29	93	0.09	0.1	2.982	0.900	74	28	20	20	
564	562	ABC	106-#2 ACS	7.50Y	125.0	0.09	0.99	19.83	11	415	-166	-93	0.55	0.1	2.582	0.500	236	91	82	119	
809	564	ABC	106-#2 ACS	7.50Y	125.0	0.01	1.00	8.11	5	170	66	93	0.01	0.0	2.682	0.100	121	46	25	37	
5	809	A	110-#4 ACS	7.50Y	124.9	0.06	1.07	6.53	5	46	18	93	0.01	0.0	3.082	0.400	44	17	12	12	
791	809	B	106-#2 ACS	7.50Y	125.0	0.00	1.00	0.00	0	0	0	100	0.00	0.0	3.070	0.387	0	0	0	0	
P 808	564	ABC	Cap (300)	7.50Y	125.0	0.00	0.99	-14.47	0	0	-326	0	0.00	0.0	2.582	0.387	0	0	0	0	P
18	617	ABC	090-#336.4	7.55Y	125.8	0.00	0.18	0.43	0	9	4	91	0.00	0.0	0.623	0.422	9	3	1	1	
597	18	A	106-#2 ACS	7.55Y	125.8	0.00	0.18	0.00	0	0	0	100	0.00	0.0	0.890	0.267	0	0	0	0	
----------- Feeder No. 0 (7009) Beginning with Device 7009 -----------																					
7009	7000	ABC	_	7.56Y	126.0	0.00	0.00	99.38	0	2212	432	98	0.00	0.0	0.000	0.267	0	0	0	668	
----------- Feeder No. 73 (7003) Beginning with Device 7003 -----------																					
7003	7009	ABC	_	7.56Y	126.0	0.00	0.00	36.95	0	781	305	93	0.00	0.0	0.000	0.267	0	0	0	194	
22	7003	ABC	098-#3/0 A	7.53Y	125.5	0.48	0.48	36.95	12	781	305	93	1.98	0.3	1.100	1.100	204	79	51	194	
21	22	ABC	098-#3/0 A	7.50Y	125.0	0.49	0.96	26.92	9	567	220	93	1.38	0.2	2.800	1.700	238	92	59	143	
20	21	ABC	102-#1/0 A	7.49Y	124.9	0.17	1.14	15.18	7	319	123	93	0.40	0.1	3.500	0.700	30	12	8	84	
559	20	A	110-#4 ACS	7.49Y	124.8	0.06	1.20	3.50	3	24	9	94	0.01	0.0	4.200	0.700	24	9	5	5	
96	20	ABC	102-#1/0 A	7.49Y	124.8	0.06	1.20	12.54	5	263	101	93	0.12	0.0	3.800	0.300	5	2	2	71	
97	96	A	110-#4 ACS	7.47Y	124.5	0.29	1.49	8.01	6	56	22	93	0.08	0.1	5.300	1.500	54	21	9	9	
98	96	ABC	102-#1/0 A	7.48Y	124.7	0.08	1.28	9.63	4	202	78	93	0.11	0.1	4.300	0.500	19	7	5	60	
863	98	B	110-#4 ACS	7.48Y	124.6	0.08	1.36	16.85	12	118	45	93	0.07	0.1	4.400	0.100	0	0	0	39	
99	863	B	110-#4 ACS	7.48Y	124.6	0.05	1.41	1.52	1	11	4	94	0.00	0.0	5.700	1.300	10	4	1	1	
100	863	B	110-#4 ACS	7.47Y	124.5	0.19	1.55	15.33	11	107	41	93	0.10	0.1	4.900	0.500	104	40	38	38	
19	98	C	110-#4 ACS	7.47Y	124.5	0.27	1.55	9.19	7	64	25	93	0.09	0.1	5.500	1.200	62	24	16	16	
----------- Feeder No. 74 (7004) Beginning with Device 7004 -----------																					
7004	7009	ABC	_	7.56Y	126.0	0.00	0.00	63.36	0	1431	127	100	0.00	0.0	0.000	1.200	0	0	0	474	
34	7004	ABC	102-#1/0 A	7.51Y	125.1	0.86	0.86	63.36	28	1431	127	100	8.94	0.6	0.899	0.899	110	42	26	474	
867	34	ABC	Cap (450)	7.51Y	125.1	0.00	0.86	58.20	0	1309	75	100	0.00	0.0	0.899	0.899	0	0	0	448	
33	867	ABC	102-#1/0 A	7.50Y	125.0	0.10	0.96	53.07	23	1113	436	93	0.75	0.1	0.999	0.100	1	0	1	339	
30	33	ABC	110-#4 ACS	7.47Y	124.5	0.57	1.53	31.23	22	654	257	93	3.05	0.5	1.499	0.500	52	20	8	144	
29	30	A	110-#4 ACS	7.47Y	124.4	0.05	1.58	4.74	3	33	13	93	0.01	0.0	1.898	0.399	32	12	8	8	
28	30	ABC	110-#4 ACS	7.36Y	122.7	1.75	3.29	27.06	19	564	223	93	6.98	1.2	3.745	2.246	268	105	76	128	
928	28	ABC	110-#4 ACS	7.35Y	122.4	0.29	3.57	13.80	10	283	113	93	0.57	0.2	4.499	0.754	151	63	5	52	
27	928	A	110-#4 ACS	7.33Y	122.2	0.21	3.79	8.80	6	60	23	93	0.07	0.1	5.499	1.000	59	23	17	17	
26	928	C	110-#4 ACS	7.33Y	122.2	0.24	3.82	10.00	7	69	26	94	0.09	0.1	5.499	1.000	67	26	30	30	
623	33	A C	106-#2 ACS	7.47Y	124.5	0.57	1.54	32.72	18	458	177	93	1.93	0.4	1.599	0.600	34	13	9	194	
23	623	A C	106-#2 ACS	7.43Y	123.8	0.70	2.23	21.47	12	299	116	93	1.33	0.4	2.999	1.400	137	53	56	152	
913	23	C	106-#2 ACS	7.35Y	122.5	1.22	3.45	22.66	13	157	61	93	0.94	0.6	6.099	3.100	153	59	96	96	
32	623	A	110-#4 ACS	7.41Y	123.6	0.91	2.45	17.42	12	121	47	93	0.66	0.5	3.199	1.600	78	30	28	33	
31	32	A	110-#4 ACS	7.41Y	123.5	0.10	2.55	5.94	4	41	16	93	0.02	0.1	3.894	0.695	40	15	5	5	
25	867	C	106-#2 ACS	7.45Y	124.1	0.99	1.85	27.96	16	196	76	93	1.26	0.6	2.100	1.201	59	23	17	109	

24	25	C	106-#2 ACS	7.43Y	123.8	0.33	2.18	19.23	11	134	52	93	0.22	0.2	3.100	1.000	130	50	92	92

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	4898	149	0	0	0	0	53	0.00	5100
KVAR	1898	58	-762	0	0	0	57		1250

Lowest Voltage = 122.18 on Element 26
Max Accm VoltD = 3.82 on Element 26
Max Elem VoltD = 1.75 on Element 28

Detail

Balanced Voltage Drop Report
Source: 1100

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 1100		ABC	JERICHO SU	7.56Y	126.0	0.00	0.00	428.06	29	9387	2476	97	0.00	0.0	0.000	0.000	0	0	0	1620 C
----------- Feeder No. 1 (1101) Beginning with Device 1101 -----------																				
C 1101	1100	ABC	_	7.56Y	126.0	0.00	0.00	219.07	0	4835	1145	97	0.00	0.0	0.000	0.000	0	0	0	698 C
964	1101	ABC	090-#336.4	7.50Y	125.0	0.97	0.97	219.07	41	4835	1145	97	30.08	0.6	0.758	0.758	42	14	11	698
323	964	ABC	090-#336.4	7.45Y	124.2	0.88	1.85	217.04	41	4761	1093	97	22.73	0.5	1.358	0.600	185	61	48	687
794	323	ABC	090-#336.4	7.43Y	123.9	0.28	2.12	207.96	39	4544	975	98	7.00	0.2	1.557	0.200	146	48	6	636
1445	794	ABC	052-1/0 15	7.43Y	123.8	0.03	2.15	34.96	15	741	242	95	0.11	0.0	1.657	0.100	722	237	1	1
789	794	ABC	090-#336.4	7.42Y	123.6	0.28	2.40	166.27	31	3647	667	98	6.86	0.2	1.857	0.300	28	9	8	629
790	789	B	110-#4 ACS	7.37Y	122.8	0.79	3.19	14.90	11	105	34	95	0.64	0.6	2.957	1.100	0	0	0	1
1419	790	B	055-4/0 25	7.37Y	122.8	0.05	3.24	14.90	6	105	33	95	0.02	0.0	3.257	0.300	103	34	1	1
908	789	ABC	090-#336.4	7.38Y	123.0	0.62	3.02	160.01	30	3506	615	98	14.75	0.4	2.557	0.700	50	17	10	620
321	908	ABC	090-#336.4	7.32Y	122.1	0.90	3.92	157.61	30	3440	579	99	21.25	0.6	3.611	1.054	101	33	24	610
890	321	ABC	090-#336.4	7.32Y	122.0	0.04	3.96	152.74	29	3316	518	99	0.93	0.0	3.661	0.049	106	35	13	586
163	890	ABC	098-#3/0 A	7.26Y	121.0	1.01	4.97	147.15	49	3197	478	99	21.12	0.7	4.361	0.700	624	205	14	572
1418	163	ABC	110-#4 ACS	7.26Y	121.0	0.03	5.00	2.52	2	52	17	95	0.01	0.0	4.860	0.500	52	17	1	1
H REG47	163	ABC	REG-002	7.56Y	126.0	-4.97	-0.00	114.94	50	2494	222	100	percent Boost= 3.95 Tap= 6.3							557 H
161	REG47	ABC	098-#3/0 A	7.53Y	125.5	0.55	0.55	110.40	37	2494	222	100	9.57	0.4	4.860	0.500	175	58	42	557
160	161	A	110-#4 ACS	7.51Y	125.1	0.34	0.89	10.88	8	78	26	95	0.13	0.2	6.159	1.299	75	25	18	18
796	161	ABC	098-#3/0 A	7.52Y	125.3	0.20	0.75	98.69	33	2225	123	100	3.24	0.1	5.060	0.200	21	7	9	497
795	796	ABC	106-#2 ACS	7.51Y	125.1	0.12	0.87	8.14	5	174	57	95	0.10	0.1	6.160	1.100	168	55	23	23
816	796	ABC	098-#3/0 A	7.50Y	125.0	0.25	0.99	89.89	30	2026	54	100	3.85	0.2	5.360	0.300	125	41	25	465
817	816	ABC	Cap (300)	7.50Y	125.0	0.00	0.99	84.13	0	1893	7	100	0.00	0.0	5.360	0.300	0	0	0	440
587	817	ABC	098-#3/0 A	7.48Y	124.7	0.30	1.30	85.42	28	1893	333	98	3.76	0.2	5.667	0.307	0	0	0	440
159	587	ABC	098-#3/0 A	7.41Y	123.5	1.23	2.53	84.16	28	1862	319	99	13.82	0.7	7.260	1.593	585	193	133	436
179	159	ABC	106-#2 ACS	7.39Y	123.2	0.30	2.83	11.91	7	251	83	95	0.49	0.2	8.560	1.300	120	39	22	50
166	179	C	110-#4 ACS	7.35Y	122.6	0.62	3.45	18.30	13	128	42	95	0.41	0.3	9.960	1.400	126	41	28	28
181	159	A	110-#4 ACS	7.34Y	122.3	1.17	3.70	24.09	17	169	56	95	1.01	0.6	9.260	2.000	165	55	44	44
180	159	ABC	098-#3/0 A	7.39Y	123.2	0.26	2.79	37.15	12	825	-40	-100	1.83	0.2	8.222	0.962	167	55	41	208
584	180	ABC	098-#3/0 A	7.39Y	123.1	0.11	2.90	23.48	8	499	-150	-96	0.87	0.2	9.160	0.938	0	0	0	136
570	584	C	110-#4 ACS	7.38Y	122.9	0.18	3.07	9.77	7	69	23	95	0.06	0.1	9.905	0.745	67	22	18	18
891	584	ABC	098-#3/0 A	7.39Y	123.1	0.01	2.91	20.90	7	429	-174	-93	0.07	0.0	9.260	0.100	38	12	8	118
183	891	B	110-#4 ACS	7.35Y	122.4	0.67	3.58	20.69	15	145	48	95	0.58	0.4	10.260	1.000	94	31	25	40
182	183	B	110-#4 ACS	7.32Y	122.1	0.36	3.94	7.01	5	49	16	95	0.09	0.2	12.360	2.100	48	16	15	15
184	891	ABC	098-#3/0 A	7.39Y	123.1	0.00	2.91	15.33	5	246	-234	-72	0.12	0.0	9.560	0.300	0	0	0	70
78	184	ABC	098-#3/0 A	7.39Y	123.1	-0.03	2.88	15.33	5	246	-234	-72	0.22	0.1	10.160	0.600	41	14	10	69
818	78	ABC	Cap (300)	7.39Y	123.1	0.00	2.88	14.50	0	203	-249	-63	0.00	0.0	10.160	0.600	0	0	0	59
79	818	ABC	098-#3/0 A	7.38Y	123.0	0.09	2.97	6.48	2	136	45	95	0.05	0.0	12.261	2.100	134	44	36	36
77	818	A	110-#4 ACS	7.34Y	122.4	0.71	3.59	9.57	7	67	22	95	0.28	0.4	12.460	2.300	44	15	14	23
76	77	A	110-#4 ACS	7.34Y	122.3	0.11	3.69	3.15	2	22	7	95	0.01	0.1	13.860	1.400	22	7	9	9
788	184	ABC	090-#336.4	7.39Y	123.1	0.00	2.91	0.00	0	0	0	100	0.00	0.0	9.860	0.300	0	0	1	1
585	180	B	106-#2 ACS	7.36Y	122.6	0.57	3.36	21.91	12	154	51	95	0.41	0.3	9.792	1.570	150	50	31	31
1412	159	ABC	Node	7.41Y	123.5	0.00	2.53	0.13	0	3	1	95	0.00	0.0	7.260	1.570	3	1	1	1
588	587	A	106-#2 ACS	7.48Y	124.6	0.06	1.36	3.81	2	27	9	95	0.01	0.0	6.654	0.987	26	9	4	4
1411	890	ABC	110-#4 ACS	7.32Y	122.0	0.00	3.96	0.00	0	0	0	100	0.00	0.0	3.698	0.038	0	0	0	0
889	890	ABC	098-#3/0 A	7.32Y	122.0	0.00	3.96	0.51	0	11	3	96	0.00	0.0	3.761	0.100	10	3	1	1
322	323	C	110-#4 ACS	7.45Y	124.1	0.01	1.86	0.44	0	3	1	95	0.00	0.0	2.158	0.800	3	1	3	3
324	964	ABC	090-#336.4	7.50Y	125.0	0.00	0.97	0.00	0	0	0	100	0.00	0.0	1.958	1.200	0	0	0	0
824	324	ABC	REG-002	7.56Y	126.0	-0.97	0.00	0.00	0	0	0	100	percent Boost= 0.77 Tap= 1.2							0
----------- Feeder No. 2 (1102) Beginning with Device 1102 -----------																				
C 1102	1100	ABC	_	7.56Y	126.0	0.00	0.00	124.15	0	2650	952	94	0.00	0.0	0.000	1.200	0	0	0	494 C
965	1102	ABC	090-#336.4	7.53Y	125.4	0.58	0.58	124.15	23	2650	952	94	9.32	0.4	0.758	0.758	135	44	34	494
590	965	ABC	098-#3/0 A	7.44Y	124.1	1.37	1.95	117.62	39	2500	894	94	19.86	0.8	1.658	0.900	150	49	33	460
780	590	ABC	098-#3/0 A	7.44Y	124.0	0.10	2.05	37.66	13	788	294	94	0.48	0.1	1.857	0.200	0	0	0	87
781	780	AB	106-#2 ACS	7.42Y	123.6	0.33	2.37	16.64	9	235	77	95	0.44	0.2	2.857	1.000	159	52	25	45
931	781	A	110-#4 ACS	7.40Y	123.4	0.22	2.59	10.11	7	71	23	95	0.08	0.1	3.753	0.895	69	23	20	20
589	780	ABC	098-#3/0 A	7.42Y	123.6	0.32	2.37	26.58	9	552	216	93	1.01	0.2	2.857	1.000	106	35	26	42
782	589	A	110-#4 ACS	7.41Y	123.5	0.10	2.47	10.27	7	72	24	95	0.04	0.1	3.257	0.400	71	23	14	14
1436	589	ABC	052-1/0 15	7.42Y	123.6	0.03	2.40	18.04	8	370	155	92	0.06	0.0	3.045	0.187	361	153	2	2
885	590	ABC	098-#3/0 A	7.44Y	124.0	0.08	2.03	72.69	24	1537	520	95	0.88	0.1	1.758	0.100	16	5	5	340
591	885	ABC	098-#3/0 A	7.39Y	123.1	0.85	2.88	70.81	24	1497	507	95	7.23	0.5	2.758	1.000	259	85	52	330
819	591	ABC	098-#3/0 A	7.36Y	122.7	0.40	3.28	58.26	19	1225	409	95	3.34	0.3	3.358	0.600	34	11	4	278
162	819	ABC	098-#3/0 A	7.33Y	122.2	0.49	3.77	56.63	19	1187	395	95	3.22	0.3	4.115	0.758	312	103	79	274
566	162	ABC	106-#2 ACS	7.32Y	122.0	0.20	3.96	32.23	18	673	222	95	0.97	0.1	4.391	0.276	170	56	39	143
743	566	A	110-#4 ACS	7.31Y	121.9	0.18	4.15	8.82	6	61	20	95	0.06	0.1	5.252	0.861	61	20	14	14
567	566	A C	106-#2 ACS	7.32Y	122.0	0.07	4.03	31.54	18	439	145	95	0.23	0.1	4.463	0.073	7	2	1	90
568	567	A	106-#2 ACS	7.29Y	121.5	0.46	4.49	33.29	18	231	76	95	0.52	0.2	5.263	0.800	228	75	43	43
569	567	C	106-#2 ACS	7.30Y	121.6	0.35	4.38	28.75	16	200	66	95	0.34	0.2	5.163	0.700	197	65	46	46
742	162	ABC	098-#3/0 A	7.33Y	122.2	0.07	3.84	9.25	3	193	64	95	0.06	0.0	5.346	1.231	191	63	52	52
894	885	A	110-#4 ACS	7.44Y	123.9	0.02	2.05	3.26	2	23	8	94	0.00	0.0	2.058	0.300	22	7	5	5
----------- Feeder No. 3 (1103) Beginning with Device 1103 -----------																				
1103	1100	ABC	_	7.56Y	126.0	0.00	0.00	85.54	0	1903	378	98	0.00	0.0	0.000	0.300	0	0	0	428
320	1103	ABC	090-#336.4	7.54Y	125.6	0.35	0.35	85.54	16	1903	378	98	3.75	0.2	0.642	0.642	88	31	26	428
821	320	ABC	090-#336.4	7.53Y	125.5	0.18	0.53	81.29	15	1807	337	98	2.17	0.1	1.042	0.400	29	10	8	402
582	821	ABC	090-#336.4	7.52Y	125.4	0.06	0.60	59.59	11	1334	175	99	0.58	0.0	1.242	0.200	29	10	6	314
574	582	A	100-#2/0 A	7.52Y	125.3	0.12	0.72	14.20	5	101	36	94	0.05	0.1	2.042	0.800	97	34	21	21
318	582	ABC	090-#336.4	7.48Y	124.6	0.76	1.35	53.58	10	1203	128	99	5.75	0.5	4.042	2.800	179	63	38	287
541	318	ABC	090-#336.4	7.48Y	124.6	0.02	1.38	28.55	5	635	-83	-99	0.18	0.0	4.325	0.283	32	11	7	156
444	541	ABC	090-#336.4	7.48Y	124.6	0.04	1.41	27.19	5	602	-95	-99	0.29	0.0	4.825	0.500	29	10	6	149
445	444	A	106-#2 ACS	7.47Y	124.6	0.01	1.42	0.44	0	3	1	95	0.00	0.0	5.625	0.800	3	1	2	2
820	444	ABC	Cap (300)	7.48Y	124.6	0.00	1.41	25.80	0	569	-108	-98	0.00	0.0	4.825	0.800	0	0	0	141
446	820	ABC	090-#336.4	7.46Y	124.3	0.25	1.67	27.12	5	569	216	93	0.68	0.1	6.025	1.200	48	17	14	141
731	446	ABC	090-#336.4	7.45Y	124.2	0.10	1.77	24.78	5	518	197	93	0.26	0.0	6.525	0.500	0	0	0	127
447	731	C	110-#4 ACS	7.42Y	123.6	0.62	2.39	14.28	10	100	35	94	0.32	0.3	8.324	1.799	98	34	22	22
443	731	BC	106-#2 ACS	7.38Y	123.1	1.17	2.94	30.03	17	418	161	93	3.17	0.8	8.025	1.500	121	43	30	105
442	443	B	110-#4 ACS	7.37Y	122.9	0.21	3.14	8.45	6	59	21	94	0.06	0.1	9.025	1.000	58	20	18	18
441	443	C	110-#4 ACS	7.30Y	121.6	1.46	4.40	33.91	24	232	94	93	2.63	1.1	8.925	0.900	8	3	2	57
440	441	C	110-#4 ACS	7.21Y	120.1	1.47	5.87	32.75	23	221	90	93	2.29	1.0	10.025	1.100	74	26	22	55
730	440	C	110-#4 ACS	7.20Y	120.0	0.14	6.00	21.91	16	145	63	92	0.11	0.1	10.280	0.256	145	63	33	33
317	318	BC	106-#2 ACS	7.43Y	123.8	0.84	2.20	19.08	11	269	95	94	1.14	0.4	6.976	2.934	261	92	66	66
553	318	A	090-#336.4	7.47Y	124.5	0.14	1.50	15.26	3	108	38	94	0.06	0.1	5.667	1.624	104	37	27	27
319	821	ABC	102-#1/0 A	7.50Y	125.0	0.45	0.99	20.59	9	441	149	95	1.33	0.3	2.542	1.500	115	40	27	80
932	319	ABC	102-#1/0 A	7.49Y	124.9	0.11	1.09	15.01	7	321	106	95	0.24	0.1	2.979	0.436	27	9	6	53
933	932	A	110-#4 ACS	7.37Y	122.9	2.05	3.14	41.08	29	292	97	95	3.03	1.0	5.042	2.063	282	93	47	47

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total	
KW	8941	203	0	0	0	0	243	0.00	9387	Lowest Voltage = 120.00 on Element 730
KVAR	3024	69	-965	-4	0	0	351		2476	Max Accm VoltD = 6.00 on Element 730
										Max Elem VoltD = 2.05 on Element 933

Detail

Balanced Voltage Drop Report
Source: Long Run

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Element Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru	
C Long Run		ABC	Long Run S	15.12Y	126.0	0.00	0.00	114.63	29	5096	1032	98	0.00	0.0	0.000	0.000	0	0	0	767	C
----------- Feeder No. 1 (Feeder 1) Beginning with Device Feeder 1 -----------																					
Feeder 1	Long Run	ABC	_	15.12Y	126.0	0.00	0.00	57.83	0	2521	724	96	0.00	0.0	0.000	0.000	0	0	0	318	
909	Feeder 1	ABC	102-#1/0 A	15.09Y	125.8	0.22	0.22	57.83	25	2521	724	96	3.94	0.2	0.450	0.450	49	15	8	318	
859	909	B	110-#4 ACS	15.09Y	125.8	0.02	0.24	3.51	3	51	16	95	0.01	0.0	0.950	0.500	49	15	16	16	
857	909	ABC	102-#1/0 A	15.08Y	125.7	0.09	0.31	55.49	24	2416	690	96	1.64	0.1	0.650	0.200	1	0	1	294	
858	857	ABC	054-1/0 25	15.04Y	125.4	0.32	0.63	55.46	24	2413	688	96	4.12	0.2	1.900	1.250	2161	669	287	293	
1453	858	ABC	Node	15.04Y	125.4	0.00	0.63	3.84	0	167	45	97	0.00	0.0	1.900	1.250	161	44	6	6	
----------- Feeder No. 2 (Feeder 2) Beginning with Device Feeder 2 -----------																					
Feeder 2	Long Run	ABC	_	15.12Y	126.0	0.00	0.00	57.17	0	2575	308	99	0.00	0.0	0.000	1.250	0	0	0	449	
425	Feeder 2	ABC	102-#1/0 A	15.09Y	125.8	0.24	0.24	57.17	25	2575	308	99	4.66	0.2	0.549	0.549	76	24	11	449	
910	425	ABC	102-#1/0 A	15.09Y	125.7	0.02	0.27	21.51	9	930	287	96	0.14	0.0	0.667	0.118	0	0	0	160	
424	910	ABC	102-#1/0 A	15.07Y	125.6	0.11	0.38	21.51	9	930	287	96	0.69	0.1	1.267	0.600	73	23	13	160	
713	424	ABC	106-#2 ACS	15.07Y	125.6	0.05	0.42	11.45	6	494	154	95	0.11	0.0	1.867	0.600	476	149	83	83	
714	424	ABC	102-#1/0 A	15.07Y	125.6	0.03	0.40	8.29	4	359	109	96	0.06	0.0	1.667	0.400	90	28	25	64	
715	714	ABC	102-#1/0 A	15.07Y	125.6	0.02	0.42	4.64	2	200	62	96	0.03	0.0	2.167	0.500	26	8	5	37	
884	715	A C	102-#1/0 A	15.07Y	125.6	0.01	0.44	6.00	3	173	54	95	0.01	0.0	2.567	0.400	166	52	32	32	
935	714	ABC	102-#1/0 A	15.07Y	125.6	0.00	0.41	1.49	1	65	17	97	0.00	0.0	1.950	0.283	63	16	2	2	
599	425	ABC	090-#336.4	15.09Y	125.7	0.02	0.26	34.49	7	1561	-7	-100	0.25	0.0	0.800	0.251	0	0	0	278	
426	599	ABC	090-#336.4	15.08Y	125.6	0.10	0.36	34.49	7	1561	-8	-100	1.26	0.1	2.708	1.908	571	178	90	278	
722	426	C	110-#4 ACS	15.06Y	125.5	0.14	0.51	9.84	7	142	44	96	0.10	0.1	3.908	1.200	136	43	28	28	
832	426	ABC	090-#336.4	15.08Y	125.6	0.01	0.37	19.00	4	825	-240	-96	0.06	0.0	2.908	0.200	4	1	1	160	
721	832	ABC	090-#336.4	15.07Y	125.6	0.03	0.40	11.95	2	517	157	96	0.08	0.0	3.708	0.800	68	21	13	97	
720	721	C	110-#4 ACS	15.05Y	125.4	0.16	0.56	13.06	9	188	59	95	0.15	0.1	4.708	1.000	181	56	41	41	
427	721	ABC	090-#336.4	15.07Y	125.6	0.02	0.42	5.97	1	259	76	96	0.02	0.0	5.309	1.600	249	73	43	43	
540	832	B	106-#2 ACS	15.05Y	125.4	0.22	0.59	21.11	12	304	95	95	0.45	0.1	3.608	0.700	66	21	13	62	
432	540	B	106-#2 ACS	15.02Y	125.2	0.24	0.83	16.36	9	235	73	95	0.36	0.2	4.608	1.000	72	23	18	49	
433	432	B	106-#2 ACS	15.01Y	125.1	0.11	0.94	11.15	6	160	50	95	0.10	0.1	5.508	0.900	104	32	18	31	
434	433	B	106-#2 ACS	15.00Y	125.0	0.03	0.97	3.64	2	52	16	96	0.01	0.0	6.508	1.000	50	16	13	13	
P 831	832	ABC	Cap (450)	15.08Y	125.6	0.00	0.37	-10.90	0	0	-493	0	0.00	0.0	2.908	1.000	0	0	0	0	P
598	599	A	106-#2 ACS	15.09Y	125.7	0.00	0.26	0.00	0	0	0	100	0.00	0.0	1.821	1.020	0	0	0	0	

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total	
KW	4894	184	0	0	0	0	18	0.00	5096	Lowest Voltage = 125.03 on Element 434
KVAR	1507	57	-493	-53	0	0	14		1032	Max Accm VoltD = 0.97 on Element 434
										Max Elem VoltD = 0.32 on Element 858

Detail

Balanced Voltage Drop Report
Source: 2000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

Units Displayed In Volts
-Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	kW Loss	% Loss	mi From Src	Element Length (mi)	Element KW	Element KVAR	Element Cons On	Element Cons Thru	
C 2000		ABC	SRC-2000	7.56Y	126.0	0.00	0.00	514.96	34	11264	3088	96	0.00	0.0	0.000	0.000	0	0	0	2410	C
----------- Feeder No. 0 (2008) Beginning with Device 2008 -----------																					
C 2008	2000	ABC	_	7.56Y	126.0	0.00	0.00	397.87	0	8763	2152	97	0.00	0.0	0.000	0.000	0	0	0	1893	C
----------- Feeder No. 21 (2001) Beginning with Device 2001 -----------																					
2001	2008	ABC	_	7.56Y	126.0	0.00	0.00	86.79	0	1949	273	99	0.00	0.0	0.000	0.000	0	0	0	401	
355	2001	ABC	090-#336.4	7.52Y	125.3	0.73	0.73	86.79	16	1949	273	99	8.76	0.4	1.400	1.400	9	2	1	401	
772	355	ABC	090-#336.4	7.50Y	125.0	0.23	0.96	74.73	14	1675	179	99	2.49	0.1	1.948	0.548	44	12	6	358	
352	772	ABC	090-#336.4	7.45Y	124.1	0.93	1.89	70.14	13	1572	146	100	9.71	0.6	4.400	2.452	58	16	15	336	
350	352	ABC	090-#336.4	7.44Y	124.0	0.12	2.01	59.15	11	1320	56	100	1.17	0.1	4.799	0.399	0	0	0	287	
349	350	ABC	090-#336.4	7.44Y	124.0	-0.05	1.95	19.21	4	369	-218	-86	0.26	0.1	5.899	1.100	110	30	19	79	
836	349	ABC	Cap (300)	7.44Y	124.0	0.00	1.95	16.02	0	256	-250	-72	0.00	0.0	5.899	1.100	0	0	0	60	
837	836	ABC	090-#336.4	7.44Y	124.0	0.01	1.96	11.90	2	256	71	96	0.01	0.0	5.999	0.100	0	0	0	60	
469	837	A	110-#4 ACS	7.41Y	123.5	0.51	2.47	14.10	10	101	28	96	0.26	0.3	7.499	1.500	98	27	31	31	
470	837	ABC	090-#336.4	7.44Y	124.0	0.05	2.01	7.20	1	155	43	96	0.04	0.0	6.999	1.000	26	7	4	29	
594	470	ABC	096-#4/0 A	7.44Y	124.0	0.04	2.05	5.95	2	128	35	96	0.02	0.0	8.202	1.202	125	34	25	25	
OH48	350	A C	102-#1/0 A	7.24Y	120.6	3.35	5.35	66.38	29	950	271	96	20.02	2.1	7.380	2.581	145	26	25	208	
835	OH48	A C	SystemRegu	7.56Y	126.0	-5.35	0.00	56.20	56	783	222	96	percent Boost= 4.25 Tap= 6.8							183	
348	835	A C	102-#1/0 A	7.53Y	125.5	0.55	0.55	53.82	23	783	222	96	2.66	0.3	7.899	0.519	109	30	30	183	
347	348	C	110-#4 ACS	7.47Y	124.5	0.96	1.51	20.09	14	146	40	96	0.70	0.5	9.899	2.000	140	39	38	38	
346	348	A C	102-#1/0 A	7.47Y	124.5	0.95	1.50	35.99	16	521	148	96	3.19	0.6	9.198	1.299	34	9	5	115	
345	346	A C	106-#2 ACS	7.41Y	123.6	0.93	2.43	21.95	12	316	88	96	2.05	0.6	10.798	1.600	67	18	17	74	
344	345	C	110-#4 ACS	7.41Y	123.4	0.12	2.56	4.32	3	31	9	96	0.02	0.1	11.998	1.200	30	8	9	9	
343	345	A C	106-#2 ACS	7.39Y	123.2	0.36	2.79	15.01	8	214	59	96	0.53	0.2	11.698	0.900	47	13	15	48	
341	343	A	106-#2 ACS	7.38Y	122.9	0.27	3.06	19.80	11	141	39	96	0.19	0.1	12.498	0.800	138	38	27	27	
342	343	C	118-#8 A-C	7.39Y	123.1	0.11	2.90	3.50	3	25	7	96	0.01	0.1	12.598	0.900	24	7	6	6	
340	346	A C	102-#1/0 A	7.45Y	124.2	0.27	1.77	11.60	5	167	46	96	0.28	0.2	10.398	1.200	28	8	6	36	
339	340	C	110-#4 ACS	7.44Y	124.1	0.17	1.94	5.39	4	39	11	96	0.03	0.1	11.698	1.300	38	10	8	8	
338	340	C	110-#4 ACS	7.42Y	123.7	0.53	2.30	13.74	10	99	27	96	0.26	0.3	11.998	1.600	96	27	22	22	
351	352	A	110-#4 ACS	7.38Y	123.0	1.10	2.98	25.41	18	182	51	96	1.01	0.6	6.200	1.800	177	49	34	34	
773	772	B	110-#4 ACS	7.49Y	124.9	0.19	1.15	7.73	6	56	15	97	0.05	0.1	2.950	1.003	54	15	16	16	
354	355	ABC	110-#4 ACS	7.49Y	124.8	0.44	1.17	11.80	8	256	71	96	0.83	0.3	2.400	1.000	35	10	10	42	
638	354	ABC	110-#4 ACS	7.49Y	124.8	0.05	1.21	2.47	2	54	15	96	0.02	0.0	2.900	0.500	8	2	3	4	
1437	638	ABC	Node	7.49Y	124.8	0.00	1.21	2.10	0	45	13	96	0.00	0.0	2.900	0.500	44	12	1	1	
637	354	B	110-#4 ACS	7.43Y	123.8	1.04	2.21	22.92	16	165	46	96	0.87	0.5	4.300	1.900	160	44	28	28	
----------- Feeder No. 23 (2003) Beginning with Device 2003 -----------																					
C 2003	2008	ABC	_	7.56Y	126.0	0.00	0.00	207.40	0	4482	1427	95	0.00	0.0	0.000	1.900	0	0	0	1053	C
404	2003	ABC	090-#336.4	7.46Y	124.3	1.67	1.67	207.40	39	4482	1427	95	46.64	1.0	1.300	1.300	0	0	0	1053	
381	404	ABC	090-#336.4	7.22Y	120.3	4.01	5.68	207.40	39	4436	1368	96	91.95	2.1	4.000	2.700	260	81	72	1053	

373	381	ABC	090-#336.4	7.18Y	119.6	0.68	6.36	140.47	27	2958	710	97	11.32	0.4	4.700	0.700	58	18	19	718	
847	373	ABC	098-#3/0 A	7.14Y	119.0	0.60	6.96	109.52	37	2300	522	98	10.02	0.4	5.200	0.500	15	5	4	575	
848	847	ABC	REG-003	7.56Y	126.0	-6.96	0.00	108.79	109	2275	508	98	percent Boost= 5.52 Tap= 8.8							571	
368	848	ABC	098-#3/0 A	7.45Y	124.1	1.89	1.89	102.79	34	2275	508	98	26.93	1.2	6.758	1.558	66	21	17	571	
528	368	ABC	098-#3/0 A	7.44Y	123.9	0.17	2.05	99.62	33	2180	447	98	2.34	0.1	6.900	0.142	33	10	6	554	
367	528	ABC	098-#3/0 A	7.43Y	123.8	0.12	2.17	98.02	33	2143	433	98	1.61	0.1	7.000	0.100	3	1	1	548	
365	367	ABC	098-#3/0 A	7.42Y	123.7	0.18	2.35	79.66	27	1749	307	98	2.04	0.1	7.200	0.200	82	26	17	451	
363	365	ABC	098-#3/0 A	7.34Y	122.4	1.24	3.59	68.02	23	1497	225	99	12.17	0.8	8.999	1.799	219	68	59	382	
362	363	ABC	098-#3/0 A	7.30Y	121.7	0.66	4.25	57.60	19	1262	138	99	5.90	0.5	10.099	1.100	52	16	13	323	
361	362	B	106-#2 ACS	7.26Y	121.0	0.75	5.00	21.56	12	150	47	95	0.58	0.4	11.999	1.900	138	43	43	48	
360	361	B	106-#2 ACS	7.26Y	121.0	0.02	5.02	1.48	1	10	3	96	0.00	0.0	12.699	0.700	10	3	5	5	
356	362	ABC	098-#3/0 A	7.26Y	121.0	0.77	5.02	48.13	16	1053	65	100	5.88	0.6	11.899	1.800	191	60	113	262	
633	356	ABC	098-#3/0 A	7.25Y	120.8	0.14	5.16	38.06	13	829	-11	-100	0.97	0.1	12.299	0.400	0	0	0	147	
309	633	C	106-#2 ACS	7.24Y	120.7	0.10	5.26	3.63	2	25	8	95	0.01	0.0	13.899	1.600	25	8	11	11	
558	633	ABC	098-#3/0 A	7.24Y	120.7	0.19	5.35	36.91	12	803	-21	-100	1.33	0.2	12.899	0.600	27	8	6	136	
310	558	ABC	098-#3/0 A	7.24Y	120.6	0.07	5.42	21.29	7	431	-167	-93	0.70	0.2	13.899	1.000	47	15	11	128	
839	310	ABC	098-#3/0 A	7.23Y	120.5	0.03	5.45	19.56	7	383	-182	-90	0.25	0.1	14.299	0.400	14	4	3	117	
840	839	ABC	Cap (300)	7.23Y	120.5	0.00	5.45	19.06	0	369	-187	-89	0.00	0.0	14.299	0.400	0	0	0	114	
380	840	ABC	098-#3/0 A	7.23Y	120.4	0.13	5.58	17.82	6	369	116	95	0.29	0.1	14.899	0.600	38	12	8	114	
311	380	ABC	106-#2 ACS	7.20Y	120.0	0.38	5.96	12.45	7	258	81	95	0.68	0.3	16.199	1.300	66	21	22	86	
312	311	ABC	106-#2 ACS	7.20Y	119.9	0.11	6.07	4.36	2	90	28	95	0.07	0.1	17.199	1.000	15	5	5	34	
315	312	ABC	106-#2 ACS	7.20Y	119.9	0.02	6.08	3.65	2	75	23	96	0.01	0.0	17.399	0.200	22	7	6	29	
316	315	ABC	106-#2 ACS	7.19Y	119.9	0.06	6.14	2.58	1	53	17	95	0.02	0.0	18.499	1.100	20	6	5	23	
308	316	C	110-#4 ACS	7.19Y	119.9	0.00	6.14	0.00	0	0	0	100	0.00	0.0	18.699	0.200	0	0	0	0	
H 829	308	C	REG-005	7.56Y	126.0	-6.14	-0.00	0.00	0	0	0	100	percent Boost= 0.00 Tap= 0.0							0	H
276	316	B	110-#4 ACS	7.18Y	119.7	0.12	6.27	4.88	3	33	10	96	0.03	0.1	19.099	0.600	9	3	4	18	
275	276	B	110-#4 ACS	7.18Y	119.7	0.02	6.28	0.49	0	3	1	95	0.00	0.0	19.799	0.700	0	0	0	6	
274	275	B	110-#4 ACS	7.18Y	119.7	0.03	6.31	0.49	0	3	1	95	0.00	0.0	22.499	2.700	3	1	6	6	
892	276	B	110-#4 ACS	7.18Y	119.7	0.02	6.29	3.03	2	21	6	96	0.00	0.0	19.399	0.300	21	7	8	8	
313	311	A	110-#4 ACS	7.18Y	119.7	0.32	6.28	14.67	10	101	32	95	0.24	0.2	16.699	0.500	19	6	7	30	
314	313	A	110-#4 ACS	7.16Y	119.3	0.40	6.68	11.92	9	82	26	95	0.17	0.2	18.099	1.400	82	26	23	23	
882	380	ABC	106-#2 ACS	7.22Y	120.4	0.05	5.63	3.52	2	73	23	95	0.02	0.0	15.999	1.100	73	23	20	20	
1401	558	ABC	110-#4 ACS	7.22Y	120.3	0.34	5.69	17.00	12	343	136	93	0.65	0.2	13.899	1.000	342	135	2	2	
1430	356	ABC	106-#2 ACS	7.26Y	121.0	0.00	5.02	1.21	1	25	8	95	0.00	0.0	12.183	0.284	25	8	2	2	
364	365	A	106-#2 ACS	7.35Y	122.5	1.19	3.54	23.43	13	166	52	95	1.17	0.7	9.300	2.100	94	29	30	52	
357	364	A	106-#2 ACS	7.34Y	122.3	0.21	3.75	9.76	5	68	21	96	0.10	0.1	10.000	0.700	15	5	4	22	
358	357	A	106-#2 ACS	7.33Y	122.2	0.02	3.77	1.13	1	8	2	97	0.00	0.0	11.200	1.200	8	2	5	5	
359	357	A	106-#2 ACS	7.33Y	122.1	0.12	3.87	6.48	4	45	14	95	0.03	0.1	11.100	1.100	45	14	13	13	
C 366	367	A	106-#2 ACS	7.28Y	121.3	2.52	4.68	55.04	31	390	123	95	4.79	1.2	9.672	2.672	380	118	96	96	C
REG55	373	ABC	SystemRegu	7.56Y	126.0	-6.36	0.00	28.15	28	589	144	97	percent Boost= 5.05 Tap= 8.1							124	
849	REG55	ABC	106-#2 ACS	7.55Y	125.9	0.13	0.13	26.73	15	589	144	97	0.60	0.1	4.900	0.200	7	2	2	124	
372	849	ABC	106-#2 ACS	7.50Y	125.0	0.85	0.98	26.40	15	581	142	97	3.28	0.6	6.500	1.600	217	68	55	122	
371	372	B	106-#2 ACS	7.49Y	124.9	0.11	1.09	9.38	5	67	21	95	0.04	0.1	7.200	0.700	65	20	14	14	
370	372	AB	106-#2 ACS	7.48Y	124.6	0.39	1.37	19.31	11	285	49	99	0.76	0.3	7.300	0.800	68	21	25	53	
OH56	370	B	106-#2 ACS	7.43Y	123.8	0.79	2.16	28.96	16	215	27	99	0.85	0.4	9.018	1.718	208	26	28	28	
575	370	A	106-#2 ACS	7.48Y	124.6	0.00	1.37	0.00	0	0	0	100	0.00	0.0	8.057	0.757	0	0	0	0	
576	575	A	110-#4 ACS	7.48Y	124.6	0.00	1.37	0.00	0	0	0	100	0.00	0.0	8.785	0.728	0	0	0	0	
REG54	381	ABC	REG-005	7.56Y	126.0	-5.68	0.00	54.46	36	1122	363	95	percent Boost= 4.51 Tap= 7.2							263	
379	REG54	ABC	102-#1/0 A	7.50Y	125.0	1.04	1.04	52.01	23	1122	363	95	7.34	0.7	5.200	1.200	204	64	45	263	
378	379	C	110-#4 ACS	7.49Y	124.9	0.06	1.10	1.19	1	8	3	94	0.00	0.0	7.400	2.200	8	3	3	3	
377	379	ABC	102-#1/0 A	7.47Y	124.5	0.45	1.49	41.77	18	895	287	95	2.69	0.3	5.800	0.600	39	12	10	215	
376	377	ABC	102-#1/0 A	7.40Y	123.4	1.16	2.65	39.90	17	852	272	95	6.61	0.8	7.400	1.600	25	8	8	205	
756	376	B	110-#4 ACS	7.39Y	123.1	0.22	2.87	8.42	6	59	19	95	0.07	0.1	8.500	1.100	58	18	17	17	
755	376	ABC	102-#1/0 A	7.39Y	123.2	0.20	2.84	35.88	16	760	239	95	1.03	0.1	7.700	0.300	0	0	0	180	
757	755	A	106-#2 ACS	7.38Y	123.0	0.17	3.02	8.40	5	59	19	95	0.05	0.1	8.900	1.200	58	18	15	15	
758	755	ABC	102-#1/0 A	7.38Y	123.0	0.12	2.96	33.08	14	700	220	95	0.56	0.1	7.900	0.200	35	11	5	165	
375	758	AB	106-#2 ACS	7.37Y	122.8	0.26	3.22	21.72	12	306	96	95	0.61	0.2	8.300	0.400	0	0	0	73	
897	375	AB	106-#2 ACS	7.36Y	122.6	0.19	3.41	21.72	12	305	96	95	0.44	0.1	8.600	0.300	11	3	2	73	
369	897	B	106-#2 ACS	7.32Y	122.1	0.53	3.95	28.70	16	201	63	95	0.53	0.3	9.682	1.082	198	62	47	47	
374	897	A	106-#2 ACS	7.34Y	122.3	0.32	3.73	13.15	7	92	29	95	0.14	0.2	10.000	1.400	91	28	24	24	
128	758	BC	106-#2 ACS	7.35Y	122.4	0.61	3.57	25.36	14	357	112	95	1.30	0.4	9.100	1.200	230	72	60	87	
967	128	B	106-#2 ACS	7.32Y	122.1	0.36	3.93	17.36	10	122	38	95	0.21	0.2	10.300	1.200	120	37	27	27	

----------- Feeder No. 22 (2002) Beginning with Device 2002 -----------

C 2002	2008	ABC	_	7.56Y	126.0	0.00	0.00	104.73	0	2332	452	98	0.00	0.0	0.000	1.200	0	0	0	439	C
545	2002	ABC	090-#336.4	7.51Y	125.2	0.85	0.85	104.73	20	2332	452	98	11.11	0.5	1.300	1.300	165	53	37	439	
403	545	ABC	106-#2 ACS	7.37Y	122.8	2.40	3.24	96.83	54	2149	371	99	37.68	1.8	2.300	1.000	121	39	18	402	
402	403	ABC	106-#2 ACS	7.28Y	121.4	1.36	4.61	91.06	51	1988	308	99	20.47	1.0	2.900	0.600	62	20	11	384	
400	402	ABC	102-#1/0 A	7.26Y	121.1	0.31	4.92	16.49	7	343	111	95	0.71	0.2	4.300	1.400	133	43	22	79	
399	400	B	106-#2 ACS	7.26Y	121.0	0.03	4.95	1.65	1	11	4	94	0.00	0.0	5.400	1.100	11	4	5	5	
398	400	ABC	102-#1/0 A	7.25Y	120.8	0.23	5.15	9.48	4	197	63	95	0.31	0.2	6.001	1.701	60	19	20	52	
397	398	B	106-#2 ACS	7.25Y	120.8	0.03	5.18	2.26	1	16	5	95	0.00	0.0	6.701	0.700	16	5	6	6	
896	398	ABC	102-#1/0 A	7.25Y	120.8	0.02	5.18	5.83	3	121	39	95	0.02	0.0	6.301	0.300	59	19	15	26	
396	896	ABC	102-#1/0 A	7.25Y	120.8	0.02	5.20	2.95	1	61	20	95	0.01	0.0	7.201	0.900	61	20	11	11	
401	402	ABC	106-#2 ACS	7.26Y	121.1	0.33	4.94	68.44	38	1489	141	100	3.85	0.3	3.101	0.201	53	17	9	281	
OH52	401	ABC	106-#2 ACS	7.19Y	119.8	1.29	6.23	65.93	37	1432	122	100	14.28	1.0	3.924	0.823	96	17	11	272	
REG53	OH52	ABC	REG-005	7.56Y	126.0	-6.23	0.00	61.46	41	1321	96	100	percent Boost= 4.94 Tap= 7.9							261	
395	REG53	ABC	106-#2 ACS	7.40Y	123.3	2.66	2.66	58.42	32	1321	96	100	25.57	1.9	6.001	2.077	222	71	39	261	
838	395	ABC	Cap (300)	7.40Y	123.3	0.00	2.66	48.09	0	1068	7	100	0.00	0.0	6.001	2.077	0	0	0	222	
394	838	C	110-#4 ACS	7.37Y	122.9	0.46	3.12	23.93	17	169	54	95	0.40	0.2	6.801	0.800	165	53	30	30	
393	838	AB	106-#2 ACS	7.38Y	123.0	0.38	3.05	21.51	12	303	98	95	0.88	0.3	6.601	0.600	5	2	2	65	
391	393	AB	106-#2 ACS	7.36Y	122.7	0.22	3.27	12.26	7	172	56	95	0.25	0.1	7.401	0.800	82	26	16	38	
390	391	A	110-#4 ACS	7.36Y	122.7	0.00	3.27	0.00	0	0	0	100	0.00	0.0	7.901	0.500	0	0	1	1	
389	391	A	110-#4 ACS	7.35Y	122.5	0.24	3.51	12.67	9	89	29	95	0.11	0.1	8.201	0.800	87	28	21	21	
392	393	A	110-#4 ACS	7.35Y	122.5	0.43	3.48	17.79	13	125	40	95	0.28	0.2	7.601	1.000	122	39	25	25	
388	838	ABC	106-#2 ACS	7.37Y	122.8	0.52	3.18	27.94	16	596	171	96	2.31	0.4	6.701	0.700	0	0	1	127	
387	388	ABC	106-#2 ACS	7.36Y	122.6	0.22	3.40	27.93	16	594	170	96	0.99	0.2	7.001	0.300	2	1	1	126	
386	387	ABC	106-#2 ACS	7.32Y	121.9	0.65	4.06	27.81	15	590	168	96	2.88	0.5	7.901	0.900	16	5	4	125	
544	386	B	110-#4 ACS	7.30Y	121.7	0.25	4.31	8.73	6	61	20	95	0.08	0.1	9.101	1.200	60	19	10	10	
546	386	ABC	106-#2 ACS	7.28Y	121.3	0.62	4.67	24.14	13	510	142	96	2.32	0.5	8.901	1.000	36	11	8	111	
385	546	AB	106-#2 ACS	7.24Y	120.7	0.60	5.27	31.65	18	445	120	97	1.94	0.4	9.601	0.700	74	24	15	96	
OH51	385	AB	106-#2 ACS	7.19Y	119.8	0.91	6.18	26.23	15	368	95	97	2.19	0.6	11.101	1.500	169	30	29	81	
384	OH51	A	106-#2 ACS	7.15Y	119.1	0.69	6.87	28.75	16	197	64	95	0.69	0.3	12.501	1.400	197	63	52	52	
383	546	ABC	106-#2 ACS	7.28Y	121.3	0.02	4.69	1.32	1	27	9	95	0.00	0.0	9.800	0.900	25	8	6	7	
382	383	ABC	106-#2 ACS	7.28Y	121.3	0.00	4.69	0.08	0	2	1	89	0.00	0.0	10.500	0.700	2	1	1	1	
353	402	ABC	110-#4 ACS	7.28Y	121.3	0.08	4.68	3.54	3	74	24	95	0.03	0.0	4.000	1.100	73	23	13	13	

----------- Feeder No. 0 (2009) Beginning with Device 2009 -----------

C 2009	2000	ABC	_	7.56Y	126.0	0.00	0.00	117.71	0	2500	936	94	0.00	0.0	0.000	1.100	0	0	0	517	C

----------- Feeder No. 24 (2004) Beginning with Device 2004 -----------

2004	2009	ABC	_	7.56Y	126.0	0.00	0.00	56.11	0	1200	423	94	0.00	0.0	0.000	1.100	0	0	0	238
422	2004	ABC	090-#336.4	7.53Y	125.4	0.57	0.57	56.11	11	1200	423	94	3.31	0.3	1.300	1.300	43	14	7	238
421	422	ABC	090-#336.4	7.51Y	125.2	0.25	0.81	54.05	10	1153	400	94	1.36	0.1	1.905	0.605	103	37	5	231
581	421	ABC	090-#336.4	7.49Y	124.8	0.38	1.19	45.59	9	971	335	95	1.83	0.2	3.001	1.095	42	14	8	208
625	581	ABC	102-#1/0 A	7.48Y	124.6	0.16	1.36	43.56	19	926	316	95	1.01	0.1	3.201	0.201	0	0	0	200
626	625	ABC	106-#2 ACS	7.47Y	124.6	0.08	1.44	5.39	3	115	38	95	0.05	0.0	4.301	1.100	109	36	13	14
1431	626	ABC	Node	7.47Y	124.6	0.00	1.44	0.10	0	2	1	89	0.00	0.0	4.301	1.100	2	1	1	1
420	625	ABC	102-#1/0 A	7.35Y	122.6	2.07	3.43	38.16	17	810	277	95	10.32	1.3	6.601	3.400	217	72	55	186
419	420	ABC	102-#1/0 A	7.34Y	122.3	0.31	3.74	27.61	12	578	193	95	1.22	0.2	7.202	0.600	0	0	0	131
417	419	BC	106-#2 ACS	7.24Y	120.7	1.54	5.28	25.96	14	361	121	95	3.68	1.0	9.702	2.500	149	49	39	87
416	417	B	106-#2 ACS	7.21Y	120.2	0.51	5.79	16.05	9	110	37	95	0.32	0.3	11.202	1.500	84	28	18	26
415	416	B	106-#2 ACS	7.21Y	120.2	0.05	5.84	3.76	2	26	9	94	0.01	0.0	12.002	0.800	26	9	8	8
414	417	C	106-#2 ACS	7.23Y	120.6	0.15	5.43	14.18	8	97	32	95	0.07	0.1	10.302	0.600	97	32	22	22
418	419	A	106-#2 ACS	7.27Y	121.2	1.06	4.80	30.91	17	215	72	95	1.13	0.5	9.202	2.000	212	70	44	44
580	421	B	106-#2 ACS	7.51Y	125.1	0.07	0.88	10.30	6	73	24	95	0.02	0.0	2.303	0.398	71	23	18	18

----------- Feeder No. 25 (2005) Beginning with Device 2005 -----------

2005	2009	ABC	_	7.56Y	126.0	0.00	0.00	61.62	0	1300	513	93	0.00	0.0	0.000	0.398	0	0	0	279
927	2005	ABC	102-#1/0 A	7.50Y	125.1	0.95	0.95	61.62	27	1300	513	93	8.91	0.7	0.911	0.911	51	17	12	279
926	927	BC	110-#4 ACS	7.49Y	124.9	0.15	1.10	12.62	9	180	58	95	0.14	0.1	1.462	0.552	174	56	72	72
423	927	ABC	102-#1/0 A	7.46Y	124.4	0.65	1.60	50.75	22	1058	432	93	4.59	0.4	1.600	0.689	37	12	14	195
712	423	ABC	102-#1/0 A	7.46Y	124.4	0.03	1.63	7.86	3	168	54	95	0.03	0.0	1.860	0.260	62	20	19	61

717	712	A	106-#2 ACS	7.46Y	124.3	0.10	1.73	14.63	8	104	34	95	0.05	0.0	2.260	0.400	101	33	42	42
716	423	ABC	102-#1/0 A	7.43Y	123.8	0.55	2.15	41.11	18	847	361	92	2.52	0.3	2.600	1.000	506	196	119	120
1410	716	ABC	106-#2 ACS	7.43Y	123.8	0.03	2.18	16.17	9	324	157	90	0.04	0.0	2.713	0.113	316	153	1	1

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	10580	203	0	0	0	0	481	0.00	11264
KVAR	3316	64	-940	0	0	0	647		3088

Lowest Voltage = 119.04 on Element 847
Max Accm VoltD = 6.96 on Element 847
Max Elem VoltD = 4.01 on Element 381

Detail

Balanced Voltage Drop Report
Source: 6000

Database: C:\MILSOFT\DATA\2014IMPROVED-CWP.WM\
Title: 2014 improved
Case: Work Plan 2010-2014

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Units Displayed In Volts -Base Voltage:120.0-

Element Name	Parent Name	Cnf	Type/ Conductor	Pri kV	Base Volt	Element Drop	Accum Drop	Thru Amps	% Cap	Thru KW	KVAR	% PF	KW Loss	% Loss	mi From Src	Length (mi)	Element KW	Element KVAR	Cons On	Cons Thru
C 6000		ABC	SRC-6000	7.56Y	126.0	0.00	0.00	352.36	59	7613	2430	95	0.00	0.0	0.000	0.000	0	0	0	1866 C
----------- Feeder No. 61 (6001) Beginning with Device 6001 -----------																				
C 6001	6000	ABC	_	7.56Y	126.0	0.00	0.00	228.48	0	4954	1521	96	0.00	0.0	0.000	0.000	0	0	0	1209 C
523	6001	ABC	090-#336.4	7.51Y	125.1	0.86	0.86	228.48	43	4954	1521	96	21.66	0.4	0.502	0.502	48	15	11	1209
522	523	ABC	090-#336.4	7.44Y	124.0	1.17	2.03	226.18	43	4883	1455	96	29.73	0.6	1.202	0.700	26	8	8	1198
521	522	ABC	098-#3/0 A	7.31Y	121.8	2.15	4.18	91.47	30	1926	675	94	24.77	1.3	3.002	1.800	48	15	14	462
520	521	B	110-#4 ACS	7.31Y	121.8	0.01	4.20	0.73	1	5	2	93	0.00	0.0	3.802	0.800	5	2	2	2
753	521	ABC	098-#3/0 A	7.25Y	120.8	1.03	5.22	88.92	30	1848	622	95	11.66	0.6	3.902	0.900	55	18	12	446
519	753	ABC	098-#3/0 A	7.19Y	119.8	0.97	6.18	83.84	28	1731	572	95	10.28	0.6	4.802	0.900	68	22	12	420
899	519	ABC	098-#3/0 A	7.18Y	119.7	0.09	6.28	80.54	27	1653	535	95	1.09	0.1	4.902	0.100	8	2	3	408
518	899	ABC	098-#3/0 A	7.14Y	119.0	0.72	6.99	80.06	27	1642	531	95	7.33	0.4	5.602	0.700	55	18	18	402
845	518	ABC	Cap (300)	7.14Y	119.0	0.00	6.99	77.38	0	1579	503	95	0.00	0.0	5.602	0.700	0	0	0	384
846	845	ABC	098-#3/0 A	7.14Y	118.9	0.09	7.08	77.38	26	1579	503	95	0.98	0.1	5.702	0.100	56	18	13	384
634	846	ABC	106-#2 ACS	7.10Y	118.4	0.54	7.62	50.31	28	1026	327	95	2.85	0.3	6.502	0.800	1033	328	226	226
754	846	ABC	106-#2 ACS	7.12Y	118.7	0.26	7.34	24.32	14	496	158	95	0.67	0.1	6.501	0.799	500	159	145	145
752	899	A	110-#4 ACS	7.18Y	119.7	0.01	6.29	0.30	0	2	1	89	0.00	0.0	6.102	1.200	2	1	3	3
751	753	B	110-#4 ACS	7.24Y	120.6	0.17	5.39	7.18	5	50	16	95	0.04	0.1	4.902	1.000	49	16	14	14
517	522	ABC	090-#336.4	7.36Y	122.6	1.36	3.40	133.73	25	2900	703	97	21.57	0.7	2.702	1.500	116	37	30	728
515	517	ABC	096-#4/0 A	7.24Y	120.6	1.96	5.35	70.06	21	1464	498	95	15.70	1.1	5.402	2.700	202	64	51	372
733	515	ABC	096-#4/0 A	7.21Y	120.2	0.46	5.81	60.29	18	1245	406	95	3.31	0.3	6.102	0.700	37	12	8	321
409	733	ABC	090-#336.4	7.19Y	119.8	0.35	6.16	47.06	9	968	314	95	1.76	0.2	7.102	1.000	55	17	16	253
408	409	A	110-#4 ACS	7.19Y	119.8	0.00	6.16	0.00	0	0	0	100	0.00	0.0	7.802	0.700	0	0	0	0
407	409	ABC	090-#336.4	7.17Y	119.5	0.30	6.47	44.40	8	912	293	95	1.45	0.2	8.001	0.900	19	6	7	237
406	407	ABC	090-#336.4	7.17Y	119.5	0.00	6.47	0.00	0	0	0	100	0.00	0.0	8.301	0.300	0	0	0	0
405	407	ABC	106-#2 ACS	7.15Y	119.1	0.44	6.90	43.50	24	892	283	95	2.15	0.2	8.766	0.765	863	274	221	230
565	405	B	110-#4 ACS	7.14Y	119.1	0.04	6.94	4.58	3	31	10	95	0.01	0.0	9.109	0.343	31	10	9	9
410	733	ABC	090-#336.4	7.21Y	120.1	0.08	5.89	11.43	2	236	75	95	0.07	0.0	8.002	1.900	235	75	60	60
516	517	A	110-#4 ACS	7.35Y	122.4	0.16	3.55	8.21	6	58	18	96	0.05	0.1	3.501	0.799	57	18	12	12
514	517	ABC	102-#1/0 A	7.33Y	122.2	0.36	3.75	56.32	24	1239	99	100	3.35	0.3	3.102	0.400	11	3	2	314
513	514	C	110-#4 ACS	7.32Y	122.0	0.27	4.03	5.98	4	42	13	96	0.06	0.1	5.002	1.900	41	13	11	11
512	514	ABC	102-#1/0 A	7.28Y	121.4	0.85	4.60	53.88	23	1183	79	100	7.61	0.6	4.202	1.100	144	46	28	301
904	512	ABC	102-#1/0 A	7.25Y	120.8	0.65	5.25	47.14	20	1030	28	100	5.25	0.5	5.202	1.000	136	43	29	273
874	904	ABC	102-#1/0 A	7.24Y	120.7	0.06	5.31	40.83	18	887	-19	-100	0.44	0.0	5.302	0.100	4	1	1	244
CAP68	874	ABC	Cap (300)	7.24Y	120.7	0.00	5.31	40.64	0	883	-20	-100	0.00	0.0	5.302	0.100	0	0	0	243
511	CAP68	ABC	106-#2 ACS	7.22Y	120.3	0.36	5.67	19.38	11	401	128	95	1.10	0.3	6.102	0.800	66	21	21	105
510	511	ABC	106-#2 ACS	7.20Y	119.9	0.41	6.08	16.19	9	334	106	95	0.93	0.3	7.402	1.300	156	49	34	84
413	510	ABC	106-#2 ACS	7.19Y	119.8	0.08	6.16	8.63	5	178	57	95	0.11	0.1	7.802	0.400	35	11	10	50
412	413	B	106-#2 ACS	7.15Y	119.1	0.74	6.89	18.06	10	124	39	95	0.49	0.4	9.902	2.100	107	34	31	35
411	412	B	106-#2 ACS	7.15Y	119.1	0.02	6.91	2.42	1	16	5	95	0.00	0.0	10.302	0.400	17	5	4	4
898	413	B	106-#2 ACS	7.19Y	119.8	0.02	6.18	2.72	2	19	6	95	0.00	0.0	8.302	0.500	19	6	5	5
509	CAP68	ABC	106-#2 ACS	7.19Y	119.8	0.87	6.18	23.29	13	481	155	95	3.05	0.6	6.802	1.500	68	21	25	138
508	509	A C	106-#2 ACS	7.16Y	119.3	0.52	6.69	29.75	17	407	131	95	1.53	0.4	7.402	0.600	27	9	9	112
501	508	A C	106-#2 ACS	7.11Y	118.5	0.82	7.51	26.67	15	364	116	95	2.01	0.6	8.702	1.300	155	49	44	98
REG69	501	A	REG-003	7.56Y	126.0	-7.51	0.00	30.64	31	207	66	95	percent Boost= 5.96 Tap= 9.5							54
500	REG69	A	106-#2 ACS	7.47Y	124.4	1.58	1.58	28.81	16	207	66	95	1.57	0.8	11.902	3.200	199	63	54	54
507	508	C	106-#2 ACS	7.16Y	119.3	0.03	6.72	2.24	1	15	5	95	0.00	0.0	8.202	0.800	15	5	5	5
900	509	B	106-#2 ACS	7.19Y	119.8	0.00	6.18	0.52	0	4	1	97	0.00	0.0	6.902	0.100	4	1	1	1
----------- Feeder No. 62 (6002) Beginning with Device 6002 -----------																				
6002	6000	ABC	_	7.56Y	126.0	0.00	0.00	36.98	0	797	262	95	0.00	0.0	0.000	0.100	0	0	0	208
532	6002	ABC	090-#336.4	7.55Y	125.8	0.17	0.17	36.98	7	797	262	95	0.68	0.1	0.600	0.600	5	1	1	208
531	532	C	118-#8 A-C	7.55Y	125.8	0.00	0.17	0.00	0	0	0	100	0.00	0.0	1.000	0.400	0	0	0	0
530	532	A	110-#4 ACS	7.55Y	125.8	0.00	0.17	0.07	0	0	0	100	0.00	0.0	0.800	0.200	0	0	2	2
529	532	ABC	090-#336.4	7.53Y	125.5	0.31	0.48	36.74	7	791	258	95	1.24	0.2	1.700	1.100	0	0	1	205
527	529	A	110-#4 ACS	7.53Y	125.5	0.04	0.52	2.45	2	18	6	95	0.00	0.0	2.395	0.695	17	5	4	4
526	529	ABC	090-#336.4	7.52Y	125.4	0.16	0.65	35.91	7	772	250	95	0.63	0.1	2.300	0.600	24	8	4	200
906	526	ABC	090-#336.4	7.51Y	125.2	0.13	0.78	34.75	7	746	240	95	0.60	0.1	2.900	0.600	0	0	0	196
524	906	B	106-#2 ACS	7.49Y	124.8	0.46	1.23	13.38	7	96	30	95	0.21	0.2	4.900	2.000	92	29	27	27
864	906	ABC	106-#2 ACS	7.51Y	125.1	0.07	0.85	30.29	17	650	209	95	0.37	0.1	3.000	0.100	27	9	5	169
548	864	A C	106-#2 ACS	7.45Y	124.1	1.03	1.88	26.78	15	383	124	95	2.78	0.7	4.299	1.299	9	3	2	113
504	548	A C	106-#2 ACS	7.42Y	123.7	0.39	2.27	26.10	15	370	119	95	1.04	0.3	4.799	0.500	0	0	0	111
862	504	A C	106-#2 ACS	7.42Y	123.7	0.07	2.34	22.76	13	322	103	95	0.16	0.1	4.899	0.100	7	2	2	89
506	862	C	106-#2 ACS	7.40Y	123.4	0.29	2.62	7.59	4	54	17	95	0.08	0.1	7.099	2.200	52	17	21	21
505	862	A C	106-#2 ACS	7.40Y	123.3	0.32	2.66	18.47	10	261	83	95	0.62	0.2	5.499	0.600	15	5	4	66
547	505	A C	106-#2 ACS	7.39Y	123.2	0.16	2.82	17.36	10	245	78	95	0.29	0.1	5.799	0.300	0	0	0	62
498	547	A C	106-#2 ACS	7.37Y	122.9	0.32	3.14	17.36	10	244	78	95	0.55	0.2	6.499	0.700	56	18	13	62
499	498	A	106-#2 ACS	7.35Y	122.6	0.29	3.43	9.95	6	70	22	95	0.10	0.1	8.200	1.701	69	22	22	22
497	498	C	106-#2 ACS	7.34Y	122.3	0.57	3.71	16.65	9	117	37	95	0.33	0.3	8.499	2.000	115	36	27	27
503	504	C	106-#2 ACS	7.42Y	123.6	0.11	2.38	6.68	4	47	15	95	0.03	0.1	5.599	0.800	35	11	13	22
502	503	C	106-#2 ACS	7.41Y	123.6	0.03	2.42	1.61	1	11	4	94	0.00	0.0	6.799	1.200	11	4	9	9
525	864	B	106-#2 ACS	7.42Y	123.6	1.55	2.40	33.40	19	239	76	95	1.78	0.7	5.700	2.700	231	73	51	51
----------- Feeder No. 63 (6003) Beginning with Device 6003 -----------																				
6003	6000	ABC	_	7.56Y	126.0	0.00	0.00	86.93	0	1862	648	94	0.00	0.0	0.000	2.700	0	0	0	449
539	6003	ABC	096-#4/0 A	7.55Y	125.8	0.20	0.20	86.93	26	1862	648	94	2.01	0.1	0.200	0.200	6	2	2	449
538	539	ABC	096-#4/0 A	7.47Y	124.5	1.32	1.52	86.64	25	1854	642	94	13.47	0.7	1.600	1.400	88	28	23	447
534	538	ABC	096-#4/0 A	7.40Y	123.4	1.10	2.62	72.41	21	1536	522	95	9.39	0.6	3.000	1.400	77	24	31	361
471	534	ABC	096-#4/0 A	7.32Y	122.0	1.40	4.02	61.49	18	1296	432	95	9.64	0.7	5.300	2.300	271	86	54	297
472	471	ABC	096-#4/0 A	7.29Y	121.5	0.47	4.48	48.39	14	1011	327	95	2.68	0.3	6.200	0.900	57	18	13	243
477	472	BC	106-#2 ACS	7.26Y	120.9	0.57	5.05	22.17	12	308	98	95	1.21	0.4	7.200	1.000	90	28	22	73
476	477	BC	106-#2 ACS	7.23Y	120.6	0.37	5.42	11.61	6	161	51	95	0.30	0.2	9.300	2.100	160	51	37	37
934	477	C	106-#2 ACS	7.26Y	120.9	0.03	5.08	8.09	4	56	18	95	0.01	0.0	7.425	0.226	56	18	14	14
475	472	ABC	102-#1/0 A	7.24Y	120.7	0.78	5.27	30.83	13	642	206	95	3.16	0.5	7.800	1.600	177	56	47	157
474	475	A	110-#4 ACS	7.20Y	120.0	0.78	6.05	21.65	15	149	48	95	0.61	0.4	9.300	1.500	149	47	37	37
473	475	BC	106-#2 ACS	7.20Y	120.0	0.71	5.98	22.54	13	311	99	95	1.14	0.4	9.900	2.100	310	98	73	73
533	534	C	110-#4 ACS	7.31Y	121.8	1.62	4.24	21.60	15	152	49	95	1.26	0.8	6.100	3.100	149	47	33	33
537	538	B	106-#2 ACS	7.38Y	123.1	1.43	2.95	29.95	17	213	68	95	1.94	0.9	3.300	1.700	76	24	16	63
535	537	B	106-#2 ACS	7.37Y	122.9	0.19	3.13	8.37	5	59	19	95	0.05	0.1	4.600	1.300	58	18	21	21
536	537	B	106-#2 ACS	7.36Y	122.7	0.31	3.26	10.62	6	75	24	95	0.11	0.2	5.000	1.700	73	23	26	26

KEY-> L = Low Voltage H = High Voltage C = Capacity Over Limit (%capacity or load amps) G = Generator Out of kvar Limits P = Power Factor Low

	Load	Adjustment	Capacitance	Charging	Gen&Motors	Loops&Metas	Losses	No Load Losses	Total
KW	7331	39	0	0	0	0	243	0.00	7613

Lowest Voltage = 118.38 on Element 634

KVAR	2327	12	-303	0	0	0	394	2430	Max Accm VoltD = 7.62 on Element 634 Max Elem VoltD = 2.15 on Element 521