

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

JAN 11 2005

PUBLIC SERVICE  
COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY )  
POWER COOPERATIVE, INC. FOR A CERTIFICATE )  
OF PUBLIC CONVENIENCE AND NECESSITY FOR ) **CASE NO**  
FOR THE CONSTRUCTION OF A 161 kV ELECTRIC ) **2004-00320**  
DISTRIBUTION SUBSTATION AND TAP IN )  
SPENCER COUNTY, KENTUCKY )

**RESPONSE OF EAST KENTUCKY POWER COOPERATIVE  
INC., TO DEFICIENCY LETTER DATED JANUARY 6, 2005**

In response to the Commission's Deficiency Letter of January 6, 2005 in the above-styled case, and pursuant to oral identification of the additional information requested by Commission staff, East Kentucky Power Cooperative, Inc., in order to supplement its Application filed herein on December 14, 2004, hereby submits **DEFICIENCY RESPONSE EXHIBIT I**, which is a voltage drop analysis for 2003, 2013, and 2023 load levels in the Little Mount Area both with the existing system configuration and with the proposed Little Mount Project in place.

WHEREFORE, Applicant respectfully requests the Commission to accept the Application filed herein as being sufficient.

Respectfully submitted,

DALE W. HENLEY

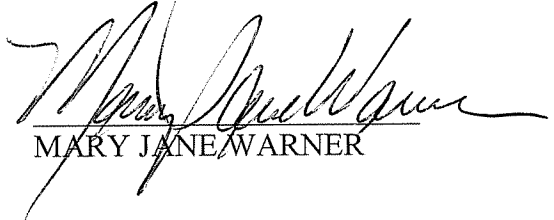
A handwritten signature in black ink, appearing to read "Sherman Goodpaster III". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

SHERMAN GOODPASTER III  
ATTORNEYS FOR EAST KENTUCKY  
POWER COOPERATIVE, INC.  
PO BOX 707  
WINCHESTER, KY 40392-0707  
859-744-4812

VERIFICATION


STATE OF KENTUCKY    )  
  ) SCT.  
COUNTY OF CLARK     )

The affiant, Mary Jane Warner, states that she is the Manager of Power Delivery Expansion for the Plaintiff, East Kentucky Power Cooperative, Inc., and that this affiant has read the foregoing Response of East Kentucky Power Cooperative, Inc., to the Deficiency Letter Dated January 6, 2005, and that the statements contained therein are true to the best of her knowledge and belief.

  
\_\_\_\_\_  
MARY JANE WARNER

Subscribed and sworn to before me in the aforesaid state and county by  
Mary Jane Warner this the 11<sup>th</sup> day of January, 2005.

My notarial commission expires: 10-28-06

  
\_\_\_\_\_  
NOTARY PUBLIC, KY  
STATE-AT-LARGE.

# Little Mount Substation Justification

## Voltage Drop Analysis<sup>1</sup>

RECEIVED

JAN 11 2005

PUBLIC SERVICE  
COMMISSION

Submitted to the Kentucky Public Service Commission  
on January 11, 2005

CASE No. 2004-00320

[1] Salt River Electric Cooperative Corp., *Amendments Containing Substation Facilities – Little Mount Substation*

The following two tabs contain the voltage drop studies that were requested by the Public Service Commission on January 10, 2005. The first tab, "Existing System", demonstrates the performance of the existing distribution system without the proposed Little Mount Substation for the 2003, 2013 and 2023 load levels. The second tab, "With Little Mount", demonstrates the performance of the distribution system with the proposed Little Mount Substation in service for load levels 2003, 2013 and 2023.



2003 LOADING (LOAD LEVEL 1)

CONVERSION OF EXISTING SYSTEM WITHOUT LITTLE MOUNT SUBSTATION

# WITHOUT LITTLE MOUNT SUB

PBVD-Detail

## Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: EXISTING LOAD LEVEL

**LOAD Level | BEFORE CORRECTIONS**

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| -----Section-----   |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
|---|--------------------|-------------|-------------|-------------|----------------|---------------|--------------|-------------------|------------------|------------|--------------|------------|-----------|------------------|------------|--------------|-----------------|-------|
| Base Voltage is 120   |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| Sect  | Type/<br>Conductor | Prev<br>Cnf | Pri<br>Sect | Base<br>Vlt | Section<br>Vlt | Accum<br>Drop | Thru<br>Drop | %<br>Thru<br>Amps | %<br>Thru<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | Cons<br>KW | Cons<br>KVAR | Cons<br>On Thru |       |
| -----   |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| FEEDER NUMBER 4   |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| 9174  | FAKE               | ABC         | 0           | 7.56Y       | 126.0          | .00           | .00          | 356.84            | 0                | 7785       | 2213         | .0         | .0        | .0               | 0          | 0            | 0               | 477   |
| 141   | 336.4 ACSR         | ABC         | 9174        | 7.23Y       | 120.4          | 5.58          | 5.58         | 356.84            | 67               | 7785       | 2213         | 228.4      | 2.9       | 2.2              | 280        | 41           | 23              | 477   |
| 143   | 1\0 CU             | ABC         | 141         | 7.12Y       | 118.7          | 1.75          | 7.33         | 344.04            | 111              | 7276       | 1633         | 84.4       | 1.2       | .4               | 357        | 51           | 10              | 454 * |
| 144   | #6A CWC            | A C         | 143         | 7.05Y       | 117.4          | 1.24          | 8.57         | 12.58             | 9                | 177        | 26           | 1.0        | .6        | 3.2              | 130        | 18           | 21              | 27 *  |
| 145   | #6A CWC            | A           | 144         | 7.05Y       | 117.5          | .30           | 8.49         | 6.59              | 5                | 46         | 7            | .1         | .2        | 2.1              | 46         | 7            | 6               | 6 *   |
| 660   | 1\0 CU             | ABC         | 143         | 7.04Y       | 117.4          | 1.31          | 8.64         | 318.92            | 103              | 6658       | 1443         | 59.3       | .9        | .4               | 109        | 16           | 25              | 417 * |
| 661   | #6A CWC            | C           | 660         | 7.03Y       | 117.2          | .19           | 8.83         | 5.45              | 4                | 38         | 5            | .0         | .1        | 1.6              | 38         | 5            | 6               | 6 *   |
| 151   | 1\0 CU             | ABC         | 660         | 6.80Y       | 113.4          | 3.97          | 12.61        | 311.92            | 101              | 6451       | 1342         | 176.3      | 2.7       | 1.2              | 434        | 62           | 47              | 386 * |
| 838   | #1/0 ACSR          | ABC         | 151         | 6.80Y       | 113.3          | .06           | 12.67        | 14.87             | 6                | 300        | 44           | .1         | .0        | .3               | 84         | 12           | 3               | 38 *  |
| 839   | #2 ACSR 6/         | ABC         | 838         | 6.80Y       | 113.3          | .06           | 12.73        | 10.71             | 6                | 216        | 32           | .1         | .0        | .4               | 216        | 32           | 35              | 35 *  |
| 1151  | #6A CWC            | A           | 151         | 6.80Y       | 113.4          | .00           | 12.61        | .00               | 0                | 0          | 0            | .0         | .0        | .9               | 0          | 0            | 0               | 0 *   |
| 837   | 1\0 CU             | ABC         | 151         | 6.62Y       | 110.3          | 3.14          | 15.74        | 275.85            | 89               | 5541       | 1000         | 128.9      | 2.3       | 1.0              | 9          | 1            | 1               | 301 * |
| 4051  | REGU               | ABC         | 837         | 7.28Y       | 121.3          | -11.03        | 4.72         | 270.41            | 270              | 5303       | 825          | .0         | .0        | .0               | 0          | 0            | 0               | 289 * |
| 100 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK   |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| 5   | 1\0 CU             | ABC         | 4051        | 6.83Y       | 113.8          | 7.49          | 12.21        | 245.83            | 79               | 5303       | 825          | 269.3      | 5.1       | 3.2              | 974        | 138          | 103             | 289 * |
| 1100  | 1\0 CU             | ABC         | 155         | 6.80Y       | 113.4          | .40           | 12.61        | 181.50            | 59               | 3702       | 337          | 11.8       | .3        | .2               | 0          | 0            | 0               | 142 * |
| 1109  | #6A CWC            | B           | 1100        | 6.80Y       | 113.4          | .00           | 12.61        | .00               | 0                | 0          | 0            | .0         | .0        | .9               | 0          | 0            | 0               | 0 *   |
| 1156  | REGU               | C           | 1100        | 7.48Y       | 124.7          | -11.34        | 1.27         | 96.42             | 96               | 646        | 113          | .0         | .0        | .0               | 0          | 0            | 0               | 63 *  |
| 100 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 130 10% BOOST-BUCK |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| 156   | #6A CWC            | C           | 1156        | 6.95Y       | 115.8          | 8.92          | 10.19        | 87.66             | 63               | 646        | 113          | 37.5       | 5.8       | 2.9              | 251        | 36           | 25              | 63 *  |
| 157   | #6A CWC            | C           | 156         | 6.67Y       | 111.1          | 4.71          | 14.91        | 52.08             | 37               | 358        | 55           | 10.4       | 2.9       | 3.2              | 252        | 36           | 29              | 38 *  |
| 663   | #6A CWC            | C           | 157         | 6.65Y       | 110.8          | .29           | 15.20        | 14.41             | 10               | 95         | 13           | .2         | .2        | .9               | 95         | 13           | 9               | 9 *   |
| 662   | 1\0 CU             | ABC         | 1100        | 6.78Y       | 112.9          | .47           | 13.08        | 149.51            | 48               | 3044       | 208          | 11.6       | .4        | .3               | 0          | 0            | 0               | 79 *  |
| 160   | #6A CWC            | B           | 662         | 6.60Y       | 110.0          | 2.97          | 16.05        | 57.46             | 41               | 385        | 59           | 8.6        | 2.2       | 1.4              | 105        | 15           | 12              | 39 *  |
| 664   | #6A CWC            | B           | 160         | 6.57Y       | 109.5          | .44           | 16.48        | 12.27             | 9                | 80         | 11           | .2         | .3        | 1.6              | 80         | 11           | 7               | 7 *   |
| 161   | #6A CWC            | B           | 160         | 6.49Y       | 108.2          | 1.76          | 17.81        | 29.25             | 21               | 191        | 28           | 1.9        | 1.0       | 2.7              | 189        | 27           | 20              | 20 *  |
| 158   | #1/0 ACSR          | ABC         | 662         | 6.71Y       | 111.8          | 1.11          | 14.19        | 130.44            | 57               | 2648       | 133          | 18.1       | .7        | 1.1              | 2471       | 352          | 22              | 40 *  |
| 4092  | CAP                | ABC         | 158         | 6.71Y       | 111.8          | .00           | 14.19        | 14.22             | 0                | 159        | -238         | .0         | .0        | .0               | 0          | 0            | 0               | 18 *  |
| 300 KVAR AT 7.20 KV no switching ON = 0 OFF = 0 STATUS = on                       |                    |             |             |             |                |               |              |                   |                  |            |              |            |           |                  |            |              |                 |       |
| 159   | #6A CWC            | A           | 4092        | 6.65Y       | 110.8          | .99           | 15.18        | 23.92             | 17               | 159        | 23           | .9         | .6        | 1.9              | 158        | 22           | 18              | 18 *  |
| 1155  | #1/0 ACSR          | B           | 155         | 6.83Y       | 113.8          | .00           | 12.21        | .00               | 0                | 0          | 0            | .0         | .0        | .9               | 0          | 0            | 0               | 0 *   |
| 1101  | #1/0 ACSR          | ABC         | 155         | 6.79Y       | 113.2          | .55           | 12.76        | 17.45             | 8                | 357        | -12          | 1.8        | .5        | 2.2              | 0          | 0            | 0               | 44 *  |
| 1102  | 1/0 15KV U         | ABC         | 1101        | 6.79Y       | 113.2          | .01           | 12.77        | 3.30              | 1                | 28         | -61          | .0         | .2        | 2.3              | 23         | 3            | 3               | 5 *   |
| 1103  | 1/0 15KV U         | B           | 1102        | 6.79Y       | 113.2          | .00           | 12.77        | .74               | 0                | 5          | 0            | .0         | .0        | .1               | 5          | 1            | 1               | 1 *   |
| 1104  | 1/0 15KV U         | ABC         | 1102        | 6.79Y       | 113.2          | .00           | 12.76        | 1.03              | 0                | 0          | -21          | .0         | 100.0     | 1.1              | 0          | 0            | 1               | 1 *   |
| 154   | #6A CWC            | B           | 1101        | 6.69Y       | 111.5          | 1.70          | 14.46        | 48.70             | 35               | 327        | 48           | 4.2        | 1.3       | .9               | 87         | 12           | 14              | 39 *  |
| 163   | #6A CWC            | B           | 154         | 6.62Y       | 110.4          | 1.18          | 15.64        | 30.97             | 22               | 205        | 29           | 1.8        | .9        | 1.1              | 87         | 12           | 10              | 21 *  |
| 665   | #6A CWC            | B           | 163         | 6.58Y       | 109.7          | .65           | 16.29        | 16.38             | 12               | 107        | 15           | .4         | .4        | 1.8              | 107        | 15           | 10              | 10 *  |
| 666   | #6A CWC            | B           | 163         | 6.62Y       | 110.3          | .05           | 15.70        | 1.37              | 1                | 9          | 1            | .0         | .0        | 1.8              | 9          | 1            | 1               | 1 *   |
| 2   | #6A CWC            | B           | 154         | 6.69Y       | 111.4          | .12           | 14.58        | 4.67              | 3                | 31         | 4            | .0         | .1        | 1.2              | 31         | 4            | 4               | 4 *   |
| 6   | 1\0 CU             | ABC         | 837         | 6.61Y       | 110.2          | .02           | 15.76        | 4.19              | 1                | 83         | -1           | .0         | .0        | .6               | 11         | 2            | 2               | 9 *   |
| 152   | 1\0 CU             | ABC         | 806         | 6.61Y       | 110.2          | .07           | 15.83        | 3.66              | 1                | 72         | 9            | .0         | .0        | 1.8              | 8          | 0            | 3               | 7 *   |
| 501   | 350-AA 15K         | ABC         | 152         | 6.61Y       | 110.2          | .00           | 15.83        | 3.26              | 1                | 64         | 9            | .0         | .0        | .6               | 64         | 9            | 4               | 4 *   |
| 813   | 1/0 15KV U         | ABC         | 806         | 6.61Y       | 110.2          | .00           | 15.76        | .61               | 0                | 0          | -12          | .0         | 100.0     | .7               | 0          | 0            | 0               | 0 *   |



|                  |     |       |       |     |       |      |   |    |   |    |    |     |    |   |   |     |
|------------------|-----|-------|-------|-----|-------|------|---|----|---|----|----|-----|----|---|---|-----|
| 840 #2 ACSR 6/ A | 837 | 6.61Y | 110.2 | .05 | 15.79 | 2.59 | 1 | 17 | 2 | .0 | .0 | 1.2 | 17 | 2 | 2 | 2 * |
| 1141 #6A CWC A   | 141 | 7.23Y | 120.4 | .00 | 5.58  | .00  | 0 | 0  | 0 | .0 | .0 | .9  | 0  | 0 | 0 | 0   |

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|      | Load | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Motors | Genera-<br>tors | Losses | Total |                         |            |
|------|------|----------------|------------------|---------------|--------|-----------------|--------|-------|-------------------------|------------|
| KW   | 6727 | 0              |                  |               | 0      | 0               | 1058   | 7785  | Maximum voltage drop of | 17.8 VOLTS |
| KVAR | 956  | 0              | -259             | -76           | 0      | 0               | 1595   | 2213  | on section              | 161.       |

# WITHOUT LITTLE MOUNT SUB

PBVD-Detail

## Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: LOAD LEVEL 1

### LOAD LEVEL 1 AFTER CORRECTIONS

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| -----Section-----   |                    |             |             |             |                |               |              |           |             |         |              |            |           |                  |            |              |                 |
|---|--------------------|-------------|-------------|-------------|----------------|---------------|--------------|-----------|-------------|---------|--------------|------------|-----------|------------------|------------|--------------|-----------------|
| Base Voltage is 120   |                    |             |             |             |                |               |              |           |             |         |              |            |           |                  |            |              |                 |
| Sect  | Type/<br>Conductor | Prev<br>Cnf | Pri<br>Sect | Base<br>Vlt | Section<br>Vlt | Accum<br>Drop | Thru<br>Drop | %<br>Amps | Thru<br>Cap | %<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | Cons<br>KW | Cons<br>KVAR | Cons<br>On Thru |
| FEEDER NUMBER 4   |                    |             |             |             |                |               |              |           |             |         |              |            |           |                  |            |              |                 |
| 9174  | FAKE               | ABC         | 0           | 7.56Y       | 126.0          | .00           | .00          | 353.22    | 0           | 7770    | 1949         | .0         | .0        | .0               | 0          | 0            | 0 477           |
| 141   | 795 ACSR 3         | ABC         | 9174        | 7.37Y       | 122.9          | 3.10          | 3.10         | 353.22    | 39          | 7770    | 1949         | 94.4       | 1.2       | 2.2              | 310        | 44           | 23 477          |
| 143   | 795 ACSR 3         | ABC         | 141         | 7.34Y       | 122.3          | .55           | 3.65         | 339.21    | 37          | 7366    | 1434         | 17.4       | .2        | .4               | 396        | 57           | 10 454          |
| 144   | #6A CWC            | A C         | 143         | 7.26Y       | 121.0          | 1.33          | 4.99         | 13.59     | 10          | 197     | 29           | 1.2        | .6        | 3.2              | 145        | 21           | 21 27           |
| 145   | #6A CWC            | A           | 144         | 7.27Y       | 121.1          | .32           | 4.90         | 7.08      | 5           | 51      | 7            | .1         | .2        | 2.1              | 51         | 7            | 6 6             |
| 660   | 795 ACSR 3         | ABC         | 143         | 7.32Y       | 121.9          | .41           | 4.06         | 312.04    | 34          | 6755    | 1262         | 12.1       | .2        | .4               | 120        | 17           | 25 417          |
| 661   | #6A CWC            | C           | 660         | 7.30Y       | 121.7          | .21           | 4.27         | 5.81      | 4           | 42      | 6            | .0         | .1        | 1.6              | 42         | 6            | 6 6             |
| 151   | 795 ACSR 3         | ABC         | 660         | 7.24Y       | 120.7          | 1.20          | 5.26         | 304.59    | 33          | 6581    | 1178         | 35.6       | .5        | 1.2              | 480        | 69           | 47 386          |
| 838   | #1/0 ACSR          | ABC         | 151         | 7.24Y       | 120.7          | .07           | 5.33         | 15.48     | 7           | 333     | 46           | .2         | .0        | .3               | 94         | 13           | 3 38            |
| 839   | #2 ACSR 6/         | ABC         | 838         | 7.24Y       | 120.6          | .06           | 5.39         | 11.11     | 6           | 239     | 33           | .1         | .0        | .4               | 239        | 33           | 35 35           |
| 1151  | #6A CWC            | A           | 151         | 7.24Y       | 120.7          | .00           | 5.26         | .00       | 0           | 0       | 0            | .0         | .0        | .9               | 0          | 0            | 0 0             |
| 837   | 795 ACSR 3         | ABC         | 151         | 7.19Y       | 119.8          | .91           | 6.17         | 266.88    | 29          | 5732    | 885          | 25.6       | .4        | 1.0              | 9          | 1            | 1 301           |
| 4051  | REGU               | ABC         | 837         | 7.56Y       | 126.0          | -6.17         | .00          | 261.35    | 87          | 5586    | 755          | .0         | .0        | .0               | 0          | 0            | 0 289 *         |
| 300 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK |                    |             |             |             |                |               |              |           |             |         |              |            |           |                  |            |              |                 |
| 5   | 795 ACSR 3         | ABC         | 4051        | 7.43Y       | 123.9          | 2.10          | 2.10         | 248.56    | 27          | 5586    | 755          | 57.7       | 1.0       | 3.2              | 1081       | 154          | 103 289         |
| 1100  | 1/0 CU             | ABC         | 155         | 7.41Y       | 123.5          | .40           | 2.50         | 182.29    | 59          | 4052    | 324          | 11.9       | .3        | .2               | 0          | 0            | 0 142           |
| 1109  | #6A CWC            | B           | 1100        | 7.41Y       | 123.5          | .00           | 2.50         | .00       | 0           | 0       | 0            | .0         | .0        | .9               | 0          | 0            | 0 0             |
| 662   | 1/0 CU             | ABC         | 1100        | 7.38Y       | 123.0          | .47           | 2.97         | 151.98    | 49          | 3372    | 208          | 11.9       | .4        | .3               | 0          | 0            | 0 79            |
| 160   | #6A CWC            | B           | 662         | 7.20Y       | 120.0          | 3.03          | 6.00         | 58.56     | 42          | 427     | 67           | 8.9        | 2.1       | 1.4              | 117        | 17           | 12 39           |
| 664   | #6A CWC            | B           | 160         | 7.17Y       | 119.6          | .45           | 6.45         | 12.52     | 9           | 89      | 13           | .2         | .2        | 1.6              | 89         | 13           | 7 7             |
| 161   | #6A CWC            | B           | 160         | 7.09Y       | 118.2          | 1.79          | 7.79         | 29.75     | 21          | 212     | 31           | 2.0        | .9        | 2.7              | 210        | 30           | 20 20           |
| 158   | #1/0 ACSR          | ABC         | 662         | 7.31Y       | 121.9          | 1.12          | 4.09         | 132.57    | 58          | 2933    | 125          | 18.2       | .6        | 1.1              | 2739       | 390          | 22 40           |
| 4092  | CAP                | ABC         | 158         | 7.31Y       | 121.9          | .00           | 4.09         | 15.23     | 0           | 176     | -284         | .0         | .0        | .0               | 0          | 0            | 0 18            |
| 300 KVAR AT 7.20 KV no switching ON = 0 OFF = 0 STATUS = on                     |                    |             |             |             |                |               |              |           |             |         |              |            |           |                  |            |              |                 |
| 159   | #6A CWC            | A           | 4092        | 7.25Y       | 120.9          | 1.01          | 5.10         | 24.30     | 17          | 176     | 26           | .9         | .5        | 1.9              | 175        | 25           | 18 18           |
| 156   | #1/0 ACSR          | ABC         | 1100        | 7.34Y       | 122.3          | 1.16          | 3.66         | 30.40     | 13          | 668     | 101          | 4.8        | .7        | 2.9              | 278        | 40           | 25 63           |
| 157   | #1/0 ACSR          | ABC         | 156         | 7.30Y       | 121.7          | .61           | 4.27         | 17.69     | 8           | 385     | 56           | 1.3        | .3        | 3.2              | 279        | 40           | 29 38           |
| 663   | #6A CWC            | C           | 157         | 7.29Y       | 121.4          | .29           | 4.56         | 14.54     | 10          | 105     | 15           | .1         | .1        | .9               | 105        | 15           | 9 9             |
| 1155  | #1/0 ACSR          | B           | 155         | 7.43Y       | 123.9          | .00           | 2.10         | .00       | 0           | 0       | 0            | .0         | .0        | .9               | 0          | 0            | 0 0             |
| 1101  | #1/0 ACSR          | ABC         | 155         | 7.40Y       | 123.3          | .56           | 2.66         | 17.75     | 8           | 395     | -16          | 1.9        | .5        | 2.2              | 0          | 0            | 0 44            |
| 1102  | 1/0 15KV U         | ABC         | 1101        | 7.40Y       | 123.3          | .01           | 2.67         | 3.56      | 2           | 32      | -72          | .0         | .1        | 2.3              | 26         | 4            | 3 5             |
| 1103  | 1/0 15KV U         | B           | 1102        | 7.40Y       | 123.3          | .00           | 2.67         | .81       | 0           | 6       | 0            | .0         | .0        | .1               | 6          | 1            | 1 1             |
| 1104  | 1/0 15KV U         | ABC         | 1102        | 7.40Y       | 123.3          | .00           | 2.66         | 1.13      | 0           | 0       | -25          | .0         | 99.5      | 1.1              | 0          | 0            | 1 1             |
| 154   | #6A CWC            | B           | 1101        | 7.30Y       | 121.6          | 1.73          | 4.39         | 49.42     | 35          | 362     | 55           | 4.3        | 1.2       | .9               | 96         | 14           | 14 39           |
| 163   | #6A CWC            | B           | 154         | 7.22Y       | 120.4          | 1.20          | 5.59         | 31.47     | 22          | 227     | 33           | 1.8        | .8        | 1.1              | 96         | 14           | 10 21           |
| 665   | #6A CWC            | B           | 163         | 7.18Y       | 119.7          | .66           | 6.26         | 16.70     | 12          | 119     | 17           | .4         | .3        | 1.8              | 119        | 17           | 10 10           |
| 666   | #6A CWC            | B           | 163         | 7.22Y       | 120.4          | .05           | 5.65         | 1.39      | 1           | 10      | 1            | .0         | .0        | 1.8              | 10         | 1            | 1 1             |
| 162   | #6A CWC            | B           | 154         | 7.29Y       | 121.5          | .12           | 4.51         | 4.71      | 3           | 34      | 5            | .0         | .1        | 1.2              | 34         | 5            | 4 4             |
| 806   | 1/0 CU             | ABC         | 837         | 7.19Y       | 119.8          | .02           | 6.19         | 4.27      | 1           | 92      | -1           | .0         | .0        | .6               | 12         | 2            | 2 9             |
| ?   | 1/0 CU             | ABC         | 806         | 7.18Y       | 119.7          | .07           | 6.26         | 3.75      | 1           | 80      | 11           | .0         | .0        | 1.8              | 8          | 0            | 3 7             |
| 1   | 350-AA 15K         | ABC         | 152         | 7.18Y       | 119.7          | .00           | 6.26         | 3.38      | 1           | 72      | 11           | .0         | .0        | .6               | 72         | 11           | 4 4             |
| 813   | 1/0 15KV U         | ABC         | 806         | 7.19Y       | 119.8          | .00           | 6.19         | .67       | 0           | 0       | -14          | .0         | 100.0     | .7               | 0          | 0            | 0 0             |
| 840   | #2 ACSR 6/         | A           | 837         | 7.19Y       | 119.8          | .05           | 6.22         | 2.68      | 1           | 19      | 3            | .0         | .0        | 1.2              | 19         | 3            | 2 2             |
| 1141  | #6A CWC            | A           | 141         | 7.37Y       | 122.9          | .00           | 3.10         | .00       | 0           | 0       | 0            | .0         | .0        | .9               | 0          | 0            | 0 0             |

|     | Load | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |                         |           |
|-----|------|----------------|------------------|---------------|-------------------|------|--------|-------|-------------------------|-----------|
| KW  | 7457 | 0              |                  |               | 0                 | 0    | 313    | 7770  | Maximum voltage drop of | 7.8 VOLTS |
| KVA | 1064 | 0              | -309             | -91           | 0                 | 0    | 1286   | 1949  | on section              | 161.      |

| SECT |                     |   |                            |
|------|---------------------|---|----------------------------|
| 141  | 3 $\phi$ 336.4 ACSR | → | 3 $\phi$ 795 ACSR 2.2 mile |
| 143  | 3 $\phi$ 1/0 cu     | → | 3 $\phi$ 795 ACSR 0.4 mile |
| 660  | 3 $\phi$ 1/0 cu     | → | 3 $\phi$ 795 ACSR 0.4      |
| 151  | 3 $\phi$ 1/0 cu     | → | 3 $\phi$ 795 ACSR 1.2      |
| 837  | 3 $\phi$ 1/0 cu     | → | 3 $\phi$ 795 ACSR 1.0      |
| 155  | 3 $\phi$ 1/0 cu     | → | 3 $\phi$ 795 ACSR 3.2      |
| 156  | 1 $\phi$ 6 ACWC     | → | 3 $\phi$ 1/0 ACSR 2.9      |
| 157  | 1 $\phi$ 6 ACWC     | → | 3 $\phi$ 1/0 ACSR 3.2      |
| 4051 | 3 $\phi$ 100 Reg    | → | 3 $\phi$ 300A Reg.         |

|                            |            |           |
|----------------------------|------------|-----------|
| 8.4 mile                   | @ \$78,100 | \$656,040 |
| 6.1 mile                   | @ 42,000   | 256,200   |
| 3 $\phi$ 300 AMP REGULATOR |            | 27,600    |
|                            |            | <hr/>     |
|                            |            | 939,840   |

2013 LOADING (LOAD LEVEL 2)

CONVERSION OF EXISTING SYSTEM WITHOUT LITTLE MOUNT SUBSTATION

# WITHOUT LITTLE MT SUB

## Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: LOAD LEVEL 2

**LOAD LEVEL 2 WITHOUT CORRECTIONS** 1/30/03 11:24 Page 1

| -----Section-----   |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  |          |              |            |              |
|---|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|------|------------|-----------|------------------|----------|--------------|------------|--------------|
| Base Voltage is 120   |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  |          |              |            |              |
| Sect  | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | KW<br>KW | KVAR<br>KVAR | Cons<br>On | Cons<br>Thru |
| FEEDER NUMBER 4   |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  |          |              |            |              |
| 9174  | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 588.93       | 0        | 12455      | 4825 | .0         | .0        | .0               | 0        | 0            | 0          | 477          |
| 141   | 795 ACSR 3         | ABC | 9174         | 7.18Y      | 119.6       | 6.41            | 6.41          | 588.93       | 65       | 12455      | 4825 | 263.8      | 2.1       | 2.2              | 482      | 69           | 23         | 477          |
| 143   | 795 ACSR 3         | ABC | 141          | 7.11Y      | 118.4       | 1.14            | 7.55          | 567.01       | 62       | 11709      | 3444 | 48.9       | .4        | .4               | 617      | 88           | 10         | 454          |
| 144   | #6A CWC            | A   | 143          | 6.98Y      | 116.3       | 2.15            | 9.70          | 21.89        | 16       | 307        | 45   | 3.2        | 1.0       | 3.2              | 224      | 32           | 21         | 27 *         |
| 145   | #6A CWC            | A   | 144          | 6.99Y      | 116.4       | .53             | 9.57          | 11.54        | 8        | 80         | 11   | .2         | .3        | 2.1              | 80       | 11           | 6          | 6 *          |
| 660   | 795 ACSR 3         | ABC | 143          | 7.06Y      | 117.6       | .84             | 8.39          | 523.69       | 58       | 10736      | 3068 | 34.0       | .3        | .4               | 187      | 27           | 25         | 417 *        |
| 661   | #6A CWC            | C   | 660          | 7.04Y      | 117.3       | .33             | 8.72          | 9.32         | 7        | 65         | 9    | .1         | .2        | 1.6              | 65       | 9            | 6          | 6 *          |
| 151   | 795 ACSR 3         | ABC | 660          | 6.91Y      | 115.2       | 2.46            | 10.85         | 511.78       | 56       | 10450      | 2862 | 101.2      | 1.0       | 1.2              | 747      | 106          | 47         | 386 *        |
| 838   | #1/0 ACSR          | ABC | 151          | 6.90Y      | 115.0       | .11             | 10.96         | 25.18        | 11       | 517        | 75   | .4         | .1        | .3               | 146      | 21           | 3          | 38 *         |
| 839   | #2 ACSR 6/         | ABC | 838          | 6.90Y      | 114.9       | .10             | 11.06         | 18.06        | 10       | 370        | 53   | .2         | .1        | .4               | 370      | 53           | 35         | 35 *         |
| 1151  | #6A CWC            | A   | 151          | 6.91Y      | 115.2       | .00             | 10.85         | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0        | 0            | 0          | 0 *          |
| 837   | 795 ACSR 3         | ABC | 151          | 6.80Y      | 113.3       | 1.85            | 12.70         | 450.73       | 50       | 9085       | 2179 | 73.1       | .8        | 1.0              | 15       | 2            | 1          | 301 *        |
| 4051  | REGU               | ABC | 837          | 7.48Y      | 124.6       | -11.33          | 1.37          | 441.59       | 147      | 8824       | 1798 | .0         | .0        | .0               | 0        | 0            | 0          | 289 *        |
| 300 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  |          |              |            |              |
| 795   | ACSR 3             | ABC | 4051         | 7.24Y      | 120.6       | 4.00            | 5.37          | 401.44       | 44       | 8824       | 1798 | 152.7      | 1.7       | 3.2              | 1681     | 239          | 103        | 289          |
| 1100  | 1\0 CU             | ABC | 155          | 7.20Y      | 120.0       | .68             | 6.04          | 295.36       | 95       | 6367       | 768  | 31.3       | .5        | .2               | 0        | 0            | 0          | 142 *        |
| 1109  | #6A CWC            | B   | 1100         | 7.20Y      | 120.0       | .00             | 6.04          | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0        | 0            | 0          | 0            |
| 662   | 1\0 CU             | ABC | 1100         | 7.15Y      | 119.2       | .80             | 6.85          | 246.46       | 80       | 5292       | 563  | 31.4       | .6        | .3               | 0        | 0            | 0          | 79 *         |
| 160   | #6A CWC            | B   | 662          | 6.85Y      | 114.2       | 4.98            | 11.82         | 95.97        | 69       | 677        | 111  | 24.1       | 3.6       | 1.4              | 182      | 26           | 12         | 39 *         |
| 664   | #6A CWC            | B   | 160          | 6.81Y      | 113.4       | .74             | 12.56         | 20.59        | 15       | 140        | 20   | .6         | .4        | 1.6              | 139      | 20           | 7          | 7 *          |
| 161   | #6A CWC            | B   | 160          | 6.67Y      | 111.2       | 2.95            | 14.77         | 48.93        | 35       | 331        | 50   | 5.4        | 1.6       | 2.7              | 326      | 47           | 20         | 20 *         |
| 158   | #1/0 ACSR          | ABC | 662          | 7.03Y      | 117.2       | 1.95            | 8.80          | 214.54       | 93       | 4583       | 411  | 49.5       | 1.1       | 1.1              | 4259     | 606          | 22         | 40 *         |
| 4092  | CAP                | ABC | 158          | 7.03Y      | 117.2       | .00             | 8.80          | 17.46        | 0        | 274        | -246 | .0         | .0        | .0               | 0        | 0            | 0          | 18 *         |
| 300 KVAR AT 7.20 KV no switching ON = 0 OFF = 0 STATUS = on                     |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  |          |              |            |              |
| 159   | #6A CWC            | A   | 4092         | 6.93Y      | 115.6       | 1.64            | 10.44         | 39.45        | 28       | 274        | 40   | 2.4        | .9        | 1.9              | 272      | 39           | 18         | 18 *         |
| 156   | #1/0 ACSR          | ABC | 1100         | 7.09Y      | 118.1       | 1.87            | 7.92          | 48.95        | 21       | 1044       | 163  | 12.6       | 1.2       | 2.9              | 432      | 62           | 25         | 63           |
| 157   | #1/0 ACSR          | ABC | 156          | 7.03Y      | 117.1       | .98             | 8.89          | 28.53        | 12       | 600        | 89   | 3.4        | .6        | 3.2              | 433      | 62           | 29         | 38 *         |
| 663   | #6A CWC            | C   | 157          | 7.00Y      | 116.6       | .47             | 9.37          | 23.49        | 17       | 163        | 23   | .4         | .3        | .9               | 163      | 23           | 9          | 9 *          |
| 1155  | #1/0 ACSR          | B   | 155          | 7.24Y      | 120.6       | .00             | 5.37          | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0        | 0            | 0          | 0            |
| 1101  | #1/0 ACSR          | ABC | 155          | 7.18Y      | 119.7       | .98             | 6.34          | 28.74        | 12       | 623        | 27   | 4.9        | .8        | 2.2              | 0        | 0            | 0          | 44           |
| 1102  | 1/0 15KV U         | ABC | 1101         | 7.18Y      | 119.6       | .03             | 6.37          | 3.81         | 2        | 49         | -66  | .1         | .1        | 2.3              | 40       | 6            | 3          | 5            |
| 1103  | 1/0 15KV U         | B   | 1102         | 7.18Y      | 119.6       | .00             | 6.38          | 1.25         | 1        | 9          | 0    | .0         | .0        | .1               | 9        | 1            | 1          | 1            |
| 1104  | 1/0 15KV U         | ABC | 1102         | 7.18Y      | 119.6       | .00             | 6.37          | 1.09         | 0        | 0          | -24  | .0         | 100.0     | 1.1              | 0        | 0            | 1          | 1            |
| 154   | #6A CWC            | B   | 1101         | 7.01Y      | 116.8       | 2.82            | 9.17          | 80.28        | 57       | 570        | 88   | 11.5       | 2.0       | .9               | 149      | 21           | 14         | 39 *         |
| 163   | #6A CWC            | B   | 154          | 6.89Y      | 114.9       | 1.96            | 11.13         | 51.33        | 37       | 356        | 53   | 4.8        | 1.4       | 1.1              | 150      | 21           | 10         | 21 *         |
| 665   | #6A CWC            | B   | 163          | 6.83Y      | 113.8       | 1.08            | 12.21         | 27.28        | 19       | 186        | 27   | 1.1        | .6        | 1.8              | 185      | 26           | 10         | 10 *         |
| 666   | #6A CWC            | B   | 163          | 6.89Y      | 114.8       | .08             | 11.21         | 2.20         | 2        | 15         | 2    | .0         | .1        | 1.8              | 15       | 2            | 1          | 1 *          |
| 162   | #6A CWC            | B   | 154          | 7.00Y      | 116.6       | .20             | 9.36          | 7.66         | 5        | 53         | 8    | .1         | .1        | 1.2              | 53       | 8            | 4          | 4 *          |
| 806   | 1\0 CU             | ABC | 837          | 6.80Y      | 113.3       | .04             | 12.74         | 7.03         | 2        | 143        | 9    | .0         | .0        | .6               | 19       | 3            | 2          | 9 *          |
| 1\0   | CU                 | ABC | 806          | 6.79Y      | 113.2       | .11             | 12.85         | 6.16         | 2        | 124        | 19   | .1         | .1        | 1.8              | 14       | 3            | 3          | 7 *          |
| 1   | 350-AA 15K         | ABC | 152          | 6.79Y      | 113.1       | .01             | 12.85         | 5.46         | 2        | 110        | 16   | .0         | .0        | .6               | 110      | 16           | 4          | 4 *          |
| 813   | 1/0 15KV U         | ABC | 806          | 6.80Y      | 113.3       | .00             | 12.74         | .63          | 0        | 0          | -13  | .0         | 100.0     | .7               | 0        | 0            | 0          | 0 *          |
| 840   | #2 ACSR 6/         | A   | 837          | 6.79Y      | 113.2       | .08             | 12.78         | 4.31         | 2        | 29         | 4    | .0         | .0        | 1.2              | 29       | 4            | 2          | 2 *          |
| 1141  | #6A CWC            | A   | 141          | 7.18Y      | 119.6       | .00             | 6.41          | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0        | 0            | 0          | 0            |

|    | Adjust<br>Load | Capaci-<br>ment | Charg-<br>tance | Charg-<br>ing | Motors | Genera-<br>tors | Losses | Total |                         |            |
|----|----------------|-----------------|-----------------|---------------|--------|-----------------|--------|-------|-------------------------|------------|
| KW | 11593          | 0               |                 |               | 0      | 0               | 862    | 12455 | Maximum voltage drop of | 14.8 VOLTS |
| V. | 1653           | 0               | -285            | -85           | 0      | 0               | 3544   | 4825  | on section              | 161.       |

NOTE: DID NOT  
CORRECT VOLTAGE  
CRITERIA

WITHOUT LITTLE MOUNT SUB

Balanced Voltage Drop Results  
Database: LMT  
Title: LITTLE MOUNT SUB  
Case: LOAD LEVEL 2

LOAD LEVEL 2 AFTER CORRECTIONS 1/30/03 11:32 Page 1

| -----Section-----   |            |      |      |       |         |       |       |        |      |       |      |       |        |      |      |      |      |       |
|---|------------|------|------|-------|---------|-------|-------|--------|------|-------|------|-------|--------|------|------|------|------|-------|
| Base Voltage is 120   |            |      |      |       |         |       |       |        |      |       |      |       |        |      |      |      |      |       |
| Sect  | Type/      | Prev | Pri  | Base  | Section | Accum | Thru  | %      | Thru | KW    |      | %     | Length | Cons |      | Cons |      |       |
| Sect  | Conductor  | Cnf  | Sect | Vlt   | Drop    | Drop  | Amps  | Cap    | KW   | KVAR  | Loss | Loss  | (Mile) | KW   | KVAR | On   | Thru |       |
| FEEDER NUMBER 4   |            |      |      |       |         |       |       |        |      |       |      |       |        |      |      |      |      |       |
| 9174  | FAKE       | ABC  | 0    | 7.56Y | 126.0   | .00   | .00   | 577.98 | 0    | 12283 | 4579 | .0    | .0     | .0   | 0    | 0    | 0    | 477   |
| 141   | 795 ACSR 3 | ABC  | 9174 | 7.19Y | 119.8   | 6.16  | 6.16  | 577.98 | 64   | 12283 | 4579 | 253.9 | 2.1    | 2.2  | 482  | 69   | 23   | 477   |
| 143   | 795 ACSR 3 | ABC  | 141  | 7.13Y | 118.8   | 1.09  | 7.25  | 556.05 | 61   | 11547 | 3247 | 46.9  | .4     | .4   | 617  | 88   | 10   | 454   |
| 144   | #1/0 ACSR  | ABC  | 143  | 7.10Y | 118.3   | .48   | 7.73  | 14.41  | 6    | 305   | 44   | .8    | .3     | 3.2  | 224  | 32   | 21   | 27    |
| 145   | #1/0 ACSR  | ABC  | 144  | 7.09Y | 118.2   | .07   | 7.80  | 3.79   | 2    | 80    | 11   | .0    | .0     | 2.1  | 80   | 11   | 6    | 6     |
| * 4051  | REGU       | ABC  | 143  | 7.56Y | 126.0   | -7.24 | .00   | 512.90 | 171  | 10578 | 2882 | .0    | .0     | .0   | 0    | 0    | 0    | 417 * |
| 300 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK |            |      |      |       |         |       |       |        |      |       |      |       |        |      |      |      |      |       |
| 660   | 795 ACSR 3 | ABC  | 4051 | 7.51Y | 125.2   | .75   | .76   | 483.41 | 53   | 10578 | 2882 | 29.0  | .3     | .4   | 187  | 27   | 25   | 417   |
| 661   | #6A CWC    | C    | 660  | 7.50Y | 124.9   | .31   | 1.07  | 8.75   | 6    | 65    | 9    | .1    | .1     | 1.6  | 65   | 9    | 6    | 6     |
| 151   | 795 ACSR 3 | ABC  | 660  | 7.38Y | 123.0   | 2.23  | 2.99  | 472.21 | 52   | 10297 | 2701 | 86.0  | .8     | 1.2  | 747  | 106  | 47   | 386   |
| 838   | #1/0 ACSR  | ABC  | 151  | 7.37Y | 122.9   | .10   | 3.09  | 23.57  | 10   | 516   | 74   | .3    | .1     | .3   | 146  | 21   | 3    | 38    |
| 839   | #2 ACSR 6/ | ABC  | 838  | 7.37Y | 122.8   | .10   | 3.19  | 16.90  | 9    | 370   | 53   | .1    | .0     | .4   | 370  | 53   | 35   | 35    |
| 1151  | #6A CWC    | A    | 151  | 7.38Y | 123.0   | .00   | 2.99  | .00    | 0    | 0     | 0    | .0    | .0     | .9   | 0    | 0    | 0    | 0     |
| * 837   | 795 ACSR 3 | ABC  | 151  | 7.28Y | 121.3   | 1.69  | 4.68  | 415.00 | 46   | 8948  | 2093 | 62.0  | .7     | 1.0  | 15   | 2    | 1    | 301   |
|   | 1\0 CU     | ABC  | 837  | 7.28Y | 121.3   | .03   | 4.72  | 6.56   | 2    | 143   | 7    | .0    | .0     | .6   | 19   | 3    | 2    | 9     |
| 152   | 1\0 CU     | ABC  | 806  | 7.27Y | 121.2   | .10   | 4.82  | 5.75   | 2    | 124   | 19   | .1    | .1     | 1.8  | 14   | 3    | 3    | 7     |
| 501   | 350-AA 15K | ABC  | 152  | 7.27Y | 121.2   | .01   | 4.83  | 5.10   | 2    | 110   | 16   | .0    | .0     | .6   | 110  | 16   | 4    | 4     |
| 813   | 1/0 15KV U | ABC  | 806  | 7.28Y | 121.3   | .00   | 4.71  | .68    | 0    | 0     | -15  | .0    | 100.0  | .7   | 0    | 0    | 0    | 0     |
| 840   | #2 ACSR 6/ | A    | 837  | 7.27Y | 121.2   | .08   | 4.76  | 4.02   | 2    | 29    | 4    | .0    | .0     | 1.2  | 29   | 4    | 2    | 2     |
| * 155   | 795 ACSR 3 | ABC  | 837  | 7.04Y | 117.3   | 4.02  | 8.70  | 406.49 | 45   | 8698  | 1770 | 155.8 | 1.8    | 3.2  | 1681 | 239  | 103  | 289 * |
| 1100  | 795 ACSR 3 | ABC  | 155  | 7.03Y | 117.1   | .20   | 8.90  | 298.13 | 33   | 6253  | 727  | 6.8   | .1     | .2   | 0    | 0    | 0    | 142 * |
| * 1109  | #6A CWC    | B    | 1100 | 7.03Y | 117.1   | .00   | 8.90  | .00    | 0    | 0     | 0    | .0    | .0     | .9   | 0    | 0    | 0    | 0 *   |
| * 662   | 795 ACSR 3 | ABC  | 1100 | 7.01Y | 116.9   | .23   | 9.12  | 248.01 | 27   | 5201  | 530  | 6.8   | .1     | .3   | 0    | 0    | 0    | 79 *  |
| 160   | #1/0 ACSR  | ABC  | 662  | 6.98Y | 116.3   | .62   | 9.74  | 31.51  | 14   | 655   | 99   | 2.8   | .4     | 1.4  | 182  | 26   | 12   | 39 *  |
| * 664   | #6A CWC    | B    | 160  | 6.93Y | 115.5   | .72   | 10.46 | 20.21  | 14   | 140   | 20   | .5    | .4     | 1.6  | 139  | 20   | 7    | 7 *   |
| * 161   | #6A CWC    | B    | 160  | 6.80Y | 113.4   | 2.89  | 12.63 | 48.01  | 34   | 331   | 50   | 5.1   | 1.5    | 2.7  | 326  | 47   | 20   | 20 *  |
| * 158   | 795 ACSR 3 | ABC  | 662  | 7.00Y | 116.6   | .29   | 9.41  | 216.56 | 24   | 4539  | 397  | 5.3   | .1     | 1.1  | 4259 | 606  | 22   | 40 *  |
| 4092  | CAP        | ABC  | 158  | 7.00Y | 116.6   | .00   | 9.41  | 17.46  | 0    | 274   | -243 | .0    | .0     | .0   | 0    | 0    | 0    | 18 *  |
| 300 KVAR AT 7.20 KV no switching ON = 0 OFF = 0 STATUS = on                     |            |      |      |       |         |       |       |        |      |       |      |       |        |      |      |      |      |       |
| * 159   | #6A CWC    | A    | 4092 | 6.90Y | 114.9   | 1.65  | 11.06 | 39.65  | 28   | 274   | 40   | 2.4   | .9     | 1.9  | 272  | 39   | 18   | 18 *  |
| 156   | #1/0 ACSR  | ABC  | 1100 | 6.91Y | 115.2   | 1.92  | 10.81 | 50.18  | 22   | 1045  | 163  | 13.1  | 1.3    | 2.9  | 432  | 62   | 25   | 63 *  |
| 157   | #1/0 ACSR  | ABC  | 156  | 6.85Y | 114.2   | 1.00  | 11.82 | 29.25  | 13   | 600   | 89   | 3.5   | .6     | 3.2  | 433  | 62   | 29   | 38 *  |
| * 663   | #6A CWC    | C    | 157  | 6.82Y | 113.7   | .49   | 12.30 | 24.09  | 17   | 163   | 23   | .4    | .3     | .9   | 163  | 23   | 9    | 9 *   |
| 1155  | #1/0 ACSR  | B    | 155  | 7.04Y | 117.3   | .00   | 8.70  | .00    | 0    | 0     | 0    | .0    | .0     | .9   | 0    | 0    | 0    | 0 *   |
| * 1101  | #1/0 ACSR  | ABC  | 155  | 6.98Y | 116.3   | .98   | 9.67  | 28.86  | 13   | 609   | 24   | 4.9   | .8     | 2.2  | 0    | 0    | 0    | 44 *  |
| * 1102  | 1/0 15KV U | ABC  | 1101 | 6.98Y | 116.3   | .03   | 9.71  | 3.76   | 2    | 49    | -62  | .0    | .1     | 2.3  | 40   | 6    | 3    | 5 *   |
| 1103  | 1/0 15KV U | B    | 1102 | 6.98Y | 116.3   | .00   | 9.71  | 1.29   | 1    | 9     | 0    | .0    | .0     | .1   | 9    | 1    | 1    | 1 *   |
| * 1104  | 1/0 15KV U | ABC  | 1102 | 6.98Y | 116.3   | .00   | 9.70  | 1.06   | 0    | 0     | -22  | .0    | 100.0  | 1.1  | 0    | 0    | 1    | 1 *   |
| * 154   | #1/0 ACSR  | ABC  | 1101 | 6.96Y | 116.0   | .35   | 10.02 | 26.78  | 12   | 555   | 81   | 1.3   | .2     | .9   | 149  | 21   | 14   | 39 *  |
| * 154   | #1/0 ACSR  | ABC  | 154  | 6.94Y | 115.7   | .25   | 10.27 | 17.01  | 7    | 352   | 50   | .6    | .2     | 1.1  | 150  | 21   | 10   | 21 *  |
| * 154   | #6A CWC    | B    | 163  | 6.88Y | 114.7   | 1.07  | 11.34 | 27.07  | 19   | 186   | 27   | 1.1   | .6     | 1.8  | 185  | 26   | 10   | 10 *  |
| * 666   | #6A CWC    | B    | 163  | 6.94Y | 115.6   | .08   | 10.35 | 2.18   | 2    | 15    | 2    | .0    | .0     | 1.8  | 15   | 2    | 1    | 1 *   |
| * 162   | #6A CWC    | B    | 154  | 6.95Y | 115.8   | .20   | 10.22 | 7.71   | 6    | 53    | 8    | .0    | .1     | 1.2  | 53   | 8    | 4    | 4 *   |
| 1141  | #6A CWC    | A    | 141  | 7.19Y | 119.8   | .00   | 6.16  | .00    | 0    | 0     | 0    | .0    | .0     | .9   | 0    | 0    | 0    | 0     |

|     | Load  | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |   |
|-----|-------|----------------|------------------|---------------|-------------------|------|--------|-------|---|
| KW  | 11593 | 0              |                  |               | 0                 | 0    | 690    | 12283 | Maximum voltage drop of 12.6 VOLTS<br>on section 161. |
| KVA | 1653  | 0              | -282             | -82           | 0                 | 0    | 3293   | 4579  |   |

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|          |                   |                     |          |
|----------|-------------------|---------------------|----------|
| sect 144 | 1 $\phi$ 6ACWC    | → 3 $\phi$ 1/0 ACSR | 3.2 mile |
| 145      | 1 $\phi$ 6ACWC    | → 3 $\phi$ 1/0 ACSR | 2.1      |
| 1100     | 3 $\phi$ 1/0 CU   | → 3 $\phi$ 795 ACSR | 0.2      |
| 662      | 3 $\phi$ 1/0 CU   | → 3 $\phi$ 795 ACSR | 0.3      |
| 158      | 3 $\phi$ 1/0 ACSR | → 3 $\phi$ 795 ACSR | 1.1      |
| 161      | 1 $\phi$ 6ACWC    | → 3 $\phi$ 1/0 ACSR | 2.7      |
| 160      | 1 $\phi$ 6ACWC    | → 3 $\phi$ 1/0 ACSR | 1.4      |
| 163      | 1 $\phi$ 6ACWC    | → 3 $\phi$ 1/0 ACSR | 1.1      |

1.6 mile @ \$78,100  
 10.5 mile @ 42,000  
 MOVE REGULATOR BANK @ 5000

\$ 124,960  
 441,000  
 5,000  


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 \$ 570,960



2023 LOADING (LOAD LEVEL 3)

CONVERSION OF EXISTING SYSTEM WITHOUT LITTLE MOUNT SUBSTATION

# WITHOUT LITTLE MT. SUB

PBVD-Detail

## Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: LOAD LEVEL 3

### LOAD LEVEL 3 WITHOUT CORRECTIONS

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Base Voltage is 120

-----Section-----

| Sect            | Conductor | Cnf         | Prev Sect | Pri Vlt      | Base Vlt | Section Drop | Accum Drop | Thru Amps | % Cap              | Thru KW | Thru KVAR      | KW Loss | % Loss | Length (Mile) | Section KW | Section KVAR | Cons On | Cons Thru |       |
|-----------------|-----------|-------------|-----------|--------------|----------|--------------|------------|-----------|--------------------|---------|----------------|---------|--------|---------------|------------|--------------|---------|-----------|-------|
| FEEDER NUMBER 4 |           |             |           |              |          |              |            |           |                    |         |                |         |        |               |            |              |         |           |       |
| 9174            | FAKE      | ABC         | 0         | 7.56Y        | 126.0    | .00          | .00        | 895.66    | 0                  | 17783   | 9818           | .0      | .0     | .0            | 0          | 0            | 0       | 440       |       |
| *               | 141       | 795 ACSR 3  | ABC       | 9174         | 6.86Y    | 114.3        | 11.67      | 11.67     | 895.66             | 98      | 17783          | 9818    | 612.5  | 3.4           | 2.2        | 728          | 104     | 23        | 440 * |
| *               | 4051      | REGU        | ABC       | 141          | 7.55Y    | 125.8        | -11.43     | .24       | 862.42             | 287     | 16443          | 6679    | .0     | .0            | .0         | 0            | 0       | 0         | 417 * |
|                 |           | 300 AMPS    | 126       | OUTPUT       | R-SET =  | .00          | X-SET =    | .00       | HOUSE PROTECTION = | 0       | 10% BOOST-BUCK |         |        |               |            |              |         |           |       |
|                 | 660       | 795 ACSR 3  | ABC       | 4051         | 7.46Y    | 124.3        | 1.51       | 1.75      | 784.02             | 86      | 16443          | 6679    | 76.4   | .5            | .4         | 287          | 41      | 25        | 417 * |
|                 | 661       | #6A CWC     | C         | 660          | 7.43Y    | 123.8        | .48        | 2.22      | 13.31              | 10      | 98             | 14      | .2     | .2            | 1.6        | 98           | 14      | 6         | 6     |
|                 | 151       | 795 ACSR 3  | ABC       | 660          | 7.19Y    | 119.8        | 4.45       | 6.20      | 767.13             | 84      | 15981          | 6243    | 229.1  | 1.4           | 1.2        | 1150         | 163     | 47        | 386 * |
|                 | 838       | #1/0 ACSR   | ABC       | 151          | 7.18Y    | 119.6        | .16        | 6.35      | 36.27              | 16      | 774            | 111     | .8     | .1            | .3         | 217          | 31      | 3         | 38    |
|                 | 839       | #2 ACSR 6/  | ABC       | 838          | 7.17Y    | 119.5        | .15        | 6.50      | 26.10              | 14      | 556            | 79      | .4     | .1            | .4         | 556          | 79      | 35        | 35    |
|                 | 1151      | #6A CWC     | A         | 151          | 7.19Y    | 119.8        | .00        | 6.20      | .00                | 0       | 0              | 0       | .0     | .0            | .9         | 0            | 0       | 0         | 0     |
|                 | 837       | 795 ACSR 3  | ABC       | 151          | 6.99Y    | 116.4        | 3.38       | 9.57      | 679.33             | 75      | 13828          | 4837    | 166.2  | 1.2           | 1.0        | 22           | 3       | 1         | 301 * |
| *               | 806       | 1\0 CU      | ABC       | 837          | 6.98Y    | 116.4        | .06        | 9.63      | 10.36              | 3       | 216            | 18      | .1     | .0            | .6         | 29           | 4       | 2         | 9 *   |
| *               | 152       | 1\0 CU      | ABC       | 806          | 6.97Y    | 116.2        | .16        | 9.79      | 9.03               | 3       | 187            | 27      | .2     | .1            | 1.8        | 20           | 3       | 3         | 7 *   |
|                 | 701       | 350-AA 15K  | ABC       | 152          | 6.97Y    | 116.2        | .01        | 9.80      | 8.07               | 2       | 167            | 24      | .0     | .0            | .6         | 167          | 24      | 4         | 4 *   |
|                 | 3         | 1/0 15KV U  | ABC       | 806          | 6.98Y    | 116.4        | .00        | 9.63      | .65                | 0       | 0              | -14     | .0     | 100.0         | .7         | 0            | 0       | 0         | 0 *   |
| *               | 840       | #2 ACSR 6/  | A         | 837          | 6.98Y    | 116.3        | .13        | 9.70      | 6.67               | 4       | 46             | 7       | .0     | .1            | 1.2        | 46           | 7       | 2         | 2 *   |
|                 | 155       | 795 ACSR 3  | ABC       | 837          | 6.52Y    | 108.7        | 7.69       | 17.26     | 665.95             | 73      | 13377          | 3978    | 422.6  | 3.2           | 3.2        | 2577         | 367     | 103       | 289 * |
|                 | 1100      | 795 ACSR 3  | ABC       | 155          | 6.50Y    | 108.4        | .35        | 17.62     | 489.53             | 54      | 9474           | 1430    | 18.2   | .2            | .2         | 0            | 0       | 0         | 142 * |
| *               | 1109      | #6A CWC     | B         | 1100         | 6.50Y    | 108.4        | .00        | 17.62     | .00                | 0       | 0              | 0       | .0     | .0            | .9         | 0            | 0       | 0         | 0 *   |
| *               | 662       | 795 ACSR 3  | ABC       | 1100         | 6.48Y    | 108.0        | .41        | 18.02     | 406.95             | 45      | 7866           | 1074    | 18.2   | .2            | .3         | 0            | 0       | 0         | 79 *  |
|                 | 160       | #1/0 ACSR   | ABC       | 662          | 6.42Y    | 107.0        | .98        | 19.00     | 49.79              | 22      | 957            | 144     | 7.0    | .7            | 1.4        | 266          | 38      | 12        | 39 *  |
|                 | 664       | #6A CWC     | B         | 160          | 6.35Y    | 105.9        | 1.15       | 20.15     | 32.17              | 23      | 204            | 30      | 1.4    | .7            | 1.6        | 203          | 29      | 7         | 7 *   |
| *               | 161       | #1/0 ACSR   | ABC       | 160          | 6.39Y    | 106.4        | .57        | 19.57     | 25.16              | 11      | 480            | 70      | 1.5    | .3            | 2.7        | 478          | 68      | 20        | 20 *  |
|                 | 158       | 795 ACSR 3  | ABC       | 662          | 6.44Y    | 107.4        | .59        | 18.61     | 357.17             | 39      | 6891           | 839     | 16.8   | .2            | 1.1        | 6439         | 918     | 22        | 40 *  |
|                 | 4092      | CAP         | ABC       | 158          | 6.44Y    | 107.4        | .00        | 18.61     | 24.27              | 0       | 435            | -175    | .0     | .0            | .0         | 0            | 0       | 0         | 18 *  |
|                 |           | 300 KVAR AT | 7.20 KV   | no switching | ON =     | 0            | OFF =      | 0         | STATUS =           | on      |                |         |        |               |            |              |         |           |       |
|                 | 159       | #6A CWC     | A         | 4092         | 6.27Y    | 104.5        | 2.84       | 21.46     | 68.30              | 49      | 435            | 65      | 7.2    | 1.7           | 1.9        | 428          | 61      | 18        | 18 *  |
|                 | 156       | #1/0 ACSR   | ABC       | 1100         | 6.31Y    | 105.2        | 3.18       | 20.80     | 82.61              | 36      | 1590           | 265     | 35.8   | 2.3           | 2.9        | 648          | 92      | 25        | 63 *  |
| *               | 157       | #1/0 ACSR   | ABC       | 156          | 6.21Y    | 103.5        | 1.66       | 22.46     | 48.39              | 21      | 906            | 138     | 9.7    | 1.1           | 3.2        | 650          | 93      | 29        | 38 *  |
| *               | 663       | #6A CWC     | C         | 157          | 6.16Y    | 102.7        | .81        | 23.27     | 40.05              | 29      | 246            | 36      | 1.2    | .5            | .9         | 245          | 35      | 9         | 9 *   |
|                 | 1155      | #1/0 ACSR   | B         | 155          | 6.52Y    | 108.7        | .00        | 17.26     | .00                | 0       | 0              | 0       | .0     | .0            | .9         | 0            | 0       | 0         | 0 *   |
|                 | 1101      | #1/0 ACSR   | ABC       | 155          | 6.43Y    | 107.1        | 1.64       | 18.90     | 46.37              | 20      | 904            | 86      | 12.7   | 1.4           | 2.2        | 0            | 0       | 0         | 44 *  |
| *               | 1102      | 1/0 15KV U  | ABC       | 1101         | 6.42Y    | 107.0        | .07        | 18.98     | 4.58               | 2       | 74             | -48     | .1     | .1            | 2.3        | 60           | 8       | 3         | 5 *   |
|                 | 1103      | 1/0 15KV U  | B         | 1102         | 6.42Y    | 107.0        | .00        | 18.98     | 2.19               | 1       | 14             | 1       | .0     | .0            | .1         | 14           | 2       | 1         | 1 *   |
|                 | 1104      | 1/0 15KV U  | ABC       | 1102         | 6.42Y    | 107.0        | .00        | 18.97     | .98                | 0       | 0              | -19     | .0     | 100.0         | 1.1        | 0            | 0       | 1         | 1 *   |
| *               | 154       | #1/0 ACSR   | ABC       | 1101         | 6.39Y    | 106.5        | .56        | 19.46     | 42.84              | 19      | 817            | 122     | 3.5    | .4            | .9         | 219          | 31      | 14        | 39 *  |
|                 | 163       | #1/0 ACSR   | ABC       | 154          | 6.37Y    | 106.1        | .40        | 19.85     | 27.21              | 12      | 516            | 76      | 1.5    | .3            | 1.1        | 219          | 31      | 10        | 21 *  |
|                 | 665       | #6A CWC     | B         | 163          | 6.27Y    | 104.4        | 1.73       | 21.58     | 43.46              | 31      | 274            | 41      | 2.8    | 1.0           | 1.8        | 271          | 39      | 10        | 10 *  |
| *               | 666       | #6A CWC     | B         | 163          | 6.36Y    | 106.0        | .13        | 19.99     | 3.49               | 2       | 22             | 3       | .0     | .1            | 1.8        | 22           | 3       | 1         | 1 *   |
| *               |           | #6A CWC     | B         | 154          | 6.37Y    | 106.2        | .32        | 19.77     | 12.35              | 9       | 78             | 11      | .1     | .2            | 1.2        | 78           | 11      | 4         | 4 *   |

Adjust Load    Capaci-    Charg-    Genera-  
ment    tance    ing    Motors    tors    Losses    Total

|      |       |   |      |     |   |      |       |                         |                 |
|------|-------|---|------|-----|---|------|-------|-------------------------|-----------------|
| KW   | 16137 | 0 |      | 0   | 0 | 1646 | 17783 | Maximum voltage drop of | 23.3 VOLTS      |
| KVAR | 2299  | 0 | -239 | -71 | 0 | 0    | 7831  | 9818                    | on section 663. |

# WITHOUT LITTLE MOUNT SUB

## Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: LOAD LEVEL 3

### LOAD Level 3 with CORRECTIONS

| Base Voltage is 120   |                    |             |             |             |                |               |              |              |          |            |              |            |           |                  | -----Section----- |      |            |              |
|---|--------------------|-------------|-------------|-------------|----------------|---------------|--------------|--------------|----------|------------|--------------|------------|-----------|------------------|-------------------|------|------------|--------------|
| Sect  | Type/<br>Conductor | Prev<br>Cnf | Pri<br>Sect | Base<br>Vlt | Section<br>Vlt | Accum<br>Drop | Thru<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | KW                | KVAR | Cons<br>On | Cons<br>Thru |
| 9175  | FAKE               | ABC         | 0           | 7.56Y       | 126.0          | .00           | .00          | 461.13       | 0        | 9985       | 3113         | .0         | .0        | .0               | 0                 | 0    | 0          | 186          |
| * 1140  | 795 ACSR 3         | ABC         | 9175        | 6.99Y       | 116.5          | 9.53          | 9.53         | 461.13       | 51       | 9985       | 3113         | 388.1      | 3.9       | 5.2              | 0                 | 0    | 0          | 186 *        |
| 4900  | REGU               | ABC         | 1140        | 7.56Y       | 126.0          | -9.52         | .01          | 461.13       | 154      | 9596       | 1172         | .0         | .0        | .0               | 0                 | 0    | 0          | 186 *        |
| 300 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 130 10% BOOST-BUCK |                    |             |             |             |                |               |              |              |          |            |              |            |           |                  |                   |      |            |              |
| 1100  | 795 ACSR 3         | ABC         | 4900        | 7.54Y       | 125.7          | .26           | .27          | 388.60       | 43       | 8742       | 1118         | 11.5       | .1        | .2               | 0                 | 0    | 0          | 142          |
| 1109  | #6A CWC            | B           | 1100        | 7.54Y       | 125.7          | .00           | .27          | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0    | 0          | 0            |
| 662   | 795 ACSR 3         | ABC         | 1100        | 7.53Y       | 125.4          | .30           | .58          | 323.06       | 36       | 7264       | 828          | 11.5       | .2        | .3               | 0                 | 0    | 0          | 79           |
| 160   | #1/0 ACSR          | ABC         | 662         | 7.48Y       | 124.6          | .80           | 1.37         | 40.77        | 18       | 911        | 135          | 4.7        | .5        | 1.4              | 254               | 36   | 12         | 39           |
| 664   | #6A CWC            | B           | 160         | 7.42Y       | 123.7          | .94           | 2.31         | 26.34        | 19       | 195        | 29           | .9         | .5        | 1.6              | 194               | 28   | 7          | 7            |
| 161   | #1/0 ACSR          | ABC         | 160         | 7.45Y       | 124.2          | .47           | 1.84         | 20.58        | 9        | 457        | 66           | 1.0        | .2        | 2.7              | 456               | 65   | 20         | 20           |
| 158   | 795 ACSR 3         | ABC         | 662         | 7.50Y       | 125.0          | .41           | .99          | 282.32       | 31       | 6342       | 636          | 9.8        | .2        | 1.1              | 5949              | 848  | 22         | 40           |
| 4092  | CAP                | ABC         | 158         | 7.50Y       | 125.0          | .00           | .99          | 20.81        | 0        | 383        | -269         | .0         | .0        | .0               | 0                 | 0    | 0          | 18           |
| 300 KVAR AT 7.20 KV no switching ON = 0 OFF = 0 STATUS = on                       |                    |             |             |             |                |               |              |              |          |            |              |            |           |                  |                   |      |            |              |
| 159   | #6A CWC            | A           | 4092        | 7.37Y       | 122.9          | 2.15          | 3.13         | 51.63        | 37       | 383        | 56           | 4.1        | 1.1       | 1.9              | 379               | 54   | 18         | 18           |
| 156   | #1/0 ACSR          | ABC         | 1100        | 7.39Y       | 123.2          | 2.51          | 2.78         | 65.60        | 29       | 1466       | 232          | 22.5       | 1.5       | 2.9              | 603               | 86   | 25         | 63           |
| 157   | #1/0 ACSR          | ABC         | 156         | 7.31Y       | 121.9          | 1.31          | 4.10         | 38.32        | 17       | 841        | 124          | 6.0        | .7        | 3.2              | 606               | 86   | 29         | 38           |
| 153   | #6A CWC            | C           | 157         | 7.28Y       | 121.3          | .64           | 4.73         | 31.58        | 23       | 229        | 32           | .7         | .3        | .9               | 228               | 32   | 9          | 9            |
| 154   | #1/0 ACSR          | B           | 4900        | 7.56Y       | 126.0          | .00           | .01          | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0    | 0          | 0            |
| 1101  | #1/0 ACSR          | ABC         | 4900        | 7.48Y       | 124.7          | 1.30          | 1.31         | 37.76        | 16       | 855        | 54           | 8.4        | 1.0       | 2.2              | 0                 | 0    | 0          | 44           |
| 1102  | 1/0 15KV U         | ABC         | 1101        | 7.48Y       | 124.6          | .05           | 1.36         | 4.38         | 2        | 70         | -69          | .1         | .1        | 2.3              | 57                | 8    | 3          | 5            |
| 1103  | 1/0 15KV U         | B           | 1102        | 7.48Y       | 124.6          | .00           | 1.36         | 1.74         | 1        | 13         | 1            | .0         | .0        | .1               | 13                | 2    | 1          | 1            |
| 1104  | 1/0 15KV U         | ABC         | 1102        | 7.48Y       | 124.6          | .00           | 1.36         | 1.14         | 0        | 0          | -26          | .0         | 100.0     | 1.1              | 0                 | 0    | 1          | 1            |
| 154   | #1/0 ACSR          | ABC         | 1101        | 7.45Y       | 124.2          | .45           | 1.76         | 34.96        | 15       | 776        | 115          | 2.3        | .3        | .9               | 209               | 30   | 14         | 39           |
| 163   | #1/0 ACSR          | ABC         | 154         | 7.43Y       | 123.9          | .32           | 2.09         | 22.18        | 10       | 491        | 72           | 1.0        | .2        | 1.1              | 209               | 30   | 10         | 21           |
| 665   | #6A CWC            | B           | 163         | 7.35Y       | 122.5          | 1.40          | 3.49         | 35.32        | 25       | 260        | 38           | 1.8        | .7        | 1.8              | 258               | 37   | 10         | 10           |
| 666   | #6A CWC            | B           | 163         | 7.43Y       | 123.8          | .11           | 2.20         | 2.85         | 2        | 21         | 3            | .0         | .0        | 1.8              | 21                | 3    | 1          | 1            |
| 162   | #6A CWC            | B           | 154         | 7.44Y       | 124.0          | .26           | 2.02         | 10.05        | 7        | 74         | 11           | .1         | .1        | 1.2              | 74                | 11   | 4          | 4            |

|      | Load | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |                                   |  |
|------|------|----------------|------------------|---------------|-------------------|------|--------|-------|-----------------------------------|--|
| KW   | 9510 | 0              |                  |               | 0                 | 0    | 475    | 9985  | Maximum voltage drop of 9.5 VOLTS |  |
| KVAR | 1356 | 0              | -325             | -78           | 0                 | 0    | 2161   | 3113  | on section 1140.                  |  |

sect 1140  
 Double circuit 795 5.2 miles \$353,600  
 3 x 300 AMP Regulator 27,600  
 \* D.C. @ \$68,000/mile in addition to existing  
 795 @ \$28,100/mile  
381,200

Balanced Voltage Drop Results

Database: LMT

Title: LITTLE MOUNT SUB

Case: LOAD LEVEL 3

| -----Section-----   |            |      |      |       |         |       |      |        |      |      |      |      |        |        |      |         |           |       |
|---|------------|------|------|-------|---------|-------|------|--------|------|------|------|------|--------|--------|------|---------|-----------|-------|
| Base Voltage is 120   |            |      |      |       |         |       |      |        |      |      |      |      |        |        |      |         |           |       |
| Sect  | Type/      | Prev | Pri  | Base  | Section | Accum | Thru | %      | Thru |      |      | KW   | %      | Length |      |         |           |       |
| Sect  | Conductor  | Cnf  | Sect | Vlt   | Drop    | Drop  | Amps | Cap    | KW   | KVAR | Loss | Loss | (Mile) | KW     | KVAR | Cons On | Cons Thru |       |
| FEEDER NUMBER 4   |            |      |      |       |         |       |      |        |      |      |      |      |        |        |      |         |           |       |
| 9174  | FAKE       | ABC  | 0    | 7.56Y | 126.0   | .00   | .00  | 306.38 | 0    | 6792 | 1468 | .0   | .0     | .0     | 0    | 0       | 0         | 291   |
| 141   | 795 ACSR 3 | ABC  | 9174 | 7.41Y | 123.6   | 2.44  | 2.44 | 306.38 | 34   | 6792 | 1468 | 67.6 | 1.0    | 2.2    | 673  | 96      | 23        | 291   |
| 4051  | REGU       | ABC  | 141  | 7.56Y | 126.0   | -2.44 | .00  | 276.04 | 92   | 6051 | 1035 | .0   | .0     | .0     | 0    | 0       | 0         | 268 * |
| 300 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK |            |      |      |       |         |       |      |        |      |      |      |      |        |        |      |         |           |       |
| 143   | 795 ACSR 3 | ABC  | 4051 | 7.54Y | 125.6   | .40   | .40  | 270.69 | 30   | 6051 | 1035 | 10.2 | .2     | .4     | 860  | 123     | 10        | 268   |
| 660   | 795 ACSR 3 | ABC  | 143  | 7.52Y | 125.3   | .26   | .66  | 213.21 | 23   | 4754 | 799  | 5.4  | .1     | .4     | 262  | 38      | 25        | 231   |
| 661   | #6A CWC    | C    | 660  | 7.49Y | 124.9   | .44   | 1.10 | 12.25  | 9    | 91   | 13   | .2   | .2     | 1.6    | 91   | 13      | 6         | 6     |
| 151   | 795 ACSR 3 | ABC  | 660  | 7.48Y | 124.6   | .70   | 1.35 | 197.40 | 22   | 4395 | 720  | 12.8 | .3     | 1.2    | 1043 | 149     | 47        | 200   |
| 838   | #1/0 ACSR  | ABC  | 151  | 7.47Y | 124.5   | .14   | 1.50 | 32.55  | 14   | 723  | 104  | .7   | .1     | .3     | 204  | 29      | 3         | 38    |
| 839   | #2 ACSR 6/ | ABC  | 838  | 7.46Y | 124.4   | .13   | 1.63 | 23.36  | 13   | 518  | 74   | .3   | .1     | .4     | 518  | 74      | 35        | 35    |
| 1151  | #6A CWC    | A    | 151  | 7.48Y | 124.6   | .00   | 1.35 | .00    | 0    | 0    | 0    | .0   | .0     | .9     | 0    | 0       | 0         | 0     |
| 837   | 795 ACSR 3 | ABC  | 151  | 7.45Y | 124.2   | .41   | 1.76 | 117.98 | 13   | 2616 | 403  | 5.0  | .2     | 1.0    | 21   | 3       | 1         | 115   |
| 806   | 1\0 CU     | ABC  | 837  | 7.45Y | 124.2   | .05   | 1.81 | 8.89   | 3    | 198  | 14   | .1   | .0     | .6     | 27   | 4       | 2         | 9     |
| 52  | 1\0 CU     | ABC  | 806  | 7.44Y | 124.1   | .14   | 1.95 | 7.74   | 2    | 171  | 25   | .2   | .1     | 1.8    | 17   | 3       | 3         | 7     |
|   | 350-AA 15K | ABC  | 152  | 7.44Y | 124.0   | .01   | 1.96 | 6.97   | 2    | 154  | 22   | .0   | .0     | .6     | 154  | 22      | 4         | 4     |
| 813   | 1/0 15KV U | ABC  | 806  | 7.45Y | 124.2   | .00   | 1.81 | .69    | 0    | 0    | -15  | .0   | 100.0  | .7     | 0    | 0       | 0         | 0     |
| 155   | 795 ACSR 3 | ABC  | 837  | 7.42Y | 123.7   | .56   | 2.33 | 106.32 | 12   | 2351 | 355  | 4.1  | .2     | 3.2    | 2347 | 334     | 103       | 103   |
| 840   | #2 ACSR 6/ | A    | 837  | 7.45Y | 124.1   | .11   | 1.87 | 5.56   | 3    | 41   | 6    | .0   | .0     | 1.2    | 41   | 6       | 2         | 2     |
| 144   | #1/0 ACSR  | ABC  | 143  | 7.50Y | 125.0   | .64   | 1.04 | 19.11  | 8    | 427  | 62   | 1.5  | .3     | 3.2    | 314  | 45      | 21        | 27    |
| 145   | #1/0 ACSR  | ABC  | 144  | 7.49Y | 124.9   | .09   | 1.13 | 5.03   | 2    | 112  | 16   | .0   | .0     | 2.1    | 112  | 16      | 6         | 6     |
| 1141  | #6A CWC    | A    | 141  | 7.41Y | 123.6   | .00   | 2.44 | .00    | 0    | 0    | 0    | .0   | .0     | .9     | 0    | 0       | 0         | 0     |

|      | Load | Adjust ment | Capaci- tance | Charg- ing | Genera- tors | Motors | Losses | Total |                                   |  |
|------|------|-------------|---------------|------------|--------------|--------|--------|-------|-----------------------------------|--|
| KW   | 6684 | 0           |               |            | 0            | 0      | 108    | 6792  | Maximum voltage drop of 2.4 VOLTS |  |
| KVAR | 955  | 0           | 0             | -14        | 0            | 0      | 528    | 1468  | on section 141.                   |  |

SECT 155

DOUBLE CIRCUIT 795 3.2 miles \$ 217,600

\* DC @ 68,000/mile IN ADDITION TO EXISTING 795 @ \$78,100/mile



2003 LOADING (LOAD LEVEL 1)

WITH LITTLE MOUNT SUBSTATION

# LOAD Level 1

PBVD-Detail

## Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

*BEFORE COLLECTIONS*

1/30/03 16:07 Page 1

| Base Voltage is 120 |            |      |        |         |         |         |      |                    |      |                |      |        |        |      | -----Section----- |    |      |     |
|---------------------|------------|------|--------|---------|---------|---------|------|--------------------|------|----------------|------|--------|--------|------|-------------------|----|------|-----|
| Sect                | Type/      | Prev | Pri    | Base    | Section | Accum   | Thru | %                  | Thru | KW             | %    | Length | Cons   | Cons |                   |    |      |     |
| Conductor           | Cnf        | Sect | Vlt    | Vlt     | Drop    | Drop    | Amps | Cap                | KW   | KVAR           | Loss | Loss   | (Mile) | KW   | KVAR              | On | Thru |     |
| FEEDER NUMBER       | 4          |      |        |         |         |         |      |                    |      |                |      |        |        |      |                   |    |      |     |
| 9174                | FAKE       | ABC  | 0      | 7.56Y   | 126.0   | .00     | .00  | 81.19              | 0    | 1821           | 276  | .0     | .0     | .0   | 0                 | 0  | 0    | 188 |
| 141                 | 336.4 ACSR | ABC  | 9174   | 7.50Y   | 125.0   | 1.02    | 1.02 | 81.19              | 15   | 1821           | 276  | 10.6   | .6     | 2.2  | 280               | 41 | 23   | 188 |
| 143                 | 1\0 CU     | ABC  | 141    | 7.48Y   | 124.7   | .29     | 1.31 | 68.64              | 22   | 1530           | 210  | 2.8    | .2     | .4   | 357               | 51 | 10   | 165 |
| 144                 | #6A CWC    | A C  | 143    | 7.41Y   | 123.5   | 1.18    | 2.49 | 11.96              | 9    | 177            | 26   | .9     | .5     | 3.2  | 130               | 18 | 21   | 27  |
| 145                 | #6A CWC    | A    | 144    | 7.41Y   | 123.6   | .29     | 2.42 | 6.27               | 4    | 46             | 7    | .1     | .1     | 2.1  | 46                | 7  | 6    | 6   |
| 660                 | 1\0 CU     | ABC  | 143    | 7.47Y   | 124.5   | .16     | 1.47 | 44.62              | 14   | 993            | 130  | 1.1    | .1     | .4   | 109               | 16 | 25   | 128 |
| 661                 | #6A CWC    | C    | 660    | 7.46Y   | 124.3   | .18     | 1.66 | 5.13               | 4    | 38             | 5    | .0     | .1     | 1.6  | 38                | 5  | 6    | 6   |
| 151                 | 1\0 CU     | ABC  | 660    | 7.45Y   | 124.2   | .35     | 1.82 | 38.00              | 12   | 845            | 107  | 1.7    | .2     | 1.2  | 434               | 62 | 47   | 97  |
| 838                 | #1/0 ACSR  | ABC  | 151    | 7.45Y   | 124.1   | .06     | 1.88 | 13.57              | 6    | 300            | 44   | .1     | .0     | .3   | 84                | 12 | 3    | 38  |
| 839                 | #2 ACSR 6/ | ABC  | 838    | 7.44Y   | 124.1   | .06     | 1.93 | 9.78               | 5    | 216            | 32   | .1     | .0     | .4   | 216               | 32 | 35   | 35  |
| 1151                | #6A CWC    | A    | 151    | 7.45Y   | 124.2   | .00     | 1.82 | .00                | 0    | 0              | 0    | .0     | .0     | .9   | 0                 | 0  | 0    | 0   |
| 837                 | 1\0 CU     | ABC  | 151    | 7.45Y   | 124.1   | .04     | 1.86 | 4.88               | 2    | 109            | -1   | .0     | .0     | 1.0  | 9                 | 1  | 1    | 12  |
| 4051                | REGU       | ABC  | 837    | 7.56Y   | 126.0   | -1.86   | .00  | .00                | 0    | 0              | 0    | .0     | .0     | .0   | 0                 | 0  | 0    | 0   |
|                     | 100 AMPS   | 126  | OUTPUT | R-SET = | .00     | X-SET = | .00  | HOUSE PROTECTION = | 0    | 10% BOOST-BUCK |      |        |        |      |                   |    |      |     |
| 76                  | 1\0 CU     | ABC  | 837    | 7.45Y   | 124.1   | .02     | 1.88 | 3.72               | 1    | 83             | -4   | .0     | .0     | .6   | 11                | 2  | 2    | 9   |
| 2                   | 1\0 CU     | ABC  | 806    | 7.44Y   | 124.1   | .06     | 1.94 | 3.25               | 1    | 72             | 9    | .0     | .0     | 1.8  | 8                 | 0  | 3    | 7   |
| 501                 | 350-AA 15K | ABC  | 152    | 7.44Y   | 124.1   | .00     | 1.94 | 2.89               | 1    | 64             | 9    | .0     | .0     | .6   | 64                | 9  | 4    | 4   |
| 813                 | 1/0 15KV U | ABC  | 806    | 7.45Y   | 124.1   | .00     | 1.88 | .69                | 0    | 0              | -15  | .0     | 100.0  | .7   | 0                 | 0  | 0    | 0   |
| 840                 | #2 ACSR 6/ | A    | 837    | 7.45Y   | 124.1   | .04     | 1.91 | 2.30               | 1    | 17             | 2    | .0     | .0     | 1.2  | 17                | 2  | 2    | 2   |
| 1141                | #6A CWC    | A    | 141    | 7.50Y   | 125.0   | .00     | 1.02 | .00                | 0    | 0              | 0    | .0     | .0     | .9   | 0                 | 0  | 0    | 0   |

|      | Adjust | Capaci- | Charg- | Genera- |        |      |        |       |                         |           |
|------|--------|---------|--------|---------|--------|------|--------|-------|-------------------------|-----------|
|      | Load   | ment    | tance  | ing     | Motors | tors | Losses | Total |                         |           |
| KW   | 1803   | 0       |        |         | 0      | 0    | 18     | 1821  | Maximum voltage drop of | 2.5 VOLTS |
| KVAR | 258    | 0       | 0      | -14     | 0      | 0    | 34     | 276   | on section              | 144.      |



# LOAD Level 1

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

## BEFORE COLLECTIONS

| Base Voltage is 120              |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  | -----Section----- |     |            |              |
|----------------------------------|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|--------------|------------|-----------|------------------|-------------------|-----|------------|--------------|
| Sect                             | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | Section           |     | Cons<br>On | Cons<br>Thru |
| 9271                             | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 133.99       | 0        | 3036       | 137          | .0         | .0        | .0               | 0                 | 0   | 0          | 79           |
| 662                              | 1\0 CU             | ABC | 9271         | 7.54Y      | 125.6       | .41             | .41           | 133.99       | 43       | 3036       | 137          | 9.3        | .3        | .3               | 0                 | 0   | 0          | 79           |
| 160                              | #6A CWC            | B   | 662          | 7.38Y      | 122.9       | 2.65            | 3.06          | 51.35        | 37       | 383        | 58           | 6.9        | 1.8       | 1.4              | 105               | 15  | 12         | 39           |
| 664                              | #6A CWC            | B   | 160          | 7.35Y      | 122.6       | .39             | 3.45          | 10.97        | 8        | 80         | 11           | .2         | .2        | 1.6              | 80                | 11  | 7          | 7            |
| 161                              | #6A CWC            | B   | 160          | 7.28Y      | 121.4       | 1.57            | 4.63          | 26.10        | 19       | 191        | 28           | 1.5        | .8        | 2.7              | 189               | 27  | 20         | 20           |
| 158                              | #1/0 ACSR          | ABC | 662          | 7.48Y      | 124.6       | .95             | 1.36          | 116.99       | 51       | 2644       | 66           | 14.3       | .5        | 1.1              | 2471              | 352 | 22         | 40           |
| 4092                             | CAP                | ABC | 158          | 7.48Y      | 124.6       | .00             | 1.36          | 15.18        | 0        | 159        | -301         | .0         | .0        | .0               | 0                 | 0   | 0          | 18           |
| 300 KVAR AT 7.20 KV no switching |                    |     |              |            |             |                 | ON =          | 0            | OFF =    | 0          | STATUS = on  |            |           |                  |                   |     |            |              |
| 159                              | #6A CWC            | A   | 4092         | 7.43Y      | 123.8       | .89             | 2.25          | 21.43        | 15       | 159        | 22           | .7         | .4        | 1.9              | 158               | 22  | 18         | 18           |

|      | Load | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Motors | Genera-<br>tors | Losses | Total |                                   |  |
|------|------|----------------|------------------|---------------|--------|-----------------|--------|-------|-----------------------------------|--|
| KW   | 3003 | 0              |                  |               | 0      | 0               | 33     | 3036  | Maximum voltage drop of 4.6 VOLTS |  |
| KVAR | 427  | 0              | -323             | 0             | 0      | 0               | 33     | 137   | on section 161.                   |  |

# LOAD Level 1

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

Before Corrections

| Base Voltage is 120   |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  | -----Section----- |      |            |              |  |
|---|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|--------------|------------|-----------|------------------|-------------------|------|------------|--------------|--|
| Sect  | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | KW                | KVAR | Cons<br>On | Cons<br>Thru |  |
| 9272  | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 87.85        | 0        | 1979       | 229          | .0         | .0        | .0               | 0                 | 0    | 0          | 210          |  |
| 1100  | 1\0 CU             | ABC | 9272         | 7.55Y      | 125.9       | .13             | .13           | 59.05        | 19       | 1334       | 117          | 1.2        | .1        | .2               | 0                 | 0    | 0          | 147          |  |
| 155   | 1\0 CU             | ABC | 1100         | 7.51Y      | 125.1       | .75             | .88           | 43.59        | 14       | 977        | 142          | 3.3        | .3        | 3.2              | 974               | 138  | 103        | 103          |  |
| 1155  | #1/0 ACSR          | B   | 1100         | 7.55Y      | 125.9       | .00             | .13           | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0    | 0          | 0            |  |
| 1101  | #1/0 ACSR          | ABC | 1100         | 7.52Y      | 125.4       | .47             | .61           | 15.75        | 7        | 356        | -27          | 1.5        | .4        | 2.2              | 0                 | 0    | 0          | 44           |  |
| 1102  | 1/0 15KV U         | ABC | 1101         | 7.52Y      | 125.4       | .00             | .60           | 3.58         | 2        | 28         | -76          | .1         | .2        | 2.3              | 23                | 3    | 3          | 5            |  |
| 1103  | 1/0 15KV U         | B   | 1102         | 7.52Y      | 125.4       | .00             | .61           | .66          | 0        | 5          | 0            | .0         | .0        | .1               | 5                 | 1    | 1          | 1            |  |
| 1104  | 1/0 15KV U         | ABC | 1102         | 7.52Y      | 125.4       | .00             | .60           | 1.15         | 1        | 0          | -26          | .0         | 100.0     | 1.1              | 0                 | 0    | 1          | 1            |  |
| 154   | #6A CWC            | B   | 1101         | 7.43Y      | 123.9       | 1.53            | 2.14          | 43.80        | 31       | 326        | 47           | 3.4        | 1.0       | .9               | 87                | 12   | 14         | 39           |  |
| 163   | #6A CWC            | B   | 154          | 7.37Y      | 122.8       | 1.06            | 3.20          | 27.82        | 20       | 205        | 29           | 1.4        | .7        | 1.1              | 87                | 12   | 10         | 21           |  |
| 665   | #6A CWC            | B   | 163          | 7.33Y      | 122.2       | .58             | 3.78          | 14.71        | 11       | 107        | 15           | .3         | .3        | 1.8              | 107               | 15   | 10         | 10           |  |
| 666   | #6A CWC            | B   | 163          | 7.37Y      | 122.8       | .05             | 3.24          | 1.23         | 1        | 9          | 1            | .0         | .0        | 1.8              | 9                 | 1    | 1          | 1            |  |
| 162   | #6A CWC            | B   | 154          | 7.43Y      | 123.8       | .11             | 2.24          | 4.21         | 3        | 31         | 4            | .0         | .1        | 1.2              | 31                | 4    | 4          | 4            |  |
| 1109  | #6A CWC            | B   | 9272         | 7.56Y      | 126.0       | .00             | .00           | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0    | 0          | 0            |  |
| * 1156  | REGU               | C   | 9272         | 7.56Y      | 126.0       | .00             | .00           | 86.58        | 87       | 645        | 113          | .0         | .0        | .0               | 0                 | 0    | 0          | 63 *         |  |
| 100 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 130 10% BOOST-BUCK |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  |                   |      |            |              |  |
| '6  | #6A CWC            | C   | 1156         | 7.03Y      | 117.2       | 8.81            | 8.81          | 86.58        | 62       | 645        | 113          | 36.6       | 5.7       | 2.9              | 251               | 36   | 25         | 63 *         |  |
| 7   | #6A CWC            | C   | 156          | 6.75Y      | 112.5       | 4.65            | 13.46         | 51.41        | 37       | 357        | 55           | 10.1       | 2.8       | 3.2              | 252               | 36   | 29         | 38 *         |  |
| * 663   | #6A CWC            | C   | 157          | 6.74Y      | 112.3       | .29             | 13.75         | 14.22        | 10       | 95         | 13           | .1         | .1        | .9               | 95                | 13   | 9          | 9 *          |  |

|      | Load | Adjust<br>ment | Capaci-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |                                    |
|------|------|----------------|------------------|---------------|-------------------|------|--------|-------|------------------------------------|
| KW   | 1921 | 0              |                  |               | 0                 | 0    | 58     | 1979  | Maximum voltage drop of 13.7 VOLTS |
| KVAR | 271  | 0              | 0                | -79           | 0                 | 0    | 38     | 229   | on section 663.                    |

# LOAD Level 1

## Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

### AFTER CORRECTIONS

| Base Voltage is 120 |            |     |           |         |          |              |            |           |       |         |      |         |        |               |     |      |         |           |
|---------------------|------------|-----|-----------|---------|----------|--------------|------------|-----------|-------|---------|------|---------|--------|---------------|-----|------|---------|-----------|
| -----Section-----   |            |     |           |         |          |              |            |           |       |         |      |         |        |               |     |      |         |           |
| Sect                | Conductor  | Cnf | Prev Sect | Pri Vlt | Base Vlt | Section Drop | Accum Drop | Thru Amps | % Cap | Thru KW | KVAR | KW Loss | % Loss | Length (Mile) | KW  | KVAR | Cons On | Cons Thru |
| 9272                | FAKE       | ABC | 0         | 7.56Y   | 126.0    | .00          | .00        | 86.27     | 0     | 1945    | 211  | .0      | .0     | .0            | 0   | 0    | 0       | 210       |
| 1100                | 1\0 CU     | ABC | 9272      | 7.55Y   | 125.9    | .13          | .13        | 59.05     | 19    | 1334    | 117  | 1.2     | .1     | .2            | 0   | 0    | 0       | 147       |
| 155                 | 1\0 CU     | ABC | 1100      | 7.51Y   | 125.1    | .75          | .88        | 43.59     | 14    | 977     | 142  | 3.3     | .3     | 3.2           | 974 | 138  | 103     | 103       |
| 1155                | #1/0 ACSR  | B   | 1100      | 7.55Y   | 125.9    | .00          | .13        | .00       | 0     | 0       | 0    | .0      | .0     | .9            | 0   | 0    | 0       | 0         |
| 1101                | #1/0 ACSR  | ABC | 1100      | 7.52Y   | 125.4    | .47          | .61        | 15.75     | 7     | 356     | -27  | 1.5     | .4     | 2.2           | 0   | 0    | 0       | 44        |
| 1102                | 1/0 15KV U | ABC | 1101      | 7.52Y   | 125.4    | .00          | .60        | 3.58      | 2     | 28      | -76  | .1      | .2     | 2.3           | 23  | 3    | 3       | 5         |
| 1103                | 1/0 15KV U | B   | 1102      | 7.52Y   | 125.4    | .00          | .61        | .66       | 0     | 5       | 0    | .0      | .0     | .1            | 5   | 1    | 1       | 1         |
| 1104                | 1/0 15KV U | ABC | 1102      | 7.52Y   | 125.4    | .00          | .60        | 1.15      | 1     | 0       | -26  | .0      | 100.0  | 1.1           | 0   | 0    | 1       | 1         |
| 154                 | #6A CWC    | B   | 1101      | 7.43Y   | 123.9    | 1.53         | 2.14       | 43.80     | 31    | 326     | 47   | 3.4     | 1.0    | .9            | 87  | 12   | 14      | 39        |
| 163                 | #6A CWC    | B   | 154       | 7.37Y   | 122.8    | 1.06         | 3.20       | 27.82     | 20    | 205     | 29   | 1.4     | .7     | 1.1           | 87  | 12   | 10      | 21        |
| 665                 | #6A CWC    | B   | 163       | 7.33Y   | 122.2    | .58          | 3.78       | 14.71     | 11    | 107     | 15   | .3      | .3     | 1.8           | 107 | 15   | 10      | 10        |
| 666                 | #6A CWC    | B   | 163       | 7.37Y   | 122.8    | .05          | 3.24       | 1.23      | 1     | 9       | 1    | .0      | .0     | 1.8           | 9   | 1    | 1       | 1         |
| 162                 | #6A CWC    | B   | 154       | 7.43Y   | 123.8    | .11          | 2.24       | 4.21      | 3     | 31      | 4    | .0      | .1     | 1.2           | 31  | 4    | 4       | 4         |
| 1109                | #6A CWC    | B   | 9272      | 7.56Y   | 126.0    | .00          | .00        | .00       | 0     | 0       | 0    | .0      | .0     | .9            | 0   | 0    | 0       | 0         |
| 156                 | #1/0 ACSR  | ABC | 9272      | 7.50Y   | 125.0    | 1.05         | 1.05       | 27.25     | 12    | 611     | 94   | 3.9     | .6     | 2.9           | 251 | 36   | 25      | 63        |
| 157                 | #6A CWC    | C   | 156       | 7.24Y   | 120.6    | 4.34         | 5.39       | 48.03     | 34    | 356     | 54   | 8.8     | 2.5    | 3.2           | 252 | 36   | 29      | 38        |
| 3                   | #6A CWC    | C   | 157       | 7.22Y   | 120.3    | .27          | 5.66       | 13.27     | 9     | 95      | 13   | .1      | .1     | .9            | 95  | 13   | 9       | 9         |

|      | Load | Adjust ment | Capaci- tance | Charg- ing | Genera- tors | Motors | Losses | Total |                                   |
|------|------|-------------|---------------|------------|--------------|--------|--------|-------|-----------------------------------|
| KW   | 1921 | 0           |               |            | 0            | 0      | 24     | 1945  | Maximum voltage drop of 5.7 VOLTS |
| KVAR | 271  | 0           | 0             | -79        | 0            | 0      | 20     | 211   | on section 663.                   |

sect 156      10 #6A CWC → 30 #1/0 ACSR      2.9 mile

2.9 @ \$42,000

\$121,800

2013 LOADING (LOAD LEVEL 2)

WITH LITTLE MOUNT SUBSTATION



# LOAD Level 2

PBVD-Detail

## Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

*Before corrections*

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| -----Section-----                |           |      |      |       |         |       |      |        |      |             |      |        |        |      |      |     |      |      |
|----------------------------------|-----------|------|------|-------|---------|-------|------|--------|------|-------------|------|--------|--------|------|------|-----|------|------|
| Base Voltage is 120              |           |      |      |       |         |       |      |        |      |             |      |        |        |      |      |     |      |      |
| Sect                             | Type/     | Prev | Pri  | Base  | Section | Accum | Thru | %      | Thru | KW          | %    | Length | Cons   | Cons |      |     |      |      |
| Conductor                        | Cnf       | Sect | Vlt  | Vlt   | Drop    | Drop  | Amps | Cap    | KW   | KVAR        | Loss | Loss   | (Mile) | KW   | KVAR | On  | Thru |      |
| 9271                             | FAKE      | ABC  | 0    | 7.56Y | 126.0   | .00   | .00  | 211.57 | 0    | 4779        | 431  | .0     | .0     | .0   | 0    | 0   | 0    | 79   |
| 662                              | 1\0 CU    | ABC  | 9271 | 7.52Y | 125.3   | .68   | .68  | 211.57 | 68   | 4779        | 431  | 23.2   | .5     | .3   | 0    | 0   | 0    | 79   |
| 160                              | #6A CWC   | B    | 662  | 7.31Y | 121.8   | 3.48  | 4.15 | 67.25  | 48   | 500         | 78   | 11.8   | 2.4    | 1.4  | 136  | 19  | 12   | 39   |
| 664                              | #6A CWC   | B    | 160  | 7.28Y | 121.3   | .51   | 4.67 | 14.41  | 10   | 104         | 15   | .3     | .3     | 1.6  | 104  | 15  | 7    | 7    |
| 161                              | #6A CWC   | B    | 160  | 7.19Y | 119.8   | 2.06  | 6.21 | 34.24  | 24   | 248         | 37   | 2.6    | 1.1    | 2.7  | 245  | 35  | 20   | 20   |
| 158                              | #1/0 ACSR | ABC  | 662  | 7.42Y | 123.6   | 1.69  | 2.37 | 189.22 | 82   | 4256        | 323  | 38.1   | .9     | 1.1  | 3951 | 563 | 22   | 40 * |
| 4092                             | CAP       | ABC  | 158  | 7.42Y | 123.6   | .00   | 2.37 | 17.36  | 0    | 267         | -279 | .0     | .0     | .0   | 0    | 0   | 0    | 18   |
| 300 KVAR AT 7.20 KV no switching |           |      |      |       |         | ON =  | 0    | OFF =  | 0    | STATUS = on |      |        |        |      |      |     |      |      |
| 159                              | #6A CWC   | A    | 4092 | 7.33Y | 122.1   | 1.51  | 3.88 | 36.39  | 26   | 267         | 39   | 2.0    | .8     | 1.9  | 265  | 38  | 18   | 18   |

|      | Adjust | Capaci- | Charg- | Genera- | Losses | Total |                         |           |
|------|--------|---------|--------|---------|--------|-------|-------------------------|-----------|
| KW   | Load   | ment    | tance  | ing     | Motors | tors  | Maximum voltage drop of | 6.2 VOLTS |
|      | 4701   | 0       |        |         | 0      | 0     | 78                      | 4779      |
| KVAR | 670    | 0       | -317   | 0       | 0      | 0     | 80                      | 431       |
|      |        |         |        |         |        |       | on section              | 161.      |

# LOAD Level 2

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

## Before Corrections

Base Voltage is 120

-----Section-----

| Sect | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | Section |      | Cons<br>On | Cons<br>Thru |
|------|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|------|------------|-----------|------------------|---------|------|------------|--------------|
|      |                    |     |              |            |             |                 |               |              |          |            |      |            |           |                  | KW      | KVAR |            |              |
| 9272 | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 137.31       | 0        | 3088       | 400  | .0         | .0        | .0               | 0       | 0    | 0          | 210          |
| 1100 | 1\0 CU             | ABC | 9272         | 7.55Y      | 125.8       | .24             | .24           | 104.11       | 34       | 2344       | 284  | 3.9        | .2        | .2               | 0       | 0    | 0          | 147          |
| 155  | 1\0 CU             | ABC | 1100         | 7.47Y      | 124.5       | 1.30            | 1.53          | 74.90        | 24       | 1677       | 251  | 9.9        | .6        | 3.2              | 1667    | 238  | 103        | 103          |
| 1155 | #1/0 ACSR          | B   | 1100         | 7.55Y      | 125.8       | .00             | .24           | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0       | 0    | 0          | 0            |
| 1101 | #1/0 ACSR          | ABC | 1100         | 7.49Y      | 124.8       | .99             | 1.23          | 29.33        | 13       | 663        | 28   | 5.1        | .8        | 2.2              | 0       | 0    | 0          | 44           |
| 1102 | 1/0 15KV U         | ABC | 1101         | 7.48Y      | 124.7       | .03             | 1.26          | 3.98         | 2        | 53         | -72  | .1         | .1        | 2.3              | 43      | 6    | 3          | 5            |
| 1103 | 1/0 15KV U         | B   | 1102         | 7.48Y      | 124.7       | .00             | 1.26          | 1.34         | 1        | 10         | 0    | .0         | .0        | .1               | 10      | 1    | 1          | 1            |
| 1104 | 1/0 15KV U         | ABC | 1102         | 7.48Y      | 124.7       | .00             | 1.26          | 1.14         | 0        | 0          | -26  | .0         | 100.0     | 1.1              | 0       | 0    | 1          | 1            |
| 154  | #6A CWC            | B   | 1101         | 7.31Y      | 121.9       | 2.87            | 4.11          | 81.82        | 58       | 605        | 95   | 11.9       | 2.0       | .9               | 159     | 23   | 14         | 39           |
| 163  | #6A CWC            | B   | 154          | 7.19Y      | 119.9       | 2.00            | 6.11          | 52.28        | 37       | 378        | 57   | 5.0        | 1.3       | 1.1              | 159     | 23   | 10         | 21           |
| 665  | #6A CWC            | B   | 163          | 7.13Y      | 118.8       | 1.11            | 7.21          | 27.83        | 20       | 198        | 29   | 1.1        | .6        | 1.8              | 197     | 28   | 10         | 10           |
| 666  | #6A CWC            | B   | 163          | 7.19Y      | 119.8       | .09             | 6.19          | 2.24         | 2        | 16         | 2    | .0         | .0        | 1.8              | 16      | 2    | 1          | 1            |
| 162  | #6A CWC            | B   | 154          | 7.30Y      | 121.7       | .20             | 4.31          | 7.74         | 6        | 56         | 8    | .1         | .1        | 1.2              | 56      | 8    | 4          | 4            |
| 1109 | #6A CWC            | B   | 9272         | 7.56Y      | 126.0       | .00             | .00           | .00          | 0        | 0          | 0    | .0         | .0        | .9               | 0       | 0    | 0          | 0            |
| 156  | #1/0 ACSR          | ABC | 9272         | 7.48Y      | 124.7       | 1.28            | 1.28          | 33.21        | 14       | 744        | 116  | 5.8        | .8        | 2.9              | 304     | 43   | 25         | 63           |
| 157  | #6A CWC            | C   | 156          | 7.16Y      | 119.4       | 5.32            | 6.60          | 58.76        | 42       | 434        | 68   | 13.2       | 3.0       | 3.2              | 306     | 44   | 29         | 38           |
| 73   | #6A CWC            | C   | 157          | 7.14Y      | 119.1       | .33             | 6.93          | 16.24        | 12       | 115        | 16   | .2         | .2        | .9               | 115     | 16   | 9          | 9            |

|      |        |         |        |     |         |      |        |       |                         |           |
|------|--------|---------|--------|-----|---------|------|--------|-------|-------------------------|-----------|
|      | Adjust | Capaci- | Charg- |     | Genera- |      |        |       |                         |           |
|      | Load   | ment    | tance  | ing | Motors  | tors | Losses | Total |                         |           |
| KW   | 3032   | 0       |        |     | 0       | 0    | 56     | 3088  | Maximum voltage drop of | 7.2 VOLTS |
| KVAR | 432    | 0       | 0      | -78 | 0       | 0    | 47     | 400   | on section              | 665.      |

2023 LOADING (LOAD LEVEL 3)

WITH LITTLE MOUNT SUBSTATION



# LOAD Level 3

PBVD-Detail

## Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

### Before Corrections

1/30/03 16:16 Page 1

| Base Voltage is 120   |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  | -----Section----- |     |            |              |
|---|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|--------------|------------|-----------|------------------|-------------------|-----|------------|--------------|
| Sect  | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | Section           |     | Cons<br>On | Cons<br>Thru |
| FEEDER NUMBER 4   |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  |                   |     |            |              |
| 9174  | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 194.27       | 0        | 4337       | 779          | .0         | .0        | .0               | 0                 | 0   | 0          | 188          |
| 141   | 336.4 ACSR         | ABC | 9174         | 7.41Y      | 123.5       | 2.51            | 2.51          | 194.27       | 37       | 4337       | 779          | 60.7       | 1.4       | 2.2              | 688               | 98  | 23         | 188          |
| 143   | 1\0 CU             | ABC | 141          | 7.37Y      | 122.8       | .70             | 3.21          | 163.22       | 53       | 3588       | 537          | 15.9       | .4        | .4               | 886               | 126 | 10         | 165          |
| 144   | #6A CWC            | A C | 143          | 7.23Y      | 120.5       | 2.28            | 5.49          | 23.34        | 17       | 340        | 50           | 3.5        | 1.0       | 3.2              | 251               | 36  | 21         | 27           |
| 145   | #6A CWC            | A   | 144          | 7.24Y      | 120.7       | .54             | 5.33          | 11.84        | 8        | 85         | 12           | .2         | .3        | 2.1              | 85                | 12  | 6          | 6            |
| 660   | 1\0 CU             | ABC | 143          | 7.34Y      | 122.4       | .39             | 3.61          | 107.27       | 35       | 2346       | 340          | 6.2        | .3        | .4               | 244               | 35  | 25         | 128          |
| 661   | #6A CWC            | C   | 660          | 7.31Y      | 121.9       | .48             | 4.09          | 13.38        | 10       | 97         | 14           | .2         | .2        | 1.6              | 97                | 14  | 6          | 6            |
| 151   | 1\0 CU             | ABC | 660          | 7.29Y      | 121.5       | .87             | 4.48          | 91.63        | 30       | 1999       | 282          | 10.3       | .5        | 1.2              | 945               | 134 | 47         | 97           |
| 838   | #1/0 ACSR          | ABC | 151          | 7.28Y      | 121.4       | .16             | 4.64          | 36.26        | 16       | 785        | 113          | .8         | .1        | .3               | 225               | 32  | 3          | 38           |
| 839   | #2 ACSR 6/         | ABC | 838          | 7.27Y      | 121.2       | .15             | 4.78          | 25.87        | 14       | 559        | 80           | .4         | .1        | .4               | 559               | 80  | 35         | 35           |
| 1151  | #6A CWC            | A   | 151          | 7.29Y      | 121.5       | .00             | 4.48          | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0   | 0          | 0            |
| 837   | 1\0 CU             | ABC | 151          | 7.28Y      | 121.4       | .12             | 4.60          | 11.86        | 4        | 258        | 22           | .2         | .1        | 1.0              | 25                | 4   | 1          | 12           |
| 4051  | REGU               | ABC | 837          | 7.56Y      | 126.0       | -4.58           | .01           | .00          | 0        | 0          | 0            | .0         | .0        | .0               | 0                 | 0   | 0          | 0            |
| 100 AMPS 126 OUTPUT R-SET = .00 X-SET = .00 HOUSE PROTECTION = 0 10% BOOST-BUCK |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  |                   |     |            |              |
| 6   | 1\0 CU             | ABC | 837          | 7.28Y      | 121.4       | .05             | 4.64          | 9.27         | 3        | 202        | 14           | .1         | .0        | .6               | 29                | 4   | 2          | 9            |
| 152   | 1\0 CU             | ABC | 806          | 7.27Y      | 121.2       | .14             | 4.79          | 8.00         | 3        | 173        | 24           | .2         | .1        | 1.8              | 19                | 3   | 3          | 7            |
| 501   | 350-AA 15K         | ABC | 152          | 7.27Y      | 121.2       | .01             | 4.80          | 7.12         | 2        | 154        | 21           | .0         | .0        | .6               | 154               | 21  | 4          | 4            |
| 813   | 1/0 15KV U         | ABC | 806          | 7.28Y      | 121.4       | .00             | 4.64          | .68          | 0        | 0          | -15          | .0         | 100.0     | .7               | 0                 | 0   | 0          | 0            |
| 840   | #2 ACSR 6/         | A   | 837          | 7.28Y      | 121.3       | .08             | 4.68          | 4.29         | 2        | 31         | 4            | .0         | .0        | 1.2              | 31                | 4   | 2          | 2            |
| 1141  | #6A CWC            | A   | 141          | 7.41Y      | 123.5       | .00             | 2.51          | .00          | 0        | 0          | 0            | .0         | .0        | .9               | 0                 | 0   | 0          | 0            |

|      | Adjust<br>Load | Capaci-<br>ment | Charg-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |                         |           |
|------|----------------|-----------------|-----------------|---------------|-------------------|------|--------|-------|-------------------------|-----------|
| KW   | 4238           | 0               |                 |               | 0                 | 0    | 99     | 4337  | Maximum voltage drop of | 5.5 VOLTS |
| KVAR | 603            | 0               | 0               | -14           | 0                 | 0    | 191    | 779   | on section              | 144.      |

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

| -----                            |               |     |           |         |          |              |            |           |       |         |             |         |        |               | -----Section----- |     |         |           |
|----------------------------------|---------------|-----|-----------|---------|----------|--------------|------------|-----------|-------|---------|-------------|---------|--------|---------------|-------------------|-----|---------|-----------|
| Base Voltage is 120              |               |     |           |         |          |              |            |           |       |         |             |         |        |               |                   |     |         |           |
| Sect                             | Conductor     | Cnf | Prev Sect | Pri Vlt | Base Vlt | Section Drop | Accum Drop | Thru Amps | % Cap | Thru KW | Thru KVAR   | KW Loss | % Loss | Length (Mile) | Section           |     | Cons On | Cons Thru |
| 9271                             | FAKE          | ABC | 0         | 7.56Y   | 126.0    | .00          | .00        | 313.96    | 0     | 7070    | 845         | .0      | .0     | .0            | 0                 | 0   | 0       | 79        |
| *                                | 662 1\0 CU    | ABC | 9271      | 7.50Y   | 125.0    | 1.03         | 1.03       | 313.96    | 101   | 7070    | 845         | 51.0    | .7     | .3            | 0                 | 0   | 0       | 79 *      |
|                                  | 160 #6A CWC   | B   | 662       | 7.18Y   | 119.7    | 5.22         | 6.25       | 100.66    | 72    | 745     | 120         | 26.6    | 3.6    | 1.4           | 200               | 28  | 12      | 39        |
|                                  | 664 #6A CWC   | B   | 160       | 7.14Y   | 119.0    | .77          | 7.02       | 21.61     | 15    | 154     | 22          | .6      | .4     | 1.6           | 153               | 22  | 7       | 7         |
| *                                | 161 #6A CWC   | B   | 160       | 7.00Y   | 116.7    | 3.09         | 9.34       | 51.35     | 37    | 365     | 54          | 5.9     | 1.6    | 2.7           | 359               | 51  | 20      | 20 *      |
|                                  | 158 #1/0 ACSR | ABC | 662       | 7.34Y   | 122.4    | 2.61         | 3.65       | 280.46    | 122   | 6274    | 656         | 84.7    | 1.4    | 1.1           | 5797              | 826 | 22      | 40 *      |
|                                  | 4092 CAP      | ABC | 158       | 7.34Y   | 122.4    | .00          | 3.65       | 21.23     | 0     | 393     | -254        | .0      | .0     | .0            | 0                 | 0   | 0       | 18        |
| 300 KVAR AT 7.20 KV no switching |               |     |           |         |          |              | ON =       | 0         | OFF = | 0       | STATUS = on |         |        |               |                   |     |         |           |
|                                  | 159 #6A CWC   | A   | 4092      | 7.21Y   | 120.1    | 2.25         | 5.90       | 54.04     | 39    | 393     | 58          | 4.5     | 1.2    | 1.9           | 388               | 55  | 18      | 18        |

|      | Adjust Load | Capacitance | Charging | Generators | Motors | Losses | Total |                                   |  |
|------|-------------|-------------|----------|------------|--------|--------|-------|-----------------------------------|--|
| KW   | 6897        | 0           |          | 0          | 0      | 173    | 7070  | Maximum voltage drop of 9.3 VOLTS |  |
| KVAR | 982         | 0           | -311     | 0          | 0      | 175    | 845   | on section 161.                   |  |

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

| -----Base Voltage is 120----- |                |     |           |         |          |              |            |           |       |         |           |         |        |               | -----Section----- |      |         |           |  |
|-------------------------------|----------------|-----|-----------|---------|----------|--------------|------------|-----------|-------|---------|-----------|---------|--------|---------------|-------------------|------|---------|-----------|--|
| Sect                          | Type/Conductor | Cnf | Prev Sect | Pri Vlt | Base Vlt | Section Drop | Accum Drop | Thru Amps | % Cap | Thru KW | Thru KVAR | KW Loss | % Loss | Length (Mile) | KW                | KVAR | Cons On | Cons Thru |  |
| 9272                          | FAKE           | ABC | 0         | 7.56Y   | 126.0    | .00          | .00        | 204.98    | 0     | 4601    | 664       | .0      | .0     | .0            | 0                 | 0    | 0       | 210       |  |
| 1100                          | 1\0 CU         | ABC | 9272      | 7.54Y   | 125.6    | .36          | .36        | 155.23    | 50    | 3488    | 481       | 8.6     | .2     | .2            | 0                 | 0    | 0       | 147       |  |
| 155                           | 1\0 CU         | ABC | 1100      | 7.42Y   | 123.7    | 1.92         | 2.28       | 111.01    | 36    | 2482    | 379       | 21.6    | .9     | 3.2           | 2460              | 350  | 103     | 103       |  |
| 1155                          | #1\0 ACSR      | B   | 1100      | 7.54Y   | 125.6    | .00          | .36        | .00       | 0     | 0       | 0         | .0      | .0     | .9            | 0                 | 0    | 0       | 0         |  |
| 1101                          | #1\0 ACSR      | ABC | 1100      | 7.44Y   | 124.1    | 1.56         | 1.92       | 44.28     | 19    | 997     | 90        | 11.5    | 1.2    | 2.2           | 0                 | 0    | 0       | 44        |  |
| 1102                          | 1\0 15KV U     | ABC | 1101      | 7.44Y   | 124.0    | .06          | 1.98       | 4.61      | 2     | 77      | -68       | .1      | .1     | 2.3           | 63                | 8    | 3       | 5         |  |
| 1103                          | 1\0 15KV U     | B   | 1102      | 7.44Y   | 124.0    | .00          | 1.99       | 1.89      | 1     | 14      | 1         | .0      | .0     | .1            | 14                | 2    | 1       | 1         |  |
| 1104                          | 1\0 15KV U     | ABC | 1102      | 7.44Y   | 124.0    | .00          | 1.98       | 1.13      | 0     | 0       | -25       | .0      | 100.0  | 1.1           | 0                 | 0    | 1       | 1         |  |
| * 154                         | #6A CWC        | B   | 1101      | 7.18Y   | 119.7    | 4.36         | 6.28       | 123.65    | 88    | 909     | 147       | 27.3    | 3.0    | .9            | 235               | 33   | 14      | 39 *      |  |
| 163                           | #6A CWC        | B   | 154       | 7.00Y   | 116.7    | 3.04         | 9.32       | 79.32     | 57    | 563     | 86        | 11.5    | 2.1    | 1.1           | 235               | 34   | 10      | 21 *      |  |
| 665                           | #6A CWC        | B   | 163       | 6.90Y   | 115.0    | 1.68         | 11.00      | 42.38     | 30    | 294     | 43        | 2.6     | .9     | 1.8           | 291               | 41   | 10      | 10 *      |  |
| * 666                         | #6A CWC        | B   | 163       | 6.99Y   | 116.6    | .13          | 9.45       | 3.32      | 2     | 23      | 3         | .0      | .1     | 1.8           | 23                | 3    | 1       | 1 *       |  |
| 162                           | #6A CWC        | B   | 154       | 7.17Y   | 119.4    | .30          | 6.58       | 11.69     | 8     | 83      | 12        | .1      | .2     | 1.2           | 83                | 12   | 4       | 4         |  |
| 1109                          | #6A CWC        | B   | 9272      | 7.56Y   | 126.0    | .00          | .00        | .00       | 0     | 0       | 0         | .0      | .0     | .9            | 0                 | 0    | 0       | 0         |  |
| 156                           | #1\0 ACSR      | ABC | 9272      | 7.44Y   | 124.1    | 1.93         | 1.93       | 49.77     | 22    | 1114    | 183       | 13.1    | 1.2    | 2.9           | 449               | 64   | 25      | 63        |  |
| * 157                         | #6A CWC        | C   | 156       | 6.96Y   | 116.0    | 8.06         | 9.99       | 88.70     | 63    | 652     | 106       | 30.3    | 4.6    | 3.2           | 451               | 64   | 29      | 38 *      |  |
| 3                             | #6A CWC        | C   | 157       | 6.93Y   | 115.5    | .50          | 10.48      | 24.73     | 18    | 170     | 24        | .5      | .3     | .9            | 170               | 24   | 9       | 9 *       |  |

|      | Adjust Load | Capacitance | Charging | Generators | Motors | Losses | Total |  |
|------|-------------|-------------|----------|------------|--------|--------|-------|--|
| KW   | 4474        | 0           |          | 0          | 0      | 127    | 4601  | Maximum voltage drop of 11.0 VOLTS on section 665. |
| KVAR | 635         | 0           | 0        | -77        | 0      | 107    | 664   |  |

# LOAD LEVEL 3

PBVD-Detail

Balanced Voltage Drop Results  
 Database: WITHLMT  
 Title: LITTLE MOUNT SUB  
 Case:

## AFTER CORRECTIONS

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| Base Voltage is 120              |                    |     |              |            |             |                 |               |              |          |            |              |            |           |                  | -----Section----- |      |            |              |
|----------------------------------|--------------------|-----|--------------|------------|-------------|-----------------|---------------|--------------|----------|------------|--------------|------------|-----------|------------------|-------------------|------|------------|--------------|
| Sect                             | Type/<br>Conductor | Cnf | Prev<br>Sect | Pri<br>Vlt | Base<br>Vlt | Section<br>Drop | Accum<br>Drop | Thru<br>Amps | %<br>Cap | Thru<br>KW | Thru<br>KVAR | KW<br>Loss | %<br>Loss | Length<br>(Mile) | KW                | KVAR | Cons<br>On | Cons<br>Thru |
| 9271                             | FAKE               | ABC | 0            | 7.56Y      | 126.0       | .00             | .00           | 311.55       | 0        | 7019       | 818          | .0         | .0        | .0               | 0                 | 0    | 0          | 79           |
| 662                              | 336.4 ACSR         | ABC | 9271         | 7.53Y      | 125.5       | .54             | .54           | 311.55       | 59       | 7019       | 818          | 24.2       | .3        | .3               | 0                 | 0    | 0          | 79           |
| 160                              | #1/0 ACSR          | ABC | 662          | 7.49Y      | 124.8       | .63             | 1.18          | 32.28        | 14       | 721        | 107          | 3.0        | .4        | 1.4              | 200               | 28   | 12         | 39           |
| 664                              | #6A CWC            | B   | 160          | 7.45Y      | 124.1       | .74             | 1.91          | 20.72        | 15       | 154        | 22           | .6         | .4        | 1.6              | 153               | 22   | 7          | 7            |
| 161                              | #6A CWC            | B   | 160          | 7.31Y      | 121.9       | 2.96            | 4.13          | 49.19        | 35       | 364        | 54           | 5.4        | 1.5       | 2.7              | 359               | 51   | 20         | 20           |
| 158                              | #1/0 ACSR          | ABC | 662          | 7.37Y      | 122.9       | 2.60            | 3.14          | 279.30       | 121      | 6273       | 653          | 83.9       | 1.3       | 1.1              | 5797              | 826  | 22         | 40 *         |
| 4092                             | CAP                | ABC | 158          | 7.37Y      | 122.9       | .00             | 3.14          | 21.21        | 0        | 392        | -257         | .0         | .0        | .0               | 0                 | 0    | 0          | 18           |
| 300 KVAR AT 7.20 KV no switching |                    |     |              |            |             |                 | ON =          | 0            | OFF =    | 0          | STATUS = on  |            |           |                  |                   |      |            |              |
| 159                              | #6A CWC            | A   | 4092         | 7.24Y      | 120.6       | 2.24            | 5.38          | 53.81        | 38       | 392        | 58           | 4.5        | 1.1       | 1.9              | 388               | 55   | 18         | 18           |

|      | Adjust<br>Load | Capaci-<br>tance | Charg-<br>ing | Genera-<br>Motors | tors | Losses | Total |                                   |  |
|------|----------------|------------------|---------------|-------------------|------|--------|-------|-----------------------------------|--|
| KW   | 6897           | 0                |               | 0                 | 0    | 122    | 7019  | Maximum voltage drop of 5.4 VOLTS |  |
| KVAR | 982            | 0                | -313          | 0                 | 0    | 150    | 818   | on section 159.                   |  |

sect 662      3φ 1/0cu      → 3φ 336.4      0.3mils  
 160          1φ 6Acwc      → 3φ 1/0ACSR      lf

0.3 @ \$55,000  
 1.4 @ 42,000

\$ 16,500  
 58,800

# LOAD Level 3

PBVD-Detail

Balanced Voltage Drop Results

Database: WITHLMT

Title: LITTLE MOUNT SUB

Case:

## AFTER CORRECTIONS

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| Base Voltage is 120 |            |     |           |         |          |              |            |           |       |         |      |         |        |               | -----Section----- |      |         |           |
|---------------------|------------|-----|-----------|---------|----------|--------------|------------|-----------|-------|---------|------|---------|--------|---------------|-------------------|------|---------|-----------|
| Sect                | Conductor  | Cnf | Prev Sect | Pri Vlt | Base Vlt | Section Drop | Accum Drop | Thru Amps | % Cap | Thru KW | KVAR | KW Loss | % Loss | Length (Mile) | KW                | KVAR | Cons On | Cons Thru |
| 9272                | FAKE       | ABC | 0         | 7.56Y   | 126.0    | .00          | .00        | 202.45    | 0     | 4548    | 634  | .0      | .0     | .0            | 0                 | 0    | 0       | 210       |
| 1100                | 1\0 CU     | ABC | 9272      | 7.54Y   | 125.6    | .36          | .36        | 154.01    | 50    | 3462    | 466  | 8.5     | .2     | .2            | 0                 | 0    | 0       | 147       |
| 155                 | 1\0 CU     | ABC | 1100      | 7.42Y   | 123.7    | 1.92         | 2.28       | 111.00    | 36    | 2482    | 379  | 21.6    | .9     | 3.2           | 2460              | 350  | 103     | 103       |
| 1155                | #1/0 ACSR  | B   | 1100      | 7.54Y   | 125.6    | .00          | .36        | .00       | 0     | 0       | 0    | .0      | .0     | .9            | 0                 | 0    | 0       | 0         |
| 1101                | #1/0 ACSR  | ABC | 1100      | 7.45Y   | 124.1    | 1.50         | 1.86       | 43.09     | 19    | 971     | 76   | 10.9    | 1.1    | 2.2           | 0                 | 0    | 0       | 44        |
| 1102                | 1/0 15KV U | ABC | 1101      | 7.44Y   | 124.1    | .06          | 1.92       | 4.61      | 2     | 77      | -68  | .1      | .1     | 2.3           | 63                | 8    | 3       | 5         |
| 1103                | 1/0 15KV U | B   | 1102      | 7.44Y   | 124.1    | .00          | 1.92       | 1.89      | 1     | 14      | 1    | .0      | .0     | .1            | 14                | 2    | 1       | 1         |
| 1104                | 1/0 15KV U | ABC | 1102      | 7.44Y   | 124.1    | .00          | 1.92       | 1.13      | 0     | 0       | -25  | .0      | 100.0  | 1.1           | 0                 | 0    | 1       | 1         |
| 154                 | #1/0 ACSR  | ABC | 1101      | 7.42Y   | 123.6    | .53          | 2.40       | 39.99     | 17    | 883     | 134  | 3.1     | .3     | .9            | 235               | 33   | 14      | 39        |
| 163                 | #6A CWC    | B   | 154       | 7.24Y   | 120.7    | 2.94         | 5.33       | 76.69     | 55    | 562     | 86   | 10.8    | 1.9    | 1.1           | 235               | 34   | 10      | 21        |
| 665                 | #6A CWC    | B   | 163       | 7.14Y   | 119.0    | 1.63         | 6.96       | 40.95     | 29    | 293     | 42   | 2.5     | .8     | 1.8           | 291               | 41   | 10      | 10        |
| 666                 | #6A CWC    | B   | 163       | 7.23Y   | 120.5    | .12          | 5.46       | 3.21      | 2     | 23      | 3    | .0      | .1     | 1.8           | 23                | 3    | 1       | 1         |
| 162                 | #6A CWC    | B   | 154       | 7.40Y   | 123.3    | .29          | 2.69       | 11.33     | 8     | 83      | 12   | .1      | .1     | 1.2           | 83                | 12   | 4       | 4         |
| 1109                | #6A CWC    | B   | 9272      | 7.56Y   | 126.0    | .00          | .00        | .00       | 0     | 0       | 0    | .0      | .0     | .9            | 0                 | 0    | 0       | 0         |
| 156                 | #1/0 ACSR  | ABC | 9272      | 7.45Y   | 124.1    | 1.85         | 1.85       | 48.45     | 21    | 1086    | 167  | 12.3    | 1.1    | 2.9           | 449               | 64   | 25      | 63        |
| 157                 | #1/0 ACSR  | ABC | 156       | 7.39Y   | 123.2    | .97          | 2.82       | 28.25     | 12    | 625     | 91   | 3.3     | .5     | 3.2           | 451               | 64   | 29      | 38        |
| 3                   | #6A CWC    | C   | 157       | 7.36Y   | 122.7    | .47          | 3.29       | 23.29     | 17    | 170     | 24   | .4      | .2     | .9            | 170               | 24   | 9       | 9         |

|      | Load | Adjust ment | Capaci- tance | Charg- ing | Genera- tors | Motors | Losses | Total |   |
|------|------|-------------|---------------|------------|--------------|--------|--------|-------|---|
| KW   | 4474 | 0           |               |            | 0            | 0      | 74     | 4548  | Maximum voltage drop of 7.0 VOLTS on section 665. |
| KVAR | 635  | 0           | 0             | -77        | 0            | 0      | 77     | 634   |   |

sect 157      1Ø 6ACWC → 3Ø 1/0 ACSR 3.2 mile

3.2 @ \$42,000

\$ 134,400