

Illinois Commerce Commission
Assessment of AmerenCIPS'
Reliability Report and Reliability Performance
for Calendar Year 2004

Pursuant to 83 Illinois Administrative Code 411.140

November 14, 2005

1. Executive Summary

Pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411, Central Illinois Public Service Company d/b/a AmerenCIPS (AmerenCIPS) filed its annual electric reliability report for calendar year 2004 on June 1, 2005. It filed a revised report on June 21, 2005, (accepted by the Clerk's office on June 28, 2005), to include information omitted from the initial report and correcting a data error in the initial report. AmerenCIPS filed another revised report on July 21, 2005, correcting a non-compliant item and adding some additional explanation of deviations in its reliability plan from that reported in the prior year report. This document details Staff's assessment of AmerenCIPS' 2004 reliability report and Staff's evaluation of AmerenCIPS' reliability performance for calendar year 2004.

AmerenCIPS' reported company-wide average interruption frequency index (SAIFI) for 2004 worsened by 22% from that reported for year 2003, and is 5% worse than in 2002. Its overall SAIFI performance was sixth highest (worst) among the nine reporting utilities in 2004. AmerenCIPS' worst circuit SAIFI for 2004 was 13.5% worse than that reported for 2003 and has been worsening in each of the past three years. AmerenCIPS' worst circuit SAIFI in 2004 was the worst of all the reporting Illinois utilities.

AmerenCIPS' reported company-wide average duration of customer interruptions (CAIDI) for 2004 was 20.4% worse than that it reported for year 2003, and has shown a steadily worsening trend since 2000. AmerenCIPS ranked exactly in the middle of the nine-utility group in this category in 2004. AmerenCIPS' worst circuit CAIDI for 2004 was more than double what it reported for 2003, but was 17.5% better than in 2002. At 2,481 minutes (over 41 hours), AmerenCIPS ranked seventh among the nine reporting utilities in this category in 2004, with only AmerenIP and AmerenCILCO performing worse.

Considering the degree to which AmerenCIPS' reliability statistics worsened in 2004, as described in the last two paragraphs, it is notable that AmerenCIPS also underspent its distribution O&M budget by nearly 20% in 2004. While budgeting nearly \$44 million for distribution O&M in 2004, AmerenCIPS reported that its actual expenditures for distribution O&M were nearly \$8.7 million below that figure and well below what it has spent for distribution O&M in each of the past three years. This reduction in distribution O&M spending is reflected in the significant reduction in electric service reliability during the same time period.

AmerenCIPS listed weather as the most predominant cause of customer interruptions in 2004, causing 49.5% of its total customer interruptions. AmerenCIPS reported forestry problems as the cause for only 3.77% of its total customer interruptions, though Staff believes that some of the interruptions attributed to weather may have been tree related. Staff's limited field inspections revealed improvement in AmerenCIPS' tree trimming program during the past year. AmerenCIPS reported that it is committed to staying on a four-year trimming cycle since achieving that on June 22, 2004, but it also needs to assure compliance with NESC Rule 218 by assuring that all trees near its lines throughout its

service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

Staff found two National Electrical Safety Code (NESC) violations during its inspections of AmerenCIPS electric circuits this year, which posed a threat to service reliability and public safety. Following notification by Staff, AmerenCIPS resolved both of the NESC violations in a timely manner. Staff also noted the need for more animal guards, the need for more lightning arresters, and several other problems on AmerenCIPS' worst performing and other circuits inspected this year. Many of these problems, which may or may not have contributed to poor performance in 2004, will have adverse effects on reliability and public safety in the future if not corrected. (Photos of some of the structural problems found are included in this report, and summaries of problems noted by Staff on AmerenCIPS circuits inspected this year are included as Attachments "A" through "J"). AmerenCIPS should perform field inspections of all circuits on a regular basis and correct the problems found which can significantly affect reliability or public safety.

AmerenCIPS listed several ongoing corporate, operating, and maintenance activities that the company is doing to improve reliability, summarized in Section 9 of this report. These are positive steps toward reliability improvement.

AmerenCIPS reported that all remedial work on worst performing circuits described in its 2003 reliability report has been completed.

While the above discussion covers the most significant items in a general way, a total of seven specific recommendations are included in this Staff report, summarized beginning on page 34.

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2. Introduction

Beginning with the year 1999, and at least every three years thereafter, 83 Illinois Administrative Code Part 411.140 requires the Commission to assess the annual reliability report of each jurisdictional entity and evaluate its reliability performance. Code Part 411.140 requires the Commission evaluation to:

- A) Assess the reliability report of each entity.
- B) Assess the jurisdictional entity's historical performance relative to established reliability targets.
- C) Identify trends in the jurisdictional entity's reliability performance.
- D) Evaluate the jurisdictional entity's plan to maintain or improve reliability.
- E) Include specific identification, assessment, and recommendations pertaining to any potential reliability problems and risks that the Commission has identified as a result of its evaluation.
- F) Include a review of the jurisdictional entity's implementation of its plan for the previous reporting period.

This document provides Staff's assessment of the annual reliability report covering calendar year 2004 filed by Central Illinois Public Service Company d/b/a AmerenCIPS (AmerenCIPS) on June 1, 2005 (revised and re-filed on June 21 and July 21, 2005), and Staff's evaluation of AmerenCIPS' reliability performance for calendar year 2004. This report is organized to include all of the above listed requirements.

3. AmerenCIPS' 2004 Customer Base and Service Territory

As of December 31, 2004, AmerenCIPS provided electric service to 330,336 electric distribution customers in Illinois.

AmerenCIPS' service territory covers approximately 20,000 square miles throughout 70 counties in central and southern Illinois. The majority of AmerenCIPS' customer base is located in rural areas in its Great Rivers (west central Illinois), Illini (east central Illinois), and Shawnee (southern Illinois) Divisions. Some of the larger towns served by AmerenCIPS include Canton, Carbondale, Charleston, Effingham, Herrin, Macomb, Marion, Mattoon, Quincy, and Taylorville.

4. AmerenCIPS' Electric Distribution System

AmerenCIPS' electric distribution system consists of approximately 12,000 miles (89.5%) of overhead conductor and 1,400 miles (10.5%) of underground circuits. The operating area and characteristics have remained relatively consistent over time. AmerenCIPS reported that it has a total of 958 electric circuits at 4 & 12 kV.

Code Part 411.120(b)(3)(G) requires the utilities to report on the age of their distribution facilities. AmerenCIPS estimates that the average age of its over 34.5 kV distribution equipment ranges from 17.4 years (for overhead conductor and devices) to 58.4 years (for towers and fixtures), with remaining average (accounting) lives ranging from 27.6 years (for overhead conductor and devices) down to 0.0 years (for towers and fixtures). For its 34.5 kV and lower voltage distribution equipment, AmerenCIPS estimates the average age ranges from 3.1 years (for underground services) to 29.2 years (for structures and improvements), with an average age of 13.7 years for overhead conductor and devices. AmerenCIPS estimates the remaining average life of its 34.5 kV and lower voltage distribution equipment to range from 10.0 years (for station equipment) to 56.3 years (for underground conduit), with an average remaining life of 28.3 years for overhead conductor and devices. See Tables 10 and 11 (page 28) in AmerenCIPS' annual reliability report for more details.

5. Assessment of AmerenCIPS' 2004 Reliability Report

Central Illinois Public Service Company d/b/a AmerenCIPS (AmerenCIPS) filed its annual electric reliability report for calendar year 2004 on June 1, 2005, as required by Section 16-125 of the Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411. AmerenCIPS filed a revised annual reliability report on June 21, 2005, (accepted by the Clerk's office on June 28, 2005), to include information omitted from the initial report and correcting a data error in the initial report. AmerenCIPS filed another revised annual reliability report on July 21, 2005, correcting a non-compliant item and adding some additional explanation of deviations in its reliability plan from that reported in the prior year report.

AmerenCIPS' reliability report is well organized, generally, with the information sequenced to follow the pattern of Code Part 411. AmerenCIPS' initial and first revised reports were non-compliant with the reporting requirements specified in the Code in one respect:

- Costs for remedial actions taken or planned for many of AmerenCIPS' worst performing circuits were not included as required by Code Part 411.120(b)(3)(J).

This non-compliant item was addressed in AmerenCIPS' second revised reliability report filed July 21, 2005.

6. AmerenCIPS' Historical Performance Relative to Established Reliability Targets

Code Part 411.140(b)(4)(A-C) establishes electric service reliability targets that jurisdictional entities (utilities) must strive to meet. These targets specify limitations on customer interruptions as well as hours of interruption that a utility must strive not to exceed on a per customer basis. Code Part 411.120(b)(3)(L) requires each utility to provide a list of every customer, identified by a unique number, who experienced interruptions in excess of the service reliability targets, the number of interruptions and interruption duration experienced in each of the three preceding years, and the number of consecutive years in which the customer has experienced interruptions in excess of the service reliability targets.

In April 2004, AmerenCIPS, along with all other regulated Illinois electric utilities, agreed to report on all interruptions (controllable and uncontrollable) as defined in Code Part 411.20 in relation to the service reliability targets for the reporting periods of 2003 through 2007, and to include the specific actions, if any, that the utility plans or has taken to address the customer reliability concerns.

The customer service reliability targets are listed in Table 1.

Table 1
CUSTOMER SERVICE RELIABILITY TARGETS

| Immediate primary source of service operation voltage | Maximum number of interruptions in each of the last three consecutive years | Maximum hours of total interruption duration in each of the last three years |
|---|---|--|
| 69kV or above | 3 | 9 |
| Between 15kV & 69kV | 4 | 12 |
| 15kV or below | 6 | 18 |

In its 2004 reliability report, AmerenCIPS reported that the following numbers of customers in each of the above categories exceeded the service reliability targets in each of the three preceding years:

- 69kV or above: None
- Between 15kV & 69 kV: None
- 15kV or below: 51

It is notable that the 51 AmerenCIPS customers exceeding the reliability targets in 2004 is just under half the number (104) reported in AmerenCIPS' 2003 reliability report. AmerenCIPS reported that thirteen of the 51 customers exceeded the reliability targets in each of the past five years, and nineteen others exceeded the reliability targets in each of the past four years.

AmerenCIPS investigated each of the reported target violations, determined the causes for the service interruptions, and reported specific actions taken and planned to address these problems. AmerenCIPS' reported actions taken and planned seem reasonable.

It is also noteworthy that AmerenCIPS reported that 7,846 of its customers experienced more than six interruptions in 2004, nearly three times the 2,668 customers in this category in 2003. In the extreme cases, a total of 678 AmerenCIPS customers were in the 11 to 15 interruptions category in 2004 (compared to 60 customers in 2003), and 26 customers were in the 16 to 20 interruptions category in 2004 (compared to 6 customers in 2003). See Section 8 of this report for more information on this, including trends of AmerenCIPS customers experiencing high numbers of interruptions.

7. Analysis of AmerenCIPS' Year 2004 Reliability Performance

Table 2 shows AmerenCIPS' company-wide reliability indices for calendar year 2004 compared to the other eight reporting Illinois electric utilities. This data indicates that AmerenCIPS ranked sixth in the nine utility group in terms of average frequency of system interruptions (SAIFI) in 2004, and ranked fourth in terms of average frequency of customer interruptions (CAIFI). Only Mt. Carmel Public Utility Company, MidAmerican Energy Company, and AmerenUE had worse overall SAIFI statistics than AmerenCIPS in 2004. Only South Beloit Water, Gas, and Electric Company, Interstate Power Company, and ComEd had better overall CAIFI statistics in 2004.

At 143 minutes, AmerenCIPS ranked exactly in the middle of the nine utility group in terms of average duration of customer interruptions (CAIDI) in 2004. AmerenCIPS' overall CAIDI has gotten progressively worse in each of the past four years, however, with its overall CAIDI for 2004 being 20.4% worse than it reported for 2003, 26.3% worse than it reported for 2002, 30.5% worse than it reported for 2001, and 37.6% worse than it reported for 2000.

Table 2
ILLINOIS UTILITY RELIABILITY INDICES
CALENDAR YEAR 2004

| | SAIFI | CAIDI (minutes) | CAIFI |
|-------------------|-------------|-----------------|-------------|
| AmerenCIPS | 1.66 | 143 | 2.01 |
| AmerenUE | 1.69 | 278 | 2.05 |
| AmerenCILCO | 1.45 | 247 | 2.03 |
| AmerenIP | 1.49 | 268 | 2.26 |
| ComEd | 1.21 | 128 | 2 |
| MidAmerican | 2.028 | 69.59 | 2.716 |
| Interstate | 0.64 | 77.2 | 1.4 |
| Mt. Carmel | 2.69 | 177.06 | 2.86 |
| South Beloit | 0.61 | 96 | 1.35 |

SAIFI: System Average Interruption Frequency Index. This represents the average interruption frequency for all customers on the electric system, including customers who had no interruptions (total customer interruptions divided by total system customers).

CAIDI: Customer Average Interruption Duration Index. This represents, for the group of customers that actually had one or more interruptions, the average interruption duration.

CAIFI: Customer Average Interruption Frequency Index. This represents the average interruption frequency for the group of customers that had interruptions. A CAIFI index much higher than SAIFI suggests that subsets of customers experienced significantly more frequent interruptions than the overall system average.

Note: The comparison of company-wide reliability indices for Illinois electric utilities should indicate relative reliability levels achieved. The reader of this report should, however, keep in mind that each Illinois electric utility has a unique electric system, a unique group of customers, and a unique method of defining, recording, and reporting the interruption data. These differences make precise utility-to-utility comparisons difficult.

Table 3 shows a breakdown of fifteen causes of sustained customer interruptions by cause category, as reported by AmerenCIPS for year 2004. The total number of interruptions (“events”) reported for 2004 is up 12.4% from the same data reported for year 2003, and up 10.7% from the same data reported for year 2002.

AmerenCIPS reported that the highest percentages of customer interruptions in 2004 were caused by weather (49.50%), overhead equipment problems (9.12%), and “intentional” (8.59%). AmerenCIPS listed trees as the cause for only 5.02% of the events and 3.77% of the customer interruptions in 2004, though some of the interruptions attributed to weather may have been tree related. Staff’s limited field inspections of tree conditions in AmerenCIPS’ service territory (in Herrin on 4/18/05 and on several scattered circuits in May through June, 2005), however, revealed no tree conflicts in Herrin (see Attachment “K”) and scattered tree conflicts on less than a third of the circuits inspected. Overall, AmerenCIPS’ tree trimming looked well done at most of the locations Staff inspected this year.

Table 3
TOTAL INTERRUPTIONS BREAKDOWN BY CAUSE

| Interruption Cause Category | Events | Customers Interrupted | Percent of Events | Percent of Customer Interruptions |
|---|---------------|------------------------------|--------------------------|--|
| Animal Related | 1,868 | 35,284 | 15.82% | 5.79% |
| Customer | 83 | 5,764 | 0.70% | 0.94% |
| Intentional | 1,271 | 52,347 | 10.77% | 8.59% |
| Jurisdictional Entity / Contractor Personnel Errors | 60 | 9,608 | 0.51% | 1.58% |
| Loss of Supply | 28 | 147 | 0.24% | 0.02% |
| Other | 670 | 7,136 | 5.67% | 1.17% |
| Overhead Equipment Related | 1,853 | 55,591 | 15.70% | 9.12% |
| Public | 312 | 37,154 | 2.64% | 6.09% |
| Substation Equipment Related | 50 | 22,107 | 0.42% | 3.63% |
| Transmission Outage | 42 | 24,884 | 0.36% | 4.08% |
| Tree Related | 343 | 8,039 | 2.91% | 1.32% |
| Tree Related – Tree Broken | 249 | 14,916 | 2.11% | 2.45% |
| Underground Equipment Related | 337 | 6,064 | 2.85% | 0.99% |
| Unknown | 1,050 | 28,850 | 8.89% | 4.73% |
| Weather | 3,590 | 301,743 | 30.41% | 49.50% |
| TOTALS: | 11,806 | 609,634 | 100.00% | 100.00% |

Code Part 411.120(b)(3)(I)&(J) requires the reporting utility to list its worst performing circuits (subsection I) and then state (subsection J) what corrective actions are planned to improve those circuits' performance. Table 4 shows the 17 AmerenCIPS circuits with the highest (worst) reliability indices for 2004. The bolded values represent the indices that caused the circuit to be a worst performer.

Table 4
AmerenCIPS CIRCUITS WITH HIGHEST SAIFI, CAIFI, & CAIDI
CALENDAR YEAR 2004

| <u>Substation</u> | <u>CIRCUIT</u> | <u>SAIFI</u> | <u>CAIFI</u> | <u>CAIDI</u> (minutes) |
|---|----------------|--------------|--------------|---------------------------|
| Ashland North (Rural Ashland, Pleasant Plains, & rural) | U04538* | 5.04 | 5.04 | 124 |
| Clayton East (Clayton, Camp Point, Golden, Timewell, & rural) | U39541* | 5.57 | 5.57 | 87 |
| Pawnee West | V18582 | 1.40 | 1.65 | 1212 |
| Pittsfield (Pittsfield, Milton, Detroit, & rural) | V23530* | 4.74 | 4.74 | 444 |
| Quincy | V46521 | 8.24 | 8.24 | 84 |
| Roodhouse West (Barrow, Manchester, & rural) | V79594* | 4.96 | 4.96 | 350 |
| W. Bridgeport (Bridgeport & rural) | X23505* | 6.26 | 6.26 | 403 |
| Flora East | X69555 | 2.13 | 2.13 | 1416 |
| Hayes (Rural Tuscola & Pesotum) | X81555* | 5.08 | 5.08 | 122 |
| South Lawrenceville (Lawrenceville, St. Francisville, & rural) | X96543* | 4.65 | 4.65 | 89 |
| Olney | Y35001 | 0.76 | 2.14 | 1142 |
| Olney | Y35003 | 0.44 | 1.00 | 1156 |
| Olney | Y35005 | 0.05 | 1.00 | 2481 |
| Olney | Y35515 | 1.35 | 1.35 | 1564 |
| Olney South | Y37010 | 1.44 | 1.44 | 1729 |
| Olney South | Y37593 | 1.00 | 1.05 | 1119 |
| Rantoul (Rantoul, Gifford, Penfield, & rural) | Y60593* | 6.93 | 6.93 | 243 |

*Notes: W. Bridgeport Circuit X23505 was also a worst SAIFI & CAIFI performer in 2000 & 1999.
South Lawrenceville Circuit X96543 was also a worst SAIFI & CAIFI performer in 1999.*

As part of his review of AmerenCIPS' 2004 reliability, Staff's Senior Electrical Engineer Jim Spencer, accompanied by Ameren Services personnel, inspected eight of AmerenCIPS' reported worst performing circuits, marked with asterisks (*) in Table 4. Staff also inspected Camp Point Circuit U29001 (a 4 kV circuit fed by Clayton East worst performing Circuit U39541) and the following two additional AmerenCIPS "next-worst SAIFI" circuits:

- Herrin Circuit S47576 (Herrin & Freeman Spur)
- Carbondale West Circuit S16596 (Carbondale)

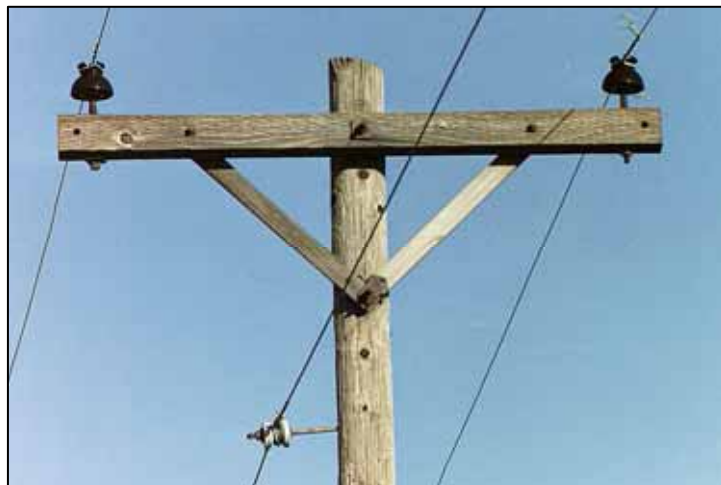
The field inspections allow Staff to verify that work was performed on the circuits as reported by the utilities and to see if there are any apparent reasons for poor performance of these circuits. Staff also notes any problems with the facilities it observes which may pose a threat to future service reliability or to public safety. For example, Staff looks for poor tree trimming practices, broken poles, split crossarms, damaged electrical devices, etc.

Summaries of items noted by Staff during the field inspections of the selected AmerenCIPS distribution circuits this year are included in this report as Attachments "A" through "J". (As mentioned to AmerenCIPS when providing them with a copy of these summaries in July 2005, the summary for each of the circuits inspected represents typical observations noted by ICC Staff during the field inspections and is not intended to represent all of the problems or potential problems that may exist on each circuit. Also, Staff's inspections are not intended to take the place of the more thorough, detailed inspections that should be performed periodically by the utility company.)

Staff noted several mapping errors and some cases where roads and/or towns were not labeled on the circuit maps provided by AmerenCIPS again this year. Some of the street names on the maps were not readable due to the small and fuzzy print. While these problems were fewer than in some past years, AmerenCIPS should continue its efforts to improve its circuit maps and make them more user friendly.

Hayes Circuit X81555 is a 12 kV circuit serving a rural area north of Tuscola and the community of Pesotum. It was one of AmerenCIPS' worst performing circuits in 2004, with weather (60.2%), public (19.6%), and a vehicle accident (19.3%) listed as the predominant causes of customer interruptions. Staff inspected this circuit on March 9, 2005, finding only a few problems. AmerenCIPS has added several tap fuses to improve reliability. Tree trimming looked good, and many relatively new poles were noted on the main feeder portions of the circuit. Staff also noted many lightning arresters, but most had coiled jumpers which limit the effectiveness of the arresters. (Coiled jumpers prevent some lightning surges from being drained through the arrester to ground. This allows more high-voltage surge damage to the utility's equipment and a greater likelihood of lightning surge damage to customer facilities as well.) There were few animal guards on the circuit. Some lengthy sections of the circuit were inaccessible. There were some mapping errors, and some of the street names on the maps were not readable. See Attachment "A" for a summary of Staff's field notes. Figure 1 shows one of the problems noted on this circuit.

Figure 1 (Photo 05B1)
Spool bolt coming out of pole,
Circuit X81555, north of Tuscola



Clayton East Circuit U39541 is a 12 kV circuit serving Clayton, Camp Point, Golden, Timewell, and rural areas near those communities. It is also the source to 4 kV Circuit U29001 in Camp Point. Circuit U39541 was an AmerenCIPS worst performing circuit in 2004, and AmerenCIPS attributed 90% of the customer interruptions to weather, due primarily to two major storms causing galloping conductor outages. To improve reliability, AmerenCIPS has installed wind spoilers on the areas of the feeder most affected by the galloping conditions. Staff inspected both the 12 kV and the 4 kV circuits on March 14, 2005 (circuit maps were not provided for the 4 kV circuit). There were some scattered tree trimming problems, especially in Camp Point, but, overall, the tree trimming looked pretty good. More lightning arresters are needed, and Staff noted very few animal guards (there were none in Clayton). There were several inaccessible sections of the circuit, and there were many mapping errors. Staff's field notes are summarized in Attachment "B". Figures 2 through 4 show some of the problems Staff observed on Circuit U39541.



Figure 2 (Photo 05B3)
Burned pole top (lightning damaged?),
Circuit U39541, Main & Maple Sts., Timewell

Figure 3 (Photo 05B6)
Trees into primary,
Circuit U39541, Madison St., Clayton



Figure 4 (Photo 05B10)
Split & deteriorated crossarm and badly shell rotted pole,
Circuit U39541, southeast of Golden



Staff inspected AmerenCIPS' 12 kV Roodhouse West Circuit V79594 on March 15, 2005. This was a worst performing circuit in 2004, serving Barrow, Manchester, and rural areas generally north of Roodhouse. AmerenCIPS reported that two major storms accounted for 78% of the customer interruptions on this circuit in 2004, with animals causing another 21% of the interruptions. Tree trimming was completed on this circuit in September, 2004, and Staff noted no tree trimming problems during its inspection. Staff noted several structural problems, however, as summarized on Attachment "C". There were several lengthy inaccessible areas, mostly where the 12 kV circuit is underbuilt on a 69 kV line. There were some background errors and several of the roads were not labeled on the circuit maps AmerenCIPS provided. Figures 5 through 8 show examples of some of the problems Staff noted on this circuit.

Figure 5 (Photo 05B12)
69 kV brace disconnected & hanging down
(& close to 12 kV phase conductor),
Circuit V79594, east of Barrow





Figure 6 (Photo 05B15)
Badly split pole top,
Circuit V79594, northwest of Barrow



Figures 7 & 8 (Photos 05B19 & 05B18)
Broken primary downguy
(broken guy grip--possible lightning damage),
Circuit V79594, northwest of Barrow



South Lawrenceville 12 kV Circuit X96543 was another worst performing AmerenCIPS circuit in 2004, repeating from 1999. It is a long radial circuit with nearly 40 miles of exposure, and it serves Lawrenceville, St. Francisville, and a large rural area between those communities. This circuit experienced four complete feeder outages in 2004, two of which were attributed to storms, and two to unknown causes. Overall, 43.4% of the customer interruptions were attributed to weather, 43.4% to unknown causes, and 11% to overhead equipment. *Staff is always concerned when the causes for nearly half of the customer interruptions on any worst performing circuit are not known.* AmerenCIPS reported that it planned to install more than 30 tap fuses on this circuit prior to summer 2005. Staff inspected this circuit on April 11, 2005, and found several structural and other problems, summarized on Attachment "D". There were several scattered tree conflicts, mostly in the towns of Lawrenceville and St. Francisville. Some new poles were noted. Few animal guards were noted, and there were almost none in Lawrenceville. There were several inaccessible areas of the circuit. Many of the rural roads were not labeled on the circuit maps AmerenCIPS provided, and Lawrenceville was not labeled. Examples of some of the circuit problems Staff noted are shown in Figures 9 through 15.



Figure 9 (Photo 05D2)
Elm tree into primary,
Cir. X96543, Lawrenceville



Figure 10 (Photo 05D5)
Split crossarm,
Cir. X96543, S. of Lawrenceville

Figure 11 (Photo 05D6)
Split wood brace (lightning damage),
Circuit X96543, south of Lawrenceville



Figure 12 (Photo 05D8)
Badly split (lightning damaged) crossarm
& crossarm badly twisted on pole,
Cir. X96543, On Rt. 1, west of St. Francisville

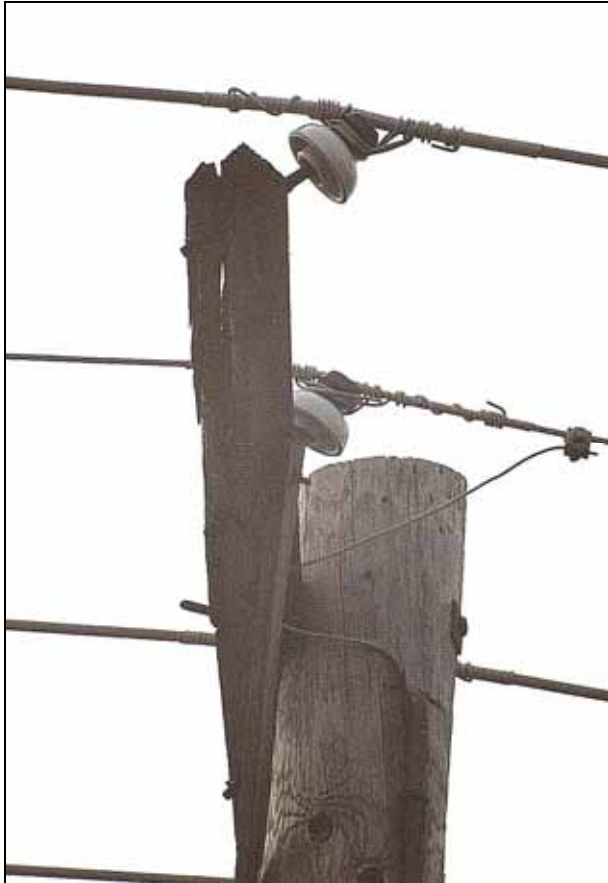


Figure 13 (Photo 05D18)
Guy stub pole badly split at top,
Circuit X96543,
9th & Meagher Sts., St. Francisville



Figure 14 (Photo 05D11)
Lightning damaged crossarm &
3 large woodpecker holes in pole,
Cir. X96543, west of St. Francisville

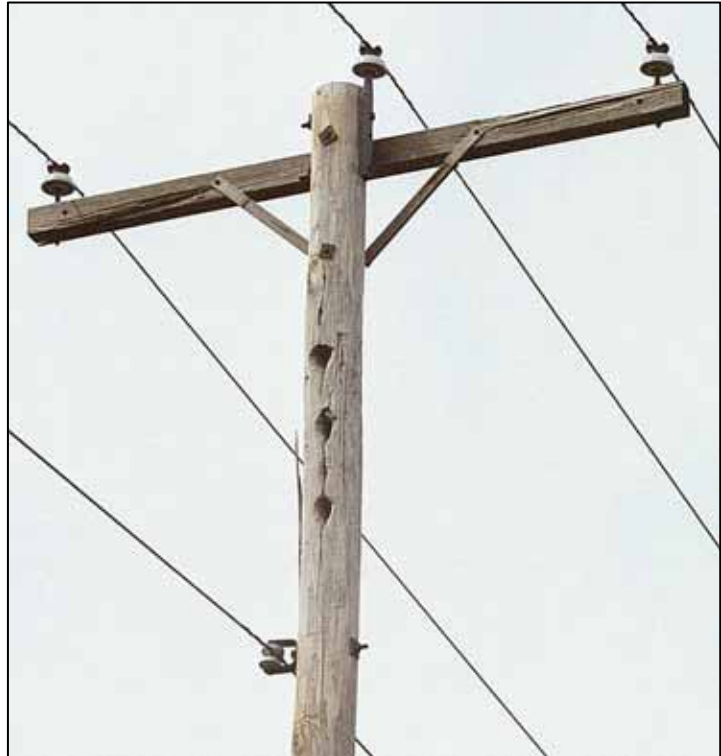


Figure 15 (Photo 05D15)
Trees growing into primary,
Circuit X96543, 9th St. north of Harold St., St. Francisville



West Bridgeport 12 kV Circuit X23505 was an AmerenCIPS worst performing circuit in 2004, 2000, and 1999. It serves the southern edge of Bridgeport and a small rural area south of Bridgeport. It also feeds 4 kV Circuit X22001 in Bridgeport, which was a worst performing circuit in 2000 and 1999. Portions of Circuit X23505 are cross-country and inaccessible. AmerenCIPS reported that the customer interruptions in 2004 on this circuit were predominantly due to weather (63.5%) and trees (36.1%). AmerenCIPS also reported that it has been unsuccessful in working with the city to adequately trim or remove very large trees with decayed limbs near this circuit in a city park, which caused the majority of the customer interruptions in 2004. It plans to reroute the line to avoid the tree exposure in the park, to be completed by December 2005. Circuit tree trimming was completed in March 2005. Staff inspected the circuit on April 11, 2005, finding only a missing guy marker and one pole with woodpecker damage (see Attachment "E").

Herrin Circuit S47576 is a 12 kV circuit serving a northern portion of Herrin, Freeman Spur, and a rural area between those communities. While not on AmerenCIPS' worst performing circuits list for 2004, this circuit was one of AmerenCIPS' next ten worst SAIFI circuits, with a SAIFI of 4.08 in 2004. During the inspection of this circuit on April 18, 2005, Staff noted that tree trimming looked well done throughout the circuit, and several new poles and crossarm were noted. More animal guards are needed, and more lightning arresters are needed in the rural areas. Some of the circuit was inaccessible. A summary of Staff's field notes is included on Attachment "F", and some of the problems noted are shown in Figures 16 through 18.

Figure 16 (Photo 05F9)

**Shell rotted pole w/4 woodpecker holes,
Circuit S47576, Herrin**



Figure 17 (Photo 05F13)

**Split pole top & 2 woodpecker holes in pole,
Circuit S47576, Ezra Rd., Freeman Spur**

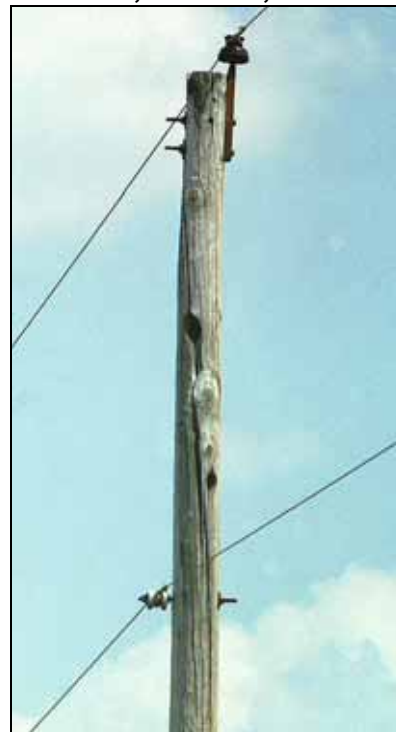


Figure 18 (Photo 05F14)
Wood brace disconnected from crossarm,
Circuit S47576, Orange St., Freeman Spur



Carbondale West 12 kV Circuit S16596 was also one of AmerenCIPS' "next-worst SAIFI" circuits in 2004, with a SAIFI of 4.34. It serves a small southeastern part of Carbondale. Staff inspected this circuit on April 18, 2005, but found that most of the circuit is in back easements and it was, therefore, difficult to inspect. (*Generally, Staff avoids entering private property for inspections*). Tree trimming looked okay, and no structural problems were noted (see Attachment "G").

Figure 19 (Photo 05I16)
Woodpecker hole through pole & other holes in pole,
Circuit V23530, east of Detroit

Pittsfield 12 kV Circuit V23530 was an AmerenCIPS worst performing circuit in 2004. This circuit serves Pittsfield, Milton, Detroit, and rural areas mostly between those communities. AmerenCIPS listed weather (53%), trees (22%), and dig-ins (21%) as the primary causes of customer interruptions in 2004. It also reported that 90% of the outage minutes on this circuit were caused by a tornado that hit Pittsfield on May 24, 2004. The circuit was trimmed in June 2004. Staff found no tree problems and relatively few structural problems during its inspection on May 5, 2005. Some new poles, but very few animal guards were noted. More animal guards and more lightning arresters are needed. See Attachment "H" for a summary of Staff's inspection notes. Figure 19 shows one problem noted, a pole with a woodpecker hole all the way through the pole and several other woodpecker holes.



Rantoul Circuit Y60593 is a 12 kV circuit serving Rantoul, Gifford, Penfield, and rural areas mostly between those communities. It was one of AmerenCIPS' worst performing circuits in 2004, with weather (64.3%), overhead equipment (19.2%), and "unknown" (15.0%) listed as the predominant causes of customer interruptions. This circuit experienced a tornado on July 13th and severe icing on November 24th. More than 20 poles were replaced following the tornado. Staff inspected this circuit on May 10, 2005, and noted some scattered tree problems. Almost no animal guards were noted (Staff saw only two in Gifford and only one in Penfeld). There were relatively few structural problems, but more animal guards and more lightning arresters are needed. One National Electrical Safety Code (NESC) violation was noted, involving a single wood crossarm on one side of a 3-phase crossing of a railroad (see Figure 20). Staff's field inspection notes for this circuit are summarized on Attachment "I". Figures 21 through 23 show some of the other problems Staff noted during the circuit inspection.

Figure 20 (Photo 05K11)

**Single wood crossarm supporting a 3-phase crossing of a railroad (double arms required),
(NESC structural strength violation)**

Circuit Y60593, Griffith Street west of Main Street, Gerald (south of Penfield)



(Double crossarms have been required for all railroad crossings in Illinois where wooden crossarms and pin-type insulators are used since General Order 10 was adopted on April 2, 1914)

Note: AmerenCIPS reported that it replaced the single crossarm with double crossarms at this location as required by the code on July 29, 2005. This location is now in compliance with the requirements of the NESC.

Figure 21 (Photo 05K8)
Lightning damaged pole top,
Circuit Y60593, Road 2800N, east of Rantoul



Figure 22 (Photo 05K7)
Badly split pole top,
Circuit Y60593, east of Rantoul



Figure 23 (Photo 05K9)
Soft maple tree into primary,
Circuit Y60593, Summit Street, Gifford



Ashland North Circuit U04538 was another AmerenCIPS worst performing circuit in 2004, which Staff inspected on June 15, 2005. This is a 12 kV circuit serving rural Ashland, Pleasant Plains, and a rural area to the west and southwest of Pleasant Plains. AmerenCIPS listed weather (77%) and overhead equipment problems (11%) as the leading causes of the customer interruptions in 2004. The circuit experienced two feeder outages due to major storms in 2004, high winds in August and snow/ice loading with wind in November. Staff noted many new poles and crossarms during the inspection of this circuit, and there were very few tree problems. More lightning arresters are needed in some parts of the rural area, though other parts of the rural area are well covered. More animal guards are also needed, especially in town. AmerenCIPS reported that work is underway to install additional animal guards and lightning arresters. It is also installing additional sectionalizing fuses to limit the number of customers affected by each event. Staff noted one NESC violation involving inadequate clearance between an overhead guy wire and a 7.2 kV primary conductor on the same supporting structure. Staff's field notes for this circuit are summarized on Attachment "J". Figures 24 through 27 are examples of some of the problems found during the circuit inspection.

Figure 24 (Photo 05P1)
**Pole damaged at ground line,
Circuit U04538, Main St. east of Jackson St.,
Pleasant Plains**



Figure 25 (Photo 05P5)
**Broken ground wire & ground rod
partially pulled out of ground,
Cir. U04538, CH 9C, south of Pleasant Plains**



Figure 26 (Photo 05P3)
Primary burning a soft maple tree,
Circuit U04538, 4th Street east of Lincoln Street, Pleasant Plains

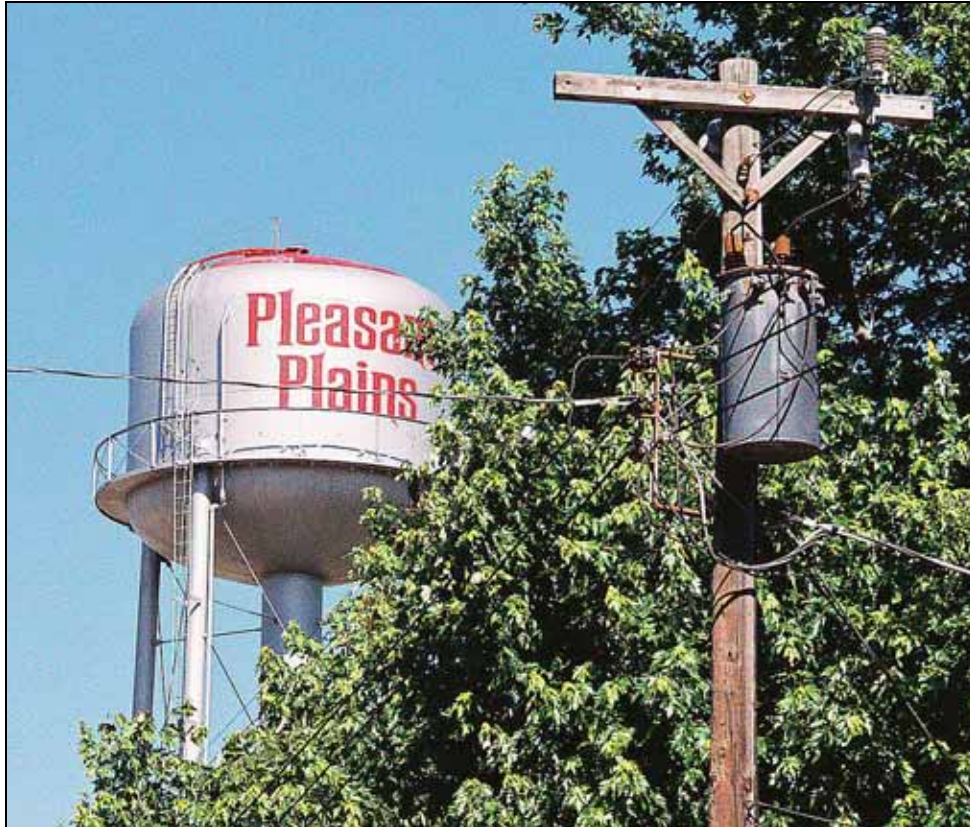


Figure 27 (Photo 05P4)
Overhead guy wire deadended 6" to 9" below 7.2 kV primary conductor on same pole,
(NESC clearance violation--12" minimum clearance required)
Circuit U04538, 4th Street just west of Lincoln Street, Pleasant Plains



Note: AmerenCIPS reported that it lowered the overhead guy wire on this pole on July 22, 2005, resulting in a vertical clearance of 18" to the primary conductor. This location is now in compliance with the NESC clearance requirements.

In summary, Staff's field inspections this year revealed recent improvements on more than half of the AmerenCIPS circuits inspected, evidenced by a scattering of new poles and crossarms in the circuits. The actions AmerenCIPS has taken or plans to take, including adding sectionalizing fuses on some circuits, seem to address the reliability issues reasonably well. While there were some scattered tree conflicts, tree trimming was generally well done on most of the circuits inspected. The exceptions are noted in Staff's field note summaries. Additional animal guards are needed on most of the circuits inspected. More lightning arresters are also needed on several of the circuits, especially in rural areas. Two NESC violations were noted, and AmerenCIPS resolved both of them satisfactorily and in a timely manner.

AmerenCIPS should investigate all of the problems noted during Staff's circuit inspections, as well as those discovered by its own inspections, and take appropriate remedial actions addressing any problems on those circuits, whether or not noted by Staff, which can significantly affect service reliability or public safety.

Staff's Senior Electrical Engineer Jim Spencer, accompanied by Ameren Services personnel, also inspected tree conditions throughout the city of Herrin on April 18, 2005, and found no tree conflicts with AmerenCIPS' distribution lines at that time. (This inspection was in addition to the Herrin Circuit S47576 inspection discussed earlier). Details of this inspection, though brief, are provided in Attachment "K" to this report.

AmerenCIPS reported that it achieved a four-year tree trimming cycle on June 22, 2004, upon completion of a tree trimming recovery agreement with Staff. It also stated in its reliability report that it is committed to maintaining a four-year trim cycle. Staff has noticed improvement in AmerenCIPS' tree trimming program, compared to prior years, during this year's circuit inspections and the random inspection in Herrin. It should be noted, however, that Staff's general inspections of tree conditions in AmerenCIPS service territory during 2005 have been very limited compared to past years and have covered a very small portion of AmerenCIPS' service territory.

NESC Rule 218(A)(1) and its associated note state the following:

"Trees that may interfere with ungrounded supply conductors should be trimmed or removed.

NOTE: Normal tree growth, the combined movement of trees and conductors under adverse weather conditions, voltage, and sagging of conductors at elevated temperatures are among the factors to be considered in determining the extent of trimming required."

In addition to maintaining a four-year trim cycle, as AmerenCIPS has committed to do, it also needs to assure compliance with NESC Rule 218. To be in compliance with NESC Rule 218, AmerenCIPS needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

8. Trends in AmerenCIPS' Reliability Performance

Figure 28 shows a comparison of the company-wide SAIFI values reported by the Illinois utilities for years 2000 through 2004. AmerenCIPS' company-wide SAIFI performance worsened in 2004 following two years of improvement. Its overall SAIFI performance was the sixth highest among the nine reporting utilities in 2004.

Figure 28

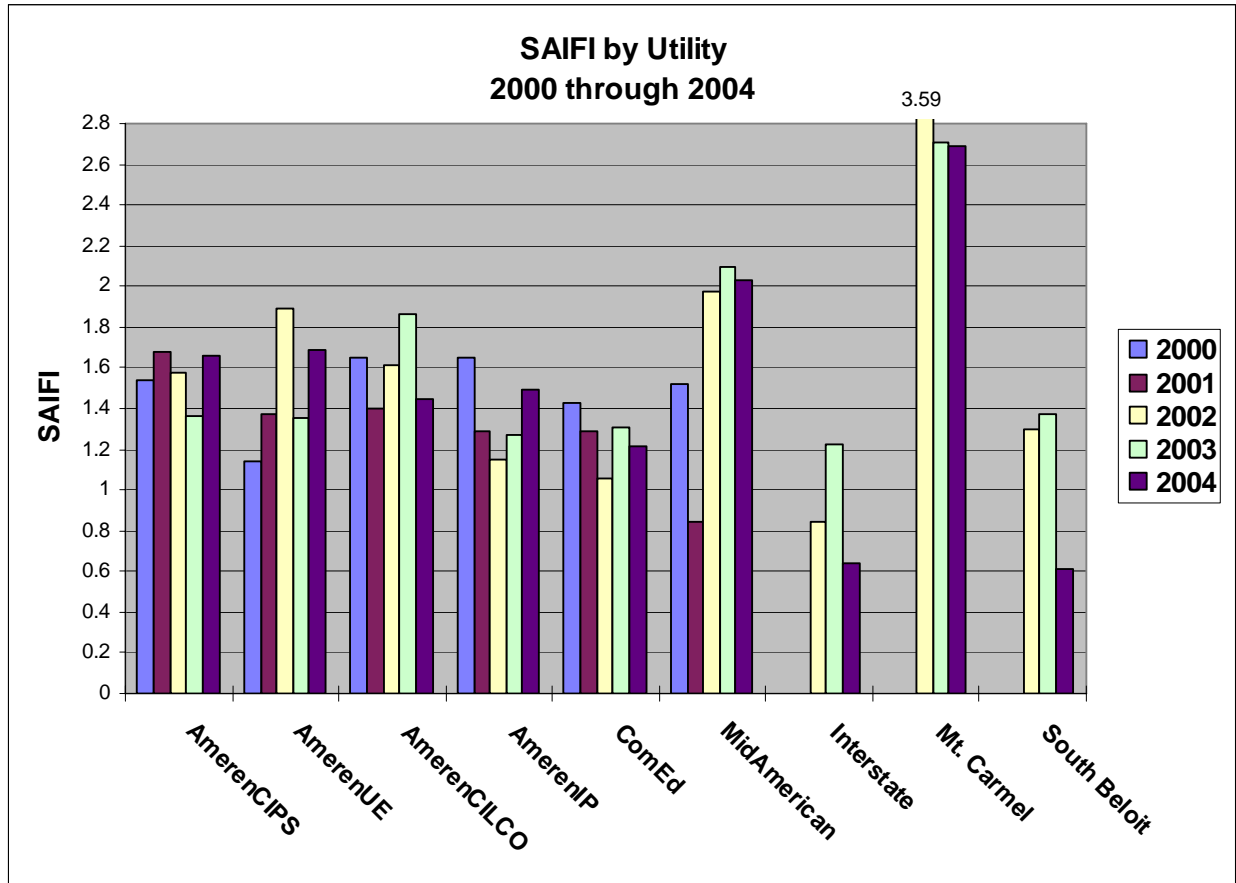


Figure 29 shows AmerenCIPS' company-wide SAIFI indices over the past eight years. Though somewhat erratic over the eight-year period, AmerenCIPS' reported overall SAIFI showed improvement in both 2002 and 2003, but worsened significantly in 2004. AmerenCIPS' reported 2004 company-wide SAIFI performance worsened by 22% from year 2003, and is 5% worse than in 2002.

Figure 29

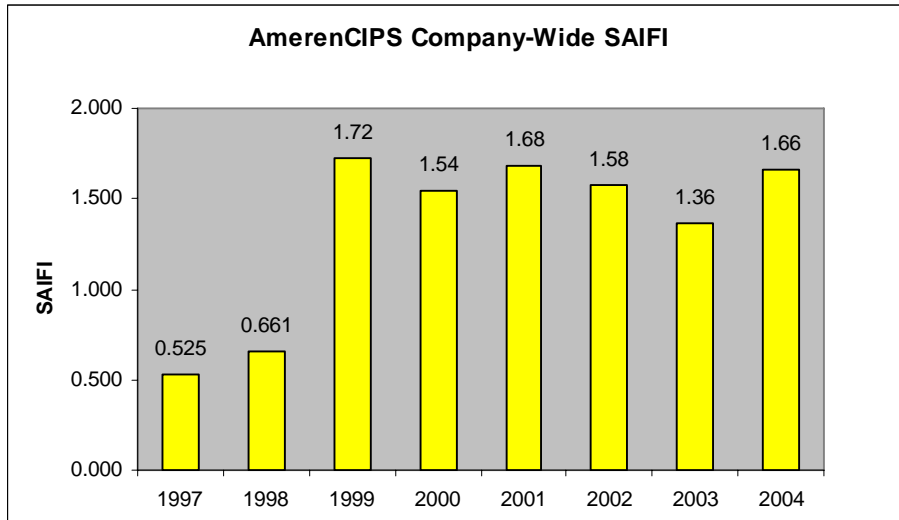


Figure 30 shows a comparison of SAIFI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2000 through 2004. AmerenCIPS' reported worst-circuit SAIFI performance for 2004 is the highest (worst) of all the reporting Illinois utilities.

Figure 30

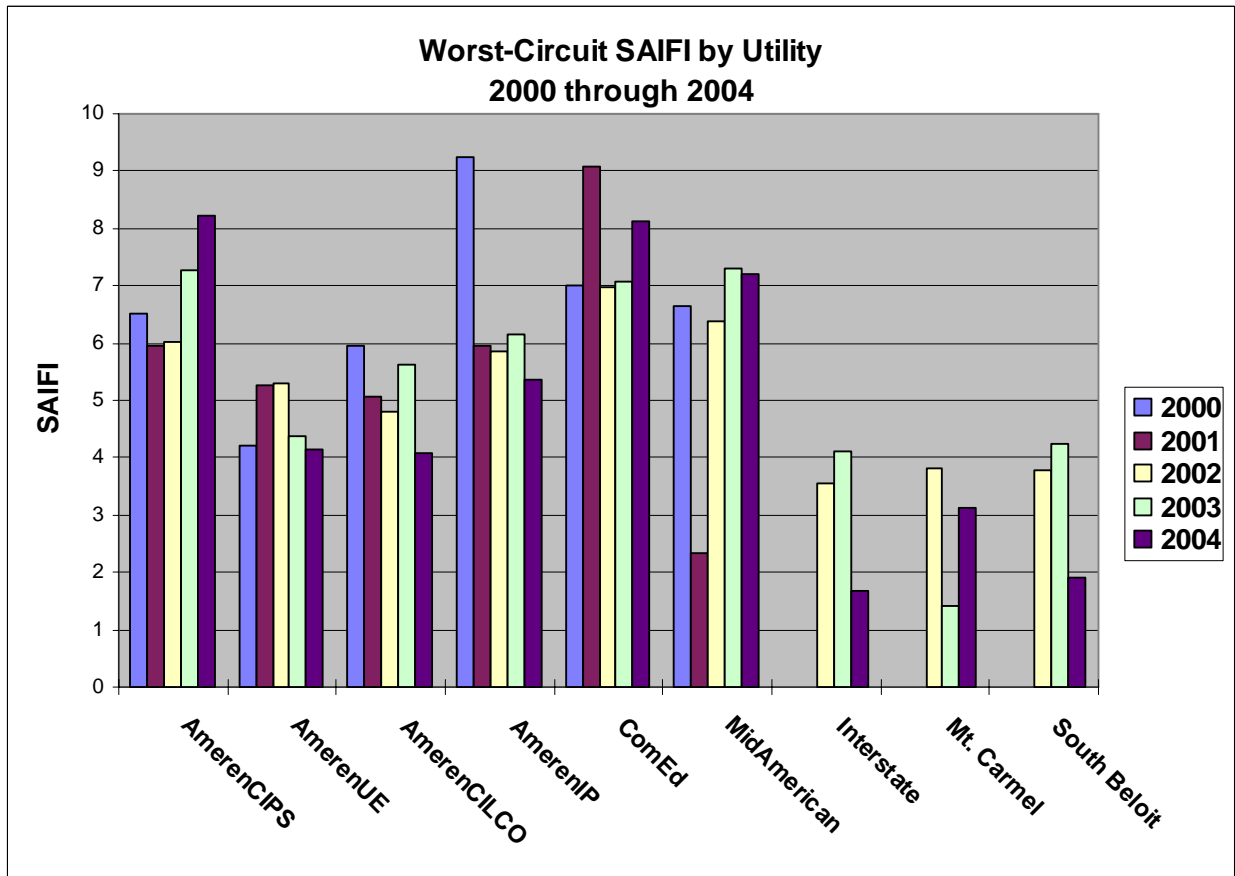


Figure 31

Figure 31 shows the SAIFI index of AmerenCIPS' single worst performing circuit as reported in each of the last eight years. For this statistic, AmerenCIPS showed definite improvement from prior years in 2000 and 2001, but has been worsening each year since 2001. Its worst SAIFI circuit in 2004 was 13.5% worse than its worst in 2003 and 38.7% worse than in 2001.

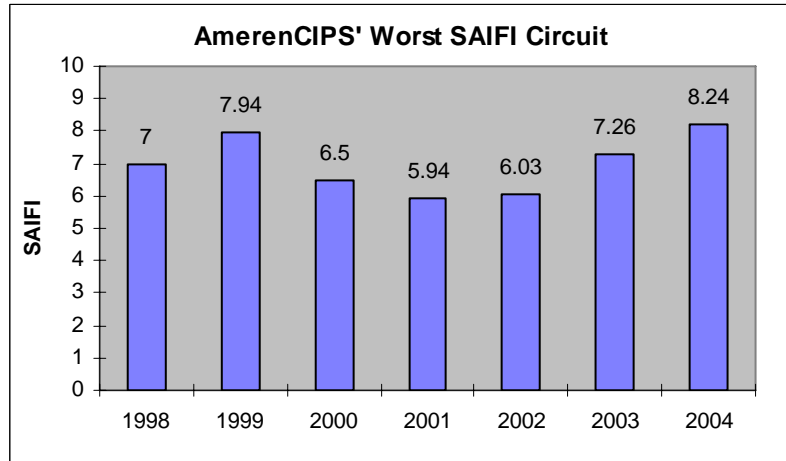


Figure 32 shows a comparison of company-wide CAIDI values reported by the Illinois utilities for years 2000 through 2004. At 143 minutes, AmerenCIPS' reported 2004 company-wide CAIDI performance worsened significantly from year 2003, but it still ranked exactly in the middle of the nine-utility group in this category in 2004.

Figure 32

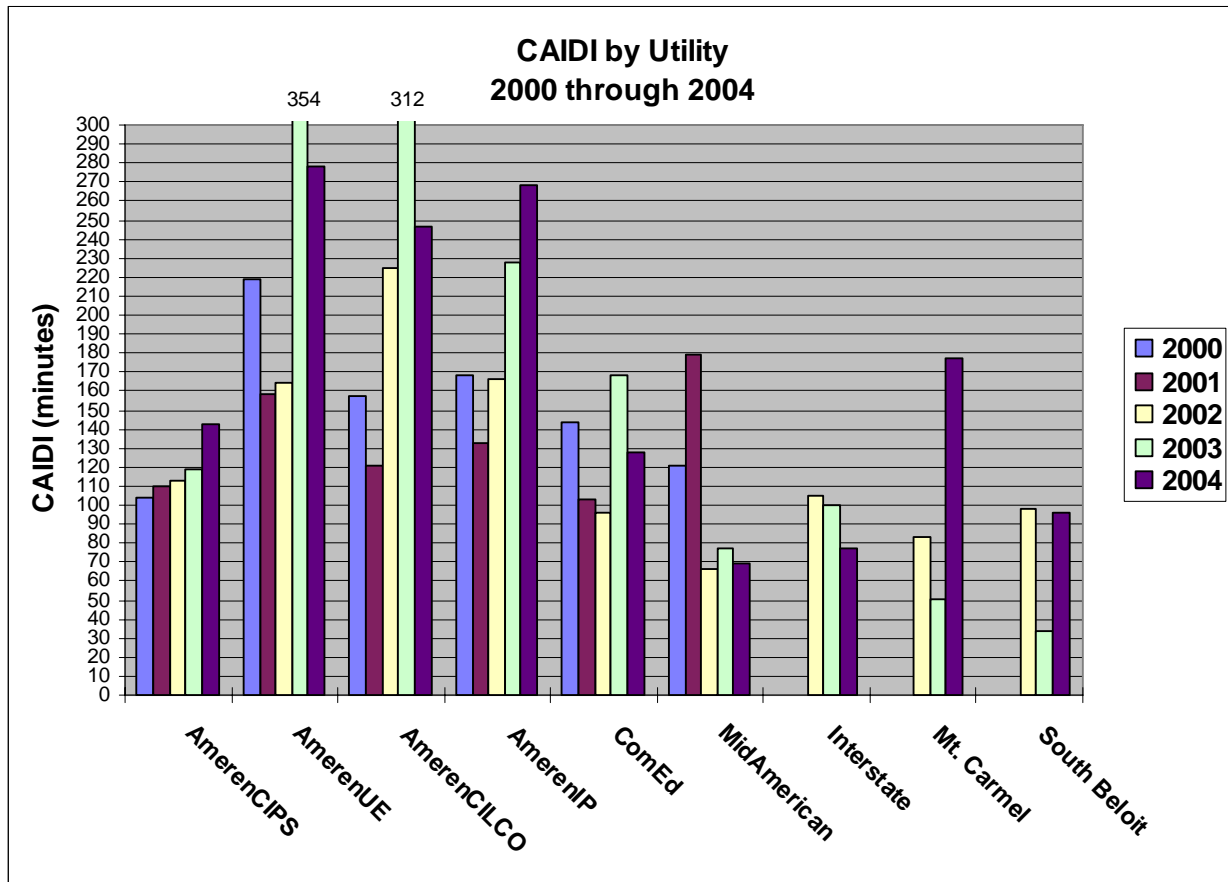


Figure 33

Figure 33 shows AmerenCIPS' company-wide CAIDI statistics over the past eight years. AmerenCIPS' reported overall CAIDI showed a generally worsening trend before it improved greatly in 2000. It has been steadily worsening again since year 2000. AmerenCIPS' reported overall CAIDI for 2004 is 20.4% worse than it reported for year 2003 and 37.6% more than in 2000.

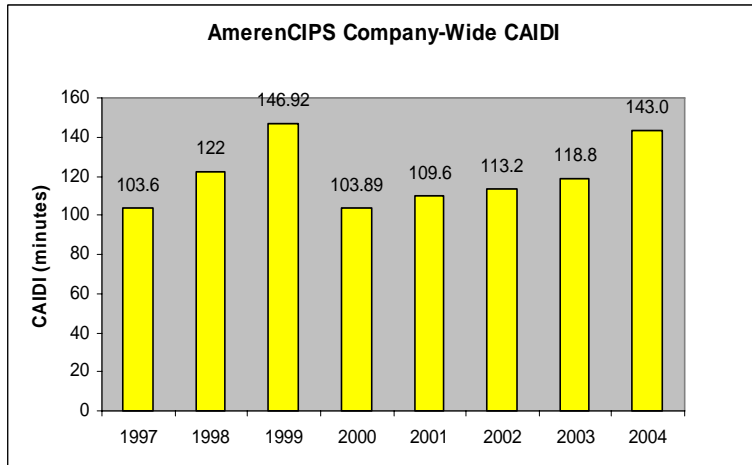


Figure 34 shows a comparison of CAIDI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2000 through 2004. AmerenCIPS' reported worst-circuit CAIDI performance for 2004 (2481 minutes) is more than double its worst-circuit CAIDI in 2003 (1188 minutes) and ranked seventh in the nine-utility group, with only AmerenIP (3011 minutes) and AmerenCILCO (2837 minutes) reporting higher worst circuit CAIDI statistics in 2004. All of the Ameren companies were significantly worse than any non-Ameren Illinois utility in this category in 2004.

Figure 34

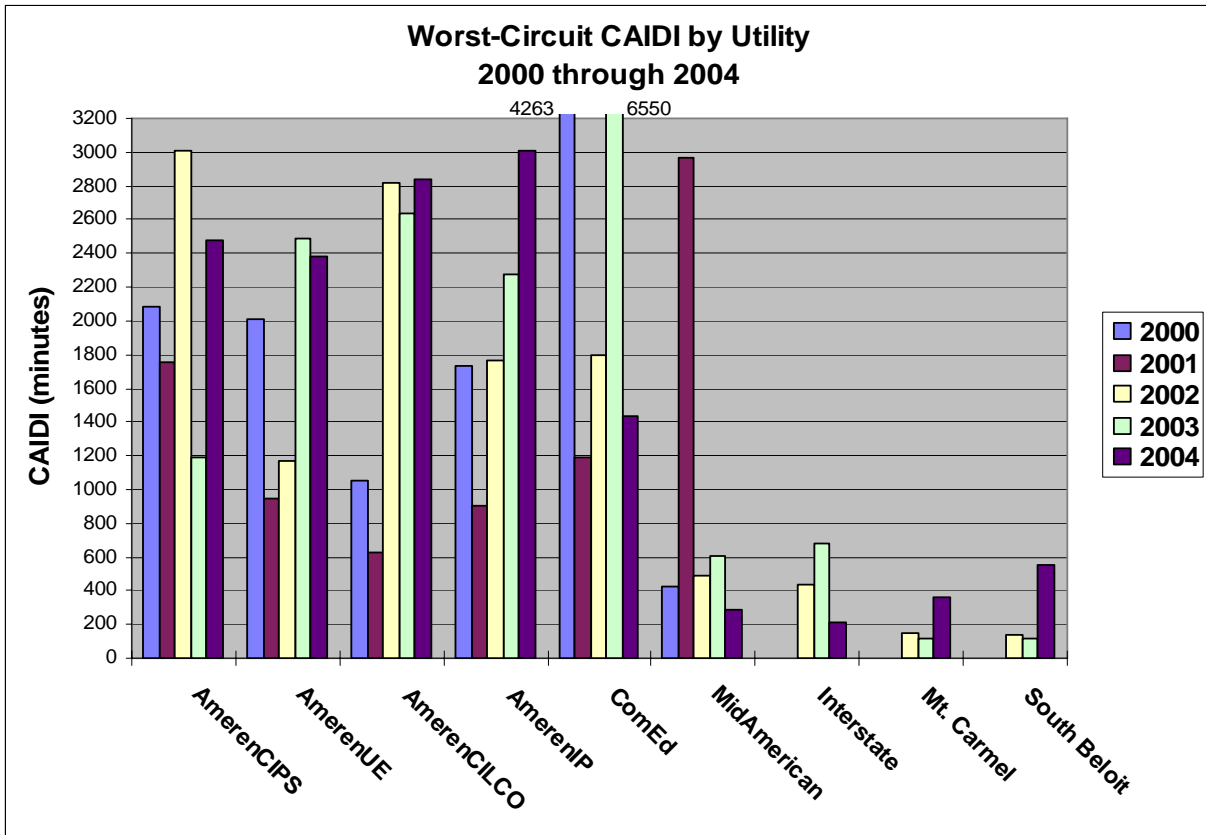


Figure 35 shows the CAIDI index of AmerenCIPS' single worst performing circuit in each of the last eight years. The trend of this statistic for AmerenCIPS has been very erratic. AmerenCIPS' reported worst-circuit CAIDI for 2004 is more than double what it reported for year 2003, but is 17.5% better than it reported in 2002.

Figure 35

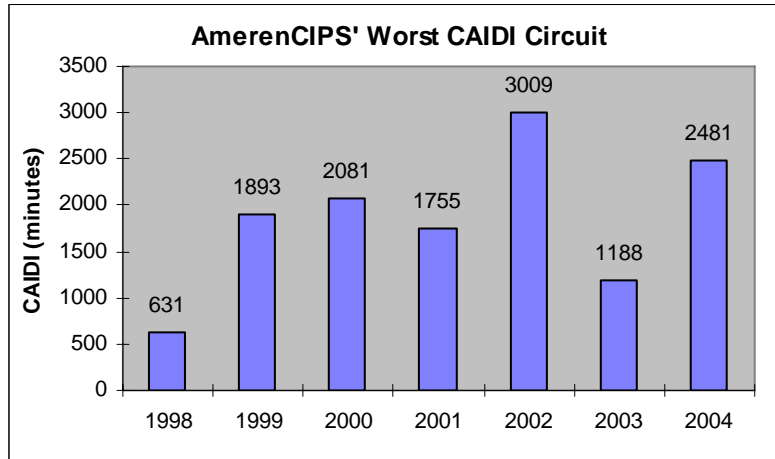


Table 5 shows the number and percentage of AmerenCIPS customers who experienced no service interruptions or less than four service interruptions for each of years 2000 through 2004. This information is also presented graphically in Figure 36. Note that the trends for both of these groups of AmerenCIPS customers improved from the prior year in 2002 and 2003, but worsened in 2004.

Table 5

AmerenCIPS Customers with No Interruptions or Less Than Four Interruptions

| Year | Total Customers | Customers with No interruptions | Customers with < 4 interruptions |
|------|-----------------|---------------------------------|----------------------------------|
| 2000 | 323,898 | 93,753 28.95% | 278,449 85.97% |
| 2001 | 326,578 | 84,147 25.77% | 280,493 85.89% |
| 2002 | 328,154 | 84,383 25.71% | 289,958 88.36% |
| 2003 | 327,033 | 101,240 30.96% | 293,555 89.76% |
| 2004 | 330,336 | 92,829 28.10% | 278,371 84.27% |

Figure 36

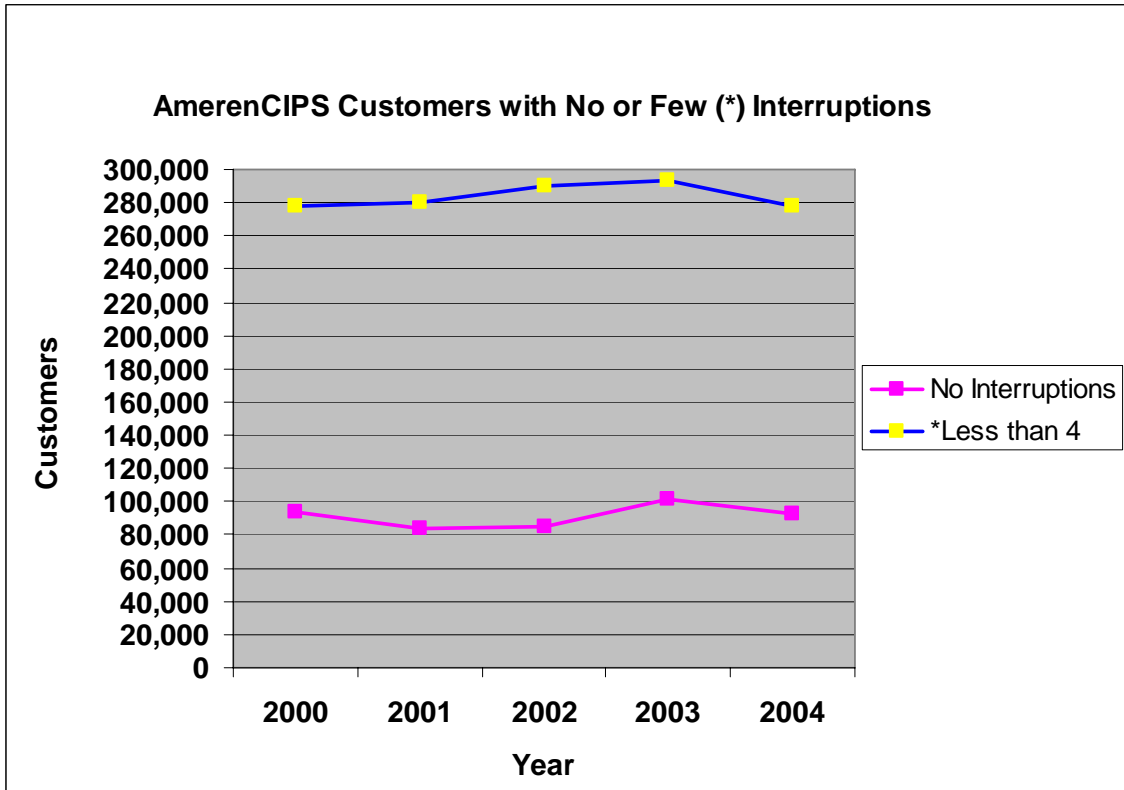


Table 6 shows the number and percentage of AmerenCIPS customers who experienced more than six and more than ten service interruptions for each of years 2000 through 2004. This information is also presented graphically in Figures 37 and 38. Note that the numbers of AmerenCIPS customers in both of these categories year-to-year has been very erratic, but in 2004 the numbers of AmerenCIPS customers in both of these high number of interruptions categories were much higher than in 2003. A total of 7,846 AmerenCIPS customers (2.38% of AmerenCIPS' customers) experienced more than six service interruptions in 2004, nearly triple the 2,668 customers in this category in 2003. A total of 704 AmerenCIPS customers experienced more than ten service interruptions in 2004, up from 66 customers in 2003. In the extreme cases, 26 AmerenCIPS customers experienced 16 to 20 service interruptions in 2004.

Table 6
AmerenCIPS Customers with More Than Six and More Than Ten Interruptions

| Year | Total Customers | Customers with > 6 interruptions | Customers with > 10 interruptions |
|------|-----------------|----------------------------------|-----------------------------------|
| 2000 | 323,898 | 8,726 2.69% | 331 0.10% |
| 2001 | 326,578 | 4,445 1.36% | 55 0.02% |
| 2002 | 328,154 | 6,343 1.93% | 699 0.21% |
| 2003 | 327,033 | 2,668 0.82% | 66 0.02% |
| 2004 | 330,336 | 7,846 2.38% | 704 0.21% |

Figure 37

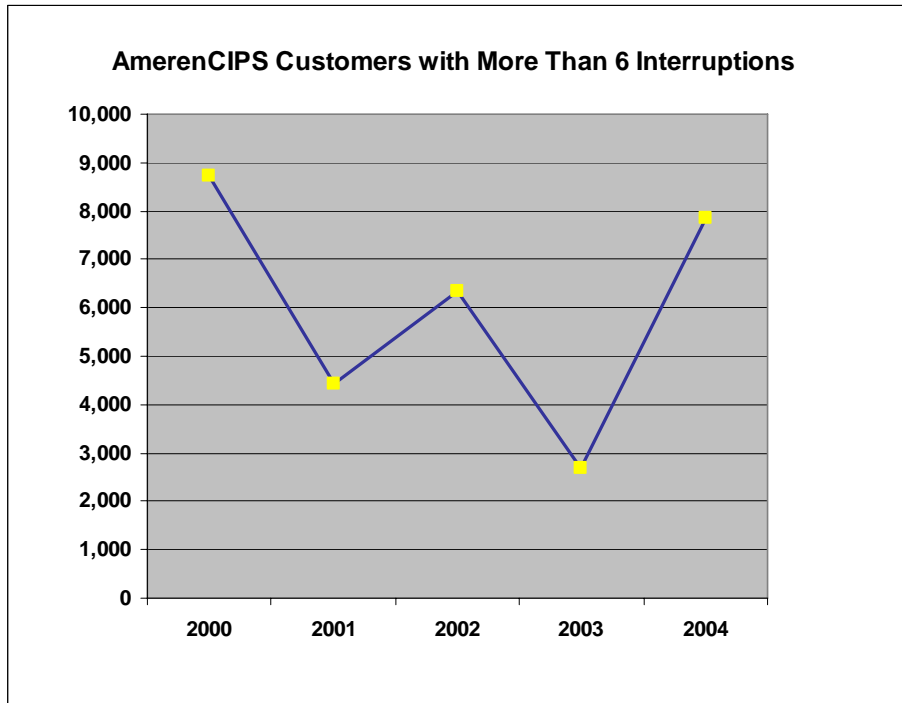
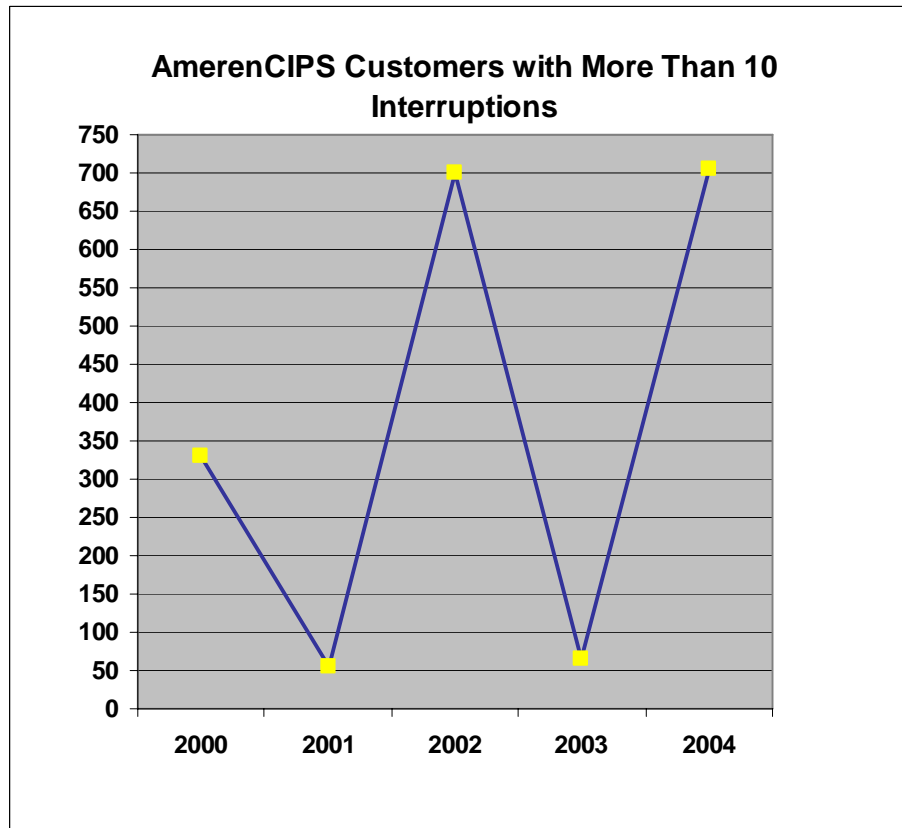


Figure 38



Overall, the statistics provided in AmerenCIPS' 2004 reliability report indicate a significant worsening of the frequency of interruptions compared to similar data reported for the past two years and a very significant worsening in the duration of interruptions when compared to similar data provided for the past four years. The number of AmerenCIPS customers experiencing high numbers of interruptions in 2004 increased very significantly from what AmerenCIPS reported for 2003.

It is noteworthy that while its reliability statistics have worsened significantly in recent years, as discussed above, AmerenCIPS has also reduced its distribution O&M spending in each of the past two years. AmerenCIPS reported that it underspent its distribution O&M budget by nearly 20% in 2004, spending only \$35,266,586 of its \$43,944,490 budget. This distribution O&M expenditure was well below what AmerenCIPS has spent for distribution O&M in each of the past three years (see Table 7 in Section 9). A very significant deterioration of reliability has resulted.

9. AmerenCIPS' Plan to Maintain or Improve Reliability

Specific plans described in AmerenCIPS' 2004 annual reliability report to maintain or improve reliability include the following:

- AmerenCIPS reported that it will enhance its tap fusing program in 2005 to review entire circuits that have the greatest opportunity to reduce customer interruptions. The original program identified taps on a one-by-one basis, rather than the entire circuit approach.
- AmerenCIPS is continuing its effort to inspect and assess sub-transmission poles for any reliability concerns. This program focuses on transmission and sub-transmission circuits and additional areas recognized to have greater exposure or poorer performance, such as older facilities, circuits that were classified as worst performing, and circuits that have had problematic outages due to pole failures. Mitigation efforts may include C-trussing poles, pole re-treatment, and pole replacements.
- AmerenCIPS reported that it is committed to maintaining a four-year tree trimming cycle and that it continues to show an improving trend in the frequency and duration of tree-related outages

Staff noticed improvement in AmerenCIPS' trimming program compared to prior years during its limited number of inspections this year. In addition to maintaining a four-year trim cycle, as AmerenCIPS has committed to do, it also needs to assure compliance with NESC Rule 218 by assuring that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

- AmerenCIPS' policy is to install animal protection on all new overhead distribution transformers and anytime an overhead transformer has experienced an animal-caused outage. Animal protection is also retrofitted on circuits, portions of circuits, or substations identified as affected by or susceptible to animal intrusion.

Staff noted that additional animal guards are needed on most of the circuits it inspected this year. AmerenCIPS needs to take a more proactive approach to animal protection in its existing electric system, rather than waiting for animal-caused interruptions to occur before installing the needed animal guards.

- AmerenCIPS plans to perform an aerial inspection of the sub-transmission system on a 3-year cycle. This project will enable AmerenCIPS to identify and fix problems (loose connections, weak splices, air break switches, etc.) before interruptions occur.
- AmerenCIPS will continue the Pole Inspection and Treatment Program in 2005.

AmerenCIPS stated "The number of poles to be inspected is based Ameren-wide and considers the overall schedule impact of program completion to determine the appropriate number of circuits to inspect in 2005." This stops far short of a definite goal for AmerenCIPS in 2005, and is so vague that Staff cannot determine its reasonableness for AmerenCIPS or for any other Ameren company.

- AmerenCIPS will continue to identify sub-transmission circuits where lightning protection enhancements can provide major benefit.

During its circuit inspections this year, Staff noted that additional lightning arresters are needed on several of the AmerenCIPS distribution circuits inspected, especially in the rural areas. The lightning protection program described above is for sub-transmission circuits (34 kV and higher voltage) only. AmerenCIPS has advised Staff that it has no lightning protection program addressing distribution circuits.

- A Circuit Patrol Team has been formed to develop and implement a standard schedule to patrol sub-transmission and distribution circuits to improve and maintain circuit performance. This team will provide a policy and schedule for regular circuit inspections that will be implemented Ameren-wide when it completes its work in 2005.

Note: Ameren advised Staff on October 17, 2005, that it does not plan to complete the necessary training and roll out its new circuit inspection program until January 1, 2007.

AmerenCIPS' reported annual expenditures for its distribution system, distribution tree trimming, and transmission system for years 2000 through 2004, and the 2005 through 2007 budgets for these categories, are provided in Table 7. This information for the distribution system and for distribution tree trimming is also represented graphically in Figures 39 and 40. (See the note about this data, which follows Table 7).

Table 7

| Year | Distribution (x1,000) | | | Dist. Tree Trimming (x1,000) | Transmission (x1,000) | | |
|-------------|-----------------------|----------|----------|------------------------------|-----------------------|----------|----------|
| | Capital | O & M | Total | | Capital | O & M | Total |
| 2000 | \$30,669 | \$33,933 | \$64,602 | \$3,935 | \$3,054 | \$16,488 | \$19,542 |
| 2001 | \$24,689 | \$38,232 | \$62,921 | \$5,587 | \$6,203 | \$3,354 | \$9,557 |
| 2002 | \$30,217 | \$43,539 | \$73,756 | \$7,887 | \$10,399 | \$3,867 | \$14,266 |
| 2003 | \$26,464 | \$41,721 | \$68,185 | \$9,247 | \$9,665 | \$6,437 | \$16,102 |
| 2004 | \$37,754 | \$35,267 | \$73,021 | \$8,643 | \$3,134 | \$1,911 | \$5,045 |
| 2005 Budget | \$38,746 | \$44,367 | \$83,113 | \$7,815 | \$11,484 | \$8,471 | \$19,955 |
| 2006 Budget | \$49,336 | \$46,689 | \$96,025 | \$10,088* | \$13,076 | \$8,964 | \$22,040 |
| 2007 Budget | \$41,057 | \$47,623 | \$88,680 | \$10,391* | \$4,902 | \$9,143 | \$14,045 |

*Note: The AmerenCIPS 2006 and 2007 distribution tree trimming budget data in Table 7 includes the transfer of AmerenUE's Illinois service territory to AmerenCIPS, which was effective on May 2, 2005. Without the AmerenUE data, the AmerenCIPS tree trimming budgets for 2006 and 2007 are, respectively, \$8,058,000 and \$8,300,000. None of the other AmerenCIPS data in Table 7 includes the effects of the AmerenUE transfer to AmerenCIPS.

Staff believes it is noteworthy that AmerenCIPS made significant reductions in its distribution O&M expenditures the past two years, greatly under-spending its 2004 budget in this category, while both its frequency and duration of customer interruptions have gotten significantly worse. Specifically, AmerenCIPS underspent its distribution O&M budget by nearly 20% in 2004, spending only \$35,266,586 of its \$43,944,490 budget. This distribution O&M expenditure was well below what AmerenCIPS has spent for distribution O&M in each of the past three years. This reduction in distribution O&M spending is reflected in the significant reduction in electric service reliability during the same time period.

Figure 39

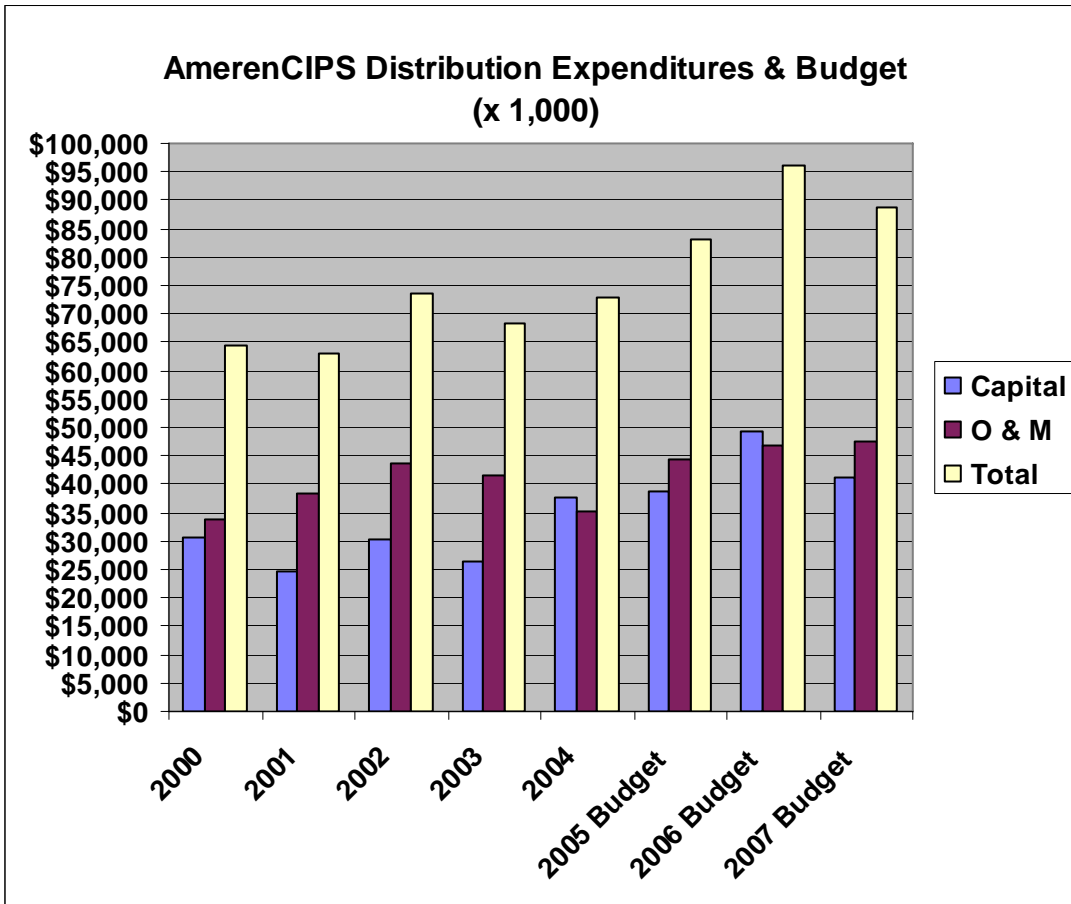
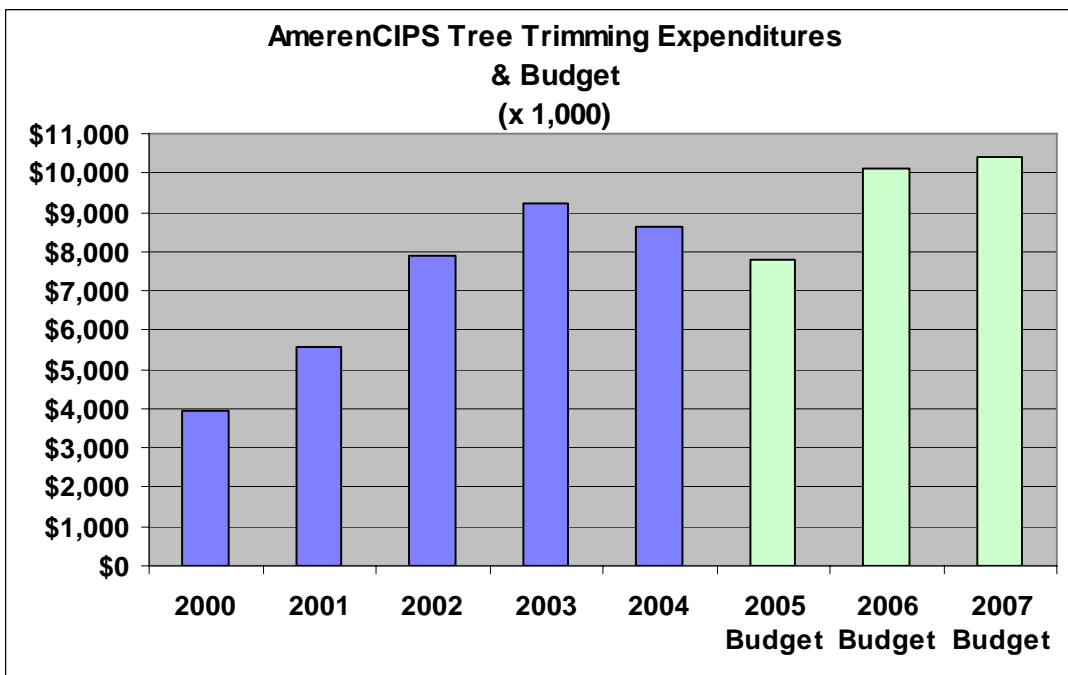


Figure 40



AmerenCIPS explained that the reduced distribution tree trimming budget for 2005, as shown in Figure 40, is due to circuits having a reduced trimming cycle length as of June 30, 2004. Crews will be trimming less growth which requires fewer man hours to complete the work. Ameren has forecasted a reduction of 12% in this cost. As mentioned earlier, the increased distribution tree trimming budgets for 2006 and 2007 reflect the transfer of AmerenUE metro east to AmerenCIPS.

AmerenCIPS provided a description of actions taken or planned for each of the worst performing circuits listed in its 2004 reliability report. Each of the problems described in the outage history for each circuit was addressed in some way by the described actions taken or planned. AmerenCIPS' reported actions taken or planned for each circuit seemed reasonable, but it should also address any additional problems revealed on each of the circuits during Staff's circuit inspections.

10. Potential Reliability Problems and Risks

One of the more common problems Staff noted during its inspections of AmerenCIPS circuits this year was the need for more lightning arresters in the rural areas of several of the circuits. The lack of adequate lightning protection on rural circuits will cause many of the interruptions attributed to weather. In the past two Staff assessment reports, covering years 2003 and 2002, Staff commented on AmerenCIPS' sometimes "illogical" placement of lightning arresters, with many poles exhibiting signs of lightning damage in areas having no arresters. AmerenCIPS should take a more active role in determining circuits or portions of circuits that are deficient in lightning protection and in correcting those deficiencies.

Additional animal guards are needed on most of the AmerenCIPS circuits Staff inspected this year. AmerenCIPS needs to take a more proactive approach to animal protection in its existing electric system, rather than waiting for animal-caused interruptions to occur before installing the needed animal guards.

AmerenCIPS listed trees as the cause for only 5.02% of the events and 3.77% of the customer interruptions in 2004, and tree trimming was generally well done at most of the (limited) locations Staff inspected this year. Many of the interruptions attributed to weather in 2004 may have also been tree related, however. AmerenCIPS reported that it is committed to stay on a four-year tree trimming cycle, but it also needs to assure compliance with NESC Rule 218. To be in compliance with NESC Rule 218 and to minimize the risk of tree-related interruptions, AmerenCIPS needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors until it returns to trim them again.

AmerenCIPS should investigate all of the problems noted during Staff's circuit inspections, as well as those discovered by its own inspections, and take appropriate remedial actions

addressing any problems on those circuits, whether or not noted by Staff, which can significantly affect service reliability or public safety.

11. Review of AmerenCIPS' Implementation Plan for the Previous Reporting Period.

AmerenCIPS reported that the remedial actions to be done in 2004 for each of its year 2003 worst performing circuits, as described in its 2003 reliability report, were accomplished. Upon reviewing the status of these planned actions for each circuit, Staff finds the corrective actions taken to be reasonable.

12. Summary of Recommendations

- First, AmerenCIPS should do whatever is necessary to maintain a four-year (minimum) tree trimming cycle that is in compliance with NESC Rule 218 throughout its service territory. AmerenCIPS needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again. (Staff's field limited inspections of tree conditions in AmerenCIPS' service territory this year revealed noticeable improvement in tree trimming compared to prior years.)
- Second, AmerenCIPS should investigate all of the problems noted during Staff's inspections of worst performing and other circuits (see Attachments "A" through "J") and take appropriate remedial actions addressing any problems on those circuits, whether or not noted by Staff, which can significantly affect service reliability or public safety.
- Third, AmerenCIPS should follow through with its action plans listed in its Supplemental Report (as a minimum) in an effort to prevent those customers who experienced interruptions in excess of the service reliability targets in each of the last three or more years from exceeding the targets again.
- Fourth, AmerenCIPS should perform field inspections of all circuits on a regular basis and correct the problems found which can significantly affect reliability or public safety.
- Fifth, AmerenCIPS should continue to add animal guards and tap fuses on its distribution circuits to minimize interruptions and the number of customers affected when interruptions occur.
- Sixth, AmerenCIPS should install additional lightning protection on its rural circuits that display signs of lightning damage, as Staff also recommended in prior years.

- Seventh, AmerenCIPS should continue its efforts to improve its circuit maps and make them more user friendly.

Attachment "A"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|---------------------------------|-------------------|--|
| Utility: | AmerenCIPS | Date: | 3/9/05 |
| Circuit: | X81555 (Rural Tuscola, Pesotum) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, serving a rural area north of Tuscola and the community of Pesotum. Tree trimming looked good. There were very few animal guards on the circuit. Many relatively new poles were noted on the main feeder portions of the circuit. Many lightning arresters were also noted, but most had coiled jumpers which limit the effectiveness of the arresters. There were a few mapping errors, and some of the street names on the maps were not readable. There were some lengthy inaccessible sections of the circuit. | | | |
| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
| 1 of 11 | Spool bolt coming out of pole | B1 | 5th pole east of Sta. 7153/7154 on CR 1250 |
| 4, 4b | Bad pole top | A22, A23, A24 | Just south of Adams St. in the alley west of Chestnut St. (US Rt. 45), Pesotum. The alley is mis-labeled as Elm St. on the maps, and many of the street names are not readable on map 4. |
| 4b | Two missing guy markers | | South of Washington St. in the alley west of Locust St., Pesotum |
| 6 | Missing guy marker | | On guy stub pole at end of circuit, just south of Sta. 15005 on CR 1100 |
| 7 | Missing guy marker | | At Sta. 15003 on CR 1100 north of Adams St. (not labeled on map) |

Attachment "B"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|---|---|-------------------|---|
| Utility: | AmerenCIPS | Date: | 3/14/05 |
| Circuit: | U39541 (Clayton, Camp Point, Golden, Timewell, & rural) & U29001 (Camp Point) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) & Rick Hart (AmerenCIPS) |
| Gen. Notes: Circuit U39541 was a worst performing 12 kV circuit in 2004, serving Clayton, Camp Point, Golden, Timewell, and rural areas near those communities. Circuit U29001 is a 4 kV circuit in Camp Point fed by Circuit U39541. Maps were not provided for the 4 kV circuit. There were some scattered tree trimming problems, especially in Camp Point, but, overall, the trees looked pretty good. Tree contractors were trimming on the day of this inspection. More lightning arresters are needed, and very few animal guards were noted (there were none in Clayton). There were several inaccessible circuit sections. There were many mapping errors, primarily on map 21. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 1d of 29 | Badly shell rotted pole | | North of Sta. 11269 on Main St. (CR 11), Camp Point |
| 1d | Trees very close to primary | | Just north of Wood St. (Rt. 24) on Main St., Camp Point |
| 1d | Badly shell rotted pole | | Just east of Iowa St. on Prairie St., Camp Point |
| 1d | Badly shell rotted pole | | North of Sta. 11334 on Main St., Camp Point |
| 1d | Badly shell rotted pole | | North of Sta. 11333 on Main St., Camp Point |
| 3c | Badly shell rotted pole in 4 kV Ckt. 29001 | | Fremont St. west of Hampshire St., Camp Point |
| 5 | Missing guy marker | | On CR 1950 at tap to Sta. 50212 |
| 9 | Some lightning damage (not too bad), and more lightning arresters needed | | Along CR 2700 between N. 2000th & E. 2700th St. (neither road labeled on map) |
| 10 | Some lightning damage (minor) | | Along CR 2700 between CR 2200 & CR 2300 |
| 11 | Minor lightning damage | | Several poles along CR 2700, south of CH 17 |
| 11 | Missing guy marker | | At Sta. 5525 east of CR 2700 |
| 12b | Badly deteriorated pole top | | On Madison St. between Morgan & Lincoln Sts., Clayton |
| 12b | Trees into primary | B6, B7, B8, B9 | On Madison St. just north of Morgan St., Clayton |
| 12b | Maple tree into primary | B5 | On Lafayette St. between Jefferson & Madison Sts., Clayton |
| 12b | Shell rotted pole | | On Lafayette St. east of Monroe St. (between Stas. 10690 & 10688), Clayton |
| 13 | Split & deteriorated crossarm and badly shell rotted pole | B10, B11 | South of CR 2300 in tap to Sta. 6127 on road not labeled on map, about halfway to Sta. 6127 |

Attachment "B"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|---------------------------------------|-----------------|--|
| 13 | Badly shell rotted pole | | South of CR 2300 in tap to Sta. 6127 on road not labeled on map, about 25% of the way to Sta. 6128 |
| 13 | Badly shell rotted pole | | On CR 2300 at the tap going south to Sta. 6127 |
| 13 | Badly shell rotted pole | | At Sta. 6129 north of CR 2300 |
| 13 | Two badly shell rotted poles | | East of Sta. 6112 on CR 2300 |
| 15 | Missing guy marker | | At guy stub pole on CR 2903 on north side of CR |
| 19c | Deteriorated crossarm | | South of Sta. 111569 on Main St., Timewell (south edge of town) |
| 19c | Badly shell rotted pole | | On Main St. just north of Main Cross, Timewell |
| 19c | No downguy behind primary deadend | | At Sta. 11542 on Maple St. (labeled Road A on map), Timewell |
| 19c | Shell rotted pole | | East of Sta. 11542 on Maple St. (labeled Road A on map), Timewell |
| 19c | Shell rotted pole | | Corner of Maple St. (labeled Road A on map) & Locust St., Timewell |
| 19c | Burned pole top (lightning damaged ?) | B2, B3, B4 | At Sta. 11538 at the corner of Main St. & Maple St. (labeled Road A on map), Timewell |

Attachment "C"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|--|-------------------|--|
| Utility: | AmerenCIPS | Date: | 3/15/05 |
| Circuit: | V79594 (Barrow, Manchester, & rural) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) & Larry Watson (AmerenCIPS) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, serving Barrow, Manchester, and rural areas generally north of Roodhouse. There are several lengthy inaccessible areas, mostly where the 12 kV circuit is underbuilt on a 69 kV line. No tree trimming problems were noted. There were some background mapping errors, and several of the roads were not labeled on the maps provided. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 2 of 13 | Badly shell rotted pole | | 1 span from west end of circuit on CR 2800N |
| 2 | Missing guy marker | | On CR 2800N just west of 69 kV line crossing |
| 2 | Badly split pole top, lightning arrester blown apart, & missing guy marker | B15, B16 | At Sta. 9366 (out of service) on CR 2800N |
| 2 | Woodpecker hole in 69 kV pole | | On Jefferson Rd. (CR 1300E--not labeled on map) 1 span north of where road turns to the west |
| 2 | 2 woodpecker holes in 69 kV pole below distribution crossarm | | On Jefferson Rd. (CR 1300E--not labeled on map) north of prior listed location |
| 3 | Broken primary downguy (broken preformed grip--possible lightning damage) | B18, B19, B20 | North of Rd. 125N (Havens Rd.--not labeled on map) on N-S road not labeled on map (north of Sta. 9389) |
| 3 | 6 (+) woodpecker holes in pole | B17 | South of Sta. 9390 (road not labeled on map) |
| 3 | Missing guy marker | | West of Rd. 1300E (Jefferson Rd.) on Rd. 125N (Havens Rd.)--Neither of the roads are labeled on |
| 4 | 69 kV wood brace hanging down--close to 12 kV phase conductor | B12, B13, B14 | Corner of CR 2700N & CR 1250E |
| 6 | 12 kV wood brace hanging down | | CR 2700N west of the jog in the road |
| 9b | Badly shell rotted pole | | South of Sta. 9607 on Main St. (US Rt. 67), Manchester |
| 10a | Missing guy marker | | 3rd St. at tap to Sta. 9640, Manchester |
| 10a | Broken primary downguy | | East of Sta. 9637 on 3rd St., Manchester |
| 10a | Missing guy marker | | At Sta. 9637 on 3rd St., Manchester |
| 10a | Shell rotted pole | | 6th St. at tap to Sta. 9676, Manchester |
| 10a | Shell rotted pole | | Corner of 6th & East Sts., Manchester |
| 10a | Shell rotted pole | | 1 span north of 6th St. in the alley west of Lee St., Manchester |

Attachment "C"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|--|-----------------|--|
| 10a | "Wind shake" pole & missing guy marker | | Main St. at the tap going north to US Rt. 67, Manchester |
| 10a | Shell rotted pole | | Main St. at Sta. 9697, Manchester |

Attachment "D"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|---|-------------------|---|
| Utility: | AmerenCIPS | Date: | 4/11/05 |
| Circuit: | X96543 (Lawrenceville, St. Francisville, & rural) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) & Dave Starwalt (AmerenCIPS) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, repeating in that category from 1999. It serves Lawrenceville, St. Francisville, and a large rural area between those communities. There are several inaccessible areas. There were several scattered tree conflicts, mostly in Lawrenceville & St. Francisville. Some new poles were noted. Few animal guards were noted (almost none in Lawrenceville). Many of the rural roads were not labeled on the circuit maps provided, and Lawrenceville was also not labeled. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 1 of 40 | Missing guy marker | | At Sta. 5699 south of N. County Rd. 500 on a road not labeled on the map |
| 4 | Trees close to primary | | On E-W road along north edge of map east of 2nd transformer shown (road not labeled on map) |
| 4 | Broken down guy | | On N-S road at angle in the road north of Sta. 5740 (road not labeled on map) |
| 4 | Missing guy marker | | On N-S road at Sta. 5742 (road not labeled on map) |
| 5 | Blown lightning arrester | | At Sta. 5692 on N. County Rd. 500 |
| 5 | Trees growing into primary | | Along E. County Rd. 1000 north and south of Sta. 5756 |
| 11 | Several woodpecker holes in pole | | On N. County Rd. 600, 1 span east of tap to Sta. 5520 |
| 15 | Trees into primary | | Between Stas. 5686 & 5685 on E-W road not labeled on map |
| 15 | Split wood brace (lightning damage) | | 1 span east of Sta. 5685 on E-W road not labeled on map |
| 19 | 3-phase primary trimmed, but 1-phase primary not trimmed | | Area of the junction of Alt. State Rt. 1 & Old Highway |
| 21 | Badly split (lightning damaged) crossarm, badly twisted on pole | D8, D9, D10 | On IL Rt. 1, 1 span south of Sta. 5850 |
| 22 | Blown lightning arrester | | At Sta. 5840 east of IL Rt. 1 on Rd. 280E |
| 25 | Split crossarm | D5 | 3 spans west of State Hwy. 1 on Rd. 500N |
| 25 | Split wood brace (lightning damage) | D6 | 7 spans east of State Hwy. 1 on Rd. 500N (pole tag 23) |

Attachment "D"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|---|-----------------|---|
| 25 | Field side lightning arrester blown | | On Rd. 500N near intersection with N-S road not labeled on map (east of State Hwy. 1) |
| 25 | Several arms with minor lightning damage | | Along Rd. 500N east of State Hwy. 1 |
| 27 | Missing guy marker | | At 1st Sta. North of Rd. 700N on N-S road at west edge of map (road not labeled on map) |
| 29 | Pin oak tree close to primary | | On Rd. 1160E just north of Rd. 860N, Lawrenceville (not labeled on map) |
| 30 | Tree growing into primary | | Just east of Sta. 4694 on Ohio St., Lawrenceville (not labeled on map) |
| 30 | Tree very close to primary | | Between Stas. 4620 & 50856 on Orchard St., Lawrenceville (not labeled on map) |
| 30 | Elm tree into primary | D1, D2 | West of State Rt. 1 (15th St.) in the alley north of Orchard St., Lawrenceville (not labeled on map) |
| 30 | Tree into primary | | In the alley east of 13th St. just south of the alley south of Illinois St., Lawrenceville (not labeled on map) |
| 30 | Maple trees into primary | | On 12th St. just south of Wabash St., Lawrenceville (not labeled on map) |
| 31 | Split wood brace | | 2 spans north of Big Four Rd. on N-S road not labeled on map (east edge of map) |
| 31 | Lightning damaged crossarm & 3 large woodpecker holes in pole | D11 | 2 spans south of Sta. 5946 on N-S road not labeled on map (east edge of map) |
| 32 | Broken primary downguy & missing guy marker | | At Rd. 280N & N-S road not labeled on map, at tap to Sta. 5844 |
| 32 | 2 missing guy markers | | At Sta. 5844 on N-S road not labeled on map |
| 33 | Split (lightning damaged) wood brace | | On N. County Rd. 500 near west edge of map (N-S roads not labeled on map) |
| 33 | Lightning damaged, split crossarm | D7 | On N. County Rd. 500 near east edge of map (N-S roads not labeled on map) |
| 34 | Lightning damaged crossarm | | 2 spans west of Sta. 5947 on N. County Rd. 150 |
| 38 | Soft maple tree into primary | D12, D13, D14 | 13th St. just north of Harold St., St. Francisville |
| 38 | Guy stub pole badly split at top | D18 | NE corner of 9th & Meagher Sts., St. Francisville |

Attachment "D"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|----------------------------|------------------|---|
| 38 | Trees into primary | | On 8th St. between Meagher & McMurray Sts., St. Francisville |
| 38 | Trees growing into primary | D15, D16, D17 | Along 9th St. between Stas. 6260 & 6261/6262, north of Harold St., St. Francisville |
| 38 | Tree into primary | | Clark St. east of 11th St., St. Francisville |
| 38 | Maple trees into primary | | 8th St. just north of Johnson St., St. Francisville |
| 38 | Woodpecker hole in pole | | At Sta. 6254 on Johnson St., east of 8th St., St. Francisville |
| 38 | Trees close to primary | | In the alley west of 6th St., between Johnson & Plumb Sts., St. Francisville |
| 38 | Trees into primary | D19 | On 6th St. south of Johnson St., St. Francisville |
| 40 | Trees close to primary | | Along Main St. at 2nd St., St. Francisville |

Attachment "E"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|---|-----------------------------|-------------------|---|
| Utility: | AmerenCIPS | Date: | 4/11/05 |
| Circuit: | X23505 (Bridgeport & rural) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) & Dave Starwalt (AmerenCIPS) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, repeating in that category from 2000 & 1999. It serves the southern edge of Bridgeport and a small rural area south of Bridgeport. It also feeds 4 kV Circuit X22001 in Bridgeport (a worst performing circuit in 2000 & 1999). Portions of the circuit are cross-country and inaccessible. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 2 of 3 | Missing guy marker | | At Sta. 4763 on Rd. 850N, south of Bridgeport |
| 2 | Woodpecker holes in pole | | On Rd. 850N at the tap to Sta. 4767, south of Bridgeport |

Attachment "F"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|---|--|-------------------|--|
| Utility: | AmerenCIPS | Date: | 4/18/05 |
| Circuit: | S47576 (Herrin, Freeman Spur) | Inspector: | J. D. Spencer, w/ Mike Vandas (Ameren), Aaron Hargan (Ameren), & Don Dahlin (AmerenCIPS) |
| Gen. Notes: This was a next-worst performing 12 kV circuit in 2004, serving a northern portion of Herrin, Freeman Spur, and a rural area between those communities. Some of the circuit is inaccessible. Tree trimming looked well done throughout the circuit. Several new poles and crossarms were noted. More animal guards are needed, and more lightning arresters are needed in the rural areas. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 1d of 16 | Missing guy marker | | On Tower Rd. at tap to Sta. 20557, Herrin (not labeled on map) |
| 1d | Missing guy marker | | On State St. at Sta. 20538 (at 17th St.), Herrin (not labeled on map) |
| 2a | Missing guy marker | | On State Route 148 at tap going south along Big Buck Lane (not labeled on map) |
| 3 | Shell rotted pole & 4 woodpecker holes in pole | F9, F10 | At Sta. 19069 in cross-country section of circuit between Carroll Rd. & 5th St., Herrin |
| 3 | Shell rotted pole | | On east side of 5th St., north of Carroll Rd., Herrin |
| 3c | 2 missing guy markers | | SW corner of 8th & Foch Sts., Herrin |
| 4 | Missing guy marker | | South of Route 876 at tap to Sta. 20302 |
| 4a | Missing guy marker | | At Sta. 19960 on 13th St. (north of Mack St.), Herrin |
| 4a | Missing guy marker | | On Freeman Spur Rd. (Rd. 677E) at tap to Sta. 19979, north of Herrin |
| 4a | Badly shell rotted pole | | On Chittyville Rd. (Rd. 1600N) west of Kirkland St., Herrin |
| 4a | Missing guy marker | | At Sta. 19617 on Chittyville Rd. (Rd. 1600N) east of Kirkland Ln., Herrin |
| 6 | <u>Several</u> lightning damaged crossarms | F11 | Along E-W road not labeled on map, between E. County Rd. 800 & E. County Rd. 900. Photo F11 is at 4th pole west of Sta. 20289. |
| 7a | Missing guy marker | | At Sta. 20332 on Orange St. west of 1st Ave., Freeman Spur |
| 7a | Wood brace disconnected from arm | F14 | On Orange St. between 2nd & 3rd Aves., Freeman Spur |
| 7a | Pole burned (about 3" deep) | F15, F16 | At E. Burlington St. & Cherry St., Freeman Spur |

Attachment "F"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|---|-----------------|---|
| 7a | Missing guy marker | | West of Kennedy Ave. in alley north of County Line Ave. (just east of Sta. 20652), Freeman Spur |
| 7a | Split pole top & 2 woodpecker holes in pole | F12, F13 | West of Sta. 20665 on Ezra Rd. (west of Kennedy Ave.), Freeman Spur |
| 7a | Missing guy marker | | On Ivy St. at the tap going north along the railroad, east of Cedar St., Freeman Spur |

Attachment "G"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|---|-------------------------|-------------------|--|
| Utility: | AmerenCIPS | Date: | 4/18/05 |
| Circuit: | S16596 (Carbondale) | Inspector: | J. D. Spencer, w/ Mike Vandas (Ameren), Aaron Hargan (Ameren), & Don Dahlin (AmerenCIPS) |
| Gen. Notes: This was a next-worst performing 12 kV circuit in 2004, serving a small southeastern part of Carbondale. Most of this circuit is in back easements and, therefore, difficult to inspect. Tree trimming looked okay, and no structural problems were noted. | | | |
| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
| | | | |
| | | | |

Attachment "H"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|---|-------------------|--|
| Utility: | AmerenCIPS | Date: | 5/3/05 |
| Circuit: | V23530 (Pittsfield, Milton, Detroit, & rural) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) & Melvin McDonald (AmerenCIPS) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, serving Pittsfield, Milton, Detroit, and rural areas mostly between those communities. There were no tree problems and relatively few structural problems. Some new poles were noted. Very few animal guards were noted. More animal guards and more lightning arresters are needed. | | | |
| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
| 1b of 23 | Shell rotted pole | | On Clarksville Rd. north of Fair St. (& south of Sta. 2592), Pittsfield |
| 1c | Missing guy marker | | On Grant St. at south end of tap going north on Mason St., Pittsfield |
| 1c | Missing guy marker | | On Mason St. at Sta. 2861 (north of Grant St.), Pittsfield |
| 1d | Shell rotted pole | | East end of Morrison St. (east of Madison St.), Pittsfield |
| 1d | Downguy missing at primary deadend | | At Sta. 2567 on Memorial St. (south of Higbee St.), Pittsfield |
| 1d | Blown lightning arrester | | At Sta. 2775 at the corner of Clarksville & Clair Sts., Pittsfield |
| 3 | Lightning damaged pole top | | East of Sta. 50175 on N. County Rd. 1350, east of Pittsfield |
| 3c | Blown lightning arrester | | At Sta. 2418 at south end of line in easement west of Illinois St., Pittsfield |
| 8 | Lightning damaged pole top (minor) | | On N. County Rd. 1350 between the tap to Sta. 3217 & the creek to the west |
| 9 | Lightning damaged pole top (minor) | | Just north of N. County Rd. 1350 on E. County Rd. 3550 |
| 9 | Large woodpecker hole in pole top | | On N. County Rd. 3550, 8 spans from north end of circuit |
| 9 | Lightning damaged pole top (minor) | | On N. County Rd. 3550, 5 spans from north end of circuit |
| 11 | Lightning damaged wood brace | | 1 span south of N. County Rd. 1300 on State Hwy. 100 |

Attachment "H"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|---|-----------------|---|
| 11 | Missing guy marker | | On State Hwy. 100 at N. County Rd. 1300 |
| 11 | Woodpecker hole through pole & several other woodpecker holes in pole | I16 | On State Hwy. 100, 2 spans south of tap to Sta. 3250 |
| 12 | Missing guy marker | | On State Hwys. 100 & 106 at tap to Sta. 3586, east of Detroit |
| 12a | Missing guy marker | | NE corner of Ash St. & Main St. (State Hwy. 106), Detroit |
| 13 | Woodpecker hole in pole | | North of Sta. 3531 on E. County Rd. 3725, SW of Milton |
| 13 | Missing guy marker | | East of Sta. 3281 on 465th Ln. (not labeled on map), NW of Milton |
| 13b | Missing guy marker | | At Sta. 3490 on Lester St. (north of Tucker St.), Milton |
| 13b | Downguy missing at primary deadend | | At Sta. 3482 on Davis St. (north of Mill St.), Milton |
| 13b | Missing guy marker | | Corner of Tucker & Plum Sts., Milton |
| 13b | Missing guy marker | | At line corner west of Sta. 3454 at the extension of Plum St., Milton |
| 14 | At least 7 woodpecker holes in pole | I15 | 1 span north of Sta. 3591 on E. County Rd. 3775 |
| 14 | Missing guy marker | | At Sta. 3591 east of south end of E. County Rd. 3775 |
| 15 | Minor lightning damage to crossarm | | West of Sta. 50873 on N. County Rd. 1500 |

Attachment "I"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|--|-------------------|---|
| Utility: | AmerenCIPS | Date: | 5/10/05 |
| Circuit: | Y60593 (Rantoul, Gifford, Penfield, & rural) | Inspector: | J. D. Spencer, w/ Craig Boland (Ameren) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, serving Rantoul, Gifford, Penfield, and rural areas mostly between those communities. There are several inaccessible areas. There were some scattered tree problems. <u>Almost no</u> animal guards were noted (saw only 2 in Gifford & only 1 in Penfield). Several new poles are scattered throughout the circuit. There were relatively few structural problems. More animal guards and more lightning arresters are needed. One NESC violation was noted. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 2 of 22 | Locust tree growing into primary | K5 | On Old North Rd. just west of Warhawk St. (not labeled on map), Rantoul |
| 5 | Minor lightning damage to pole | | South of Sta. 6330 on Rd. 2000E |
| 6 | Minor lightning damage to several crossarms | | Along Rd. 2900N between Rds. 1900E & 2000E |
| 7 | Minor lightning damage to pole | | Just north of Sta. 6335 on Rd. 2000E |
| 7 | Lightning damaged pole | | South of Rd. 2800N on Rd. 2000E |
| 7 | Lightning damaged pole top | K8 | East of Rd. 2000E on Rd. 2800N |
| 7 | Minor lightning damage to several poles | | West of Rd. 2100E on Rd. 2800N |
| 7 | Minor lightning damage to several crossarms | | North of Rd. 2800N on Rd. 2100E |
| 8 | Badly split pole top | K6, K7 | At line corner just north of Sta. 6354 |
| 8 | Blown lightning arrester | | At Sta. 6354 |
| 8 | Minor lightning damage to crossarm | | At Regulator Sta. 100-C on Rd. 2900N (west of Rd. 2100E) |
| 8 | Pine trees very close to primary | | Just east of Rd. 2100E on Rd. 2900N |
| 12a | Lightning damaged pole top (minor) | | Several spans south of South Rd. (2900N) on Main St., Gifford |
| 12b | Ash tree growing into primary | | Corner of Park & Church Sts., Gifford |
| 12b | Ash tree growing into primary | | Willard St. west of S. East Ave., Gifford |
| 12c | Soft maple tree into primary | K9 | Just east of Sta. 4991 on Summit St., Gifford |
| 12c | Ash tree into primary | K10 | Just east of West St. on Summit St., Gifford |
| 12c | Trees into primary | | Just west of West St. in tap to Sta. 5008, Gifford |
| 12c | Trees close to primary | | North of North St. on West St., Gifford |
| 13 | Lightning damaged crossarm | | East of tap to Sta. 6292 on US Hwy. 136 |
| 15 | Overhead guy missing behind primary deadend | | South of Sta. 5049 (south of Elm St.) in the alley west of Franklin St., Penfield |

Attachment "I"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|--|-----------------|---|
| 15, 15d | Badly shell rotted pole & broken downguy | | 1st pole west of riser, NE of east end of Front St., Penfield |
| 16 | Code structural strength violation (NESC 261.D.4.c): Single wood crossarm supporting a 3-phase crossing of a railroad, on one side of the railroad crossing. (Double crossarms required). | K11, K12 | West side of railroad crossing span on Griffith St. west of Main St., Gerald (not labeled on map) |

Attachment "J"

| Summary of Distribution Circuit Field Inspection by ICC Staff | | | |
|--|---|-------------------|---|
| Utility: | AmerenCIPS | Date: | 6/15/05 |
| Circuit: | U04538 (Rural Ashland, Pleasant Plains, & rural) | Inspector: | J. D. Spencer, w/ Bev Hall (Ameren) |
| Gen. Notes: This was a worst performing 12 kV circuit in 2004, serving rural Ashland, Pleasant Plains, and a rural area to the west and south of Pleasant Plains. Many new poles and crossarms were noted. There were very few tree problems. More lightning arresters are needed in some of the rural areas, though some of the other rural areas are well covered. More animal guards are also needed, especially in town. One NESC violation was noted. | | | |
| Map No. | Item Description | Photo(s) | Location |
| 1 of 22 | Broken neutral spool | | 2 spans east of Sta. 12310 on Tom Johnson Rd. (not labeled on map) |
| 4 | Missing guy marker | | At riser pole for tap to Sta. 12312 on Robinson Rd. |
| 4 | Missing guy marker | | On guy stub pole on County Rd. 15 1/2, just south of Watts Rd. |
| 8 | Split pole top | | On Minier Rd. south of County Rd. 1 |
| 10d | Primary burning soft maple tree | P2, P3 | Just east of Lincoln St. on 4th St., Pleasant Plains |
| 10d | Code clearance violation (NESC 235.E.1 & Table 235-6): Overhead guy wire deadended about 6" to 9" below 7.2 kV primary conductor on same supporting pole (12" minimum required). | P4 | Just west of Lincoln St. on 4th St., Pleasant Plains |
| 12 | Wood brace hanging down (or missing) | | 7 spans north of Sta. 12609 on County Hwy. 9C |
| 14 | Broken ground wire & ground rod partially pulled out of ground | P5 | At north end of circuit on County Hwy. 9C, south of Pleasant Plains |
| 14c | Broken ground wire & pole damaged at ground line | P1 | East of Jackson St. on Main St., Pleasant Plains |
| 14c | Missing guy marker | | At Sta. 15276 on Grant St. just south of 3rd St., Pleasant Plains |
| 14c | Missing guy marker | | East of Sta. 14454 on Main St. at the abandoned B&O RR ROW, Pleasant Plains |
| 14d | Missing guy marker | | West of Sta. 14504 on State Hwy. 125, east of Pleasant Plains |
| 15 | Lightning damaged pole top | | On Sangamon County Rd. at the 3rd pole east of the tap to Sta. 1565(?) at the west end of the circuit |
| 15 | Fruit trees very close to primary | | In the tap going north from Sangamon County Rd. to Sta. 15653 |

Attachment "J"

| <i>Map No.</i> | <i>Item Description</i> | <i>Photo(s)</i> | <i>Location</i> |
|----------------|-------------------------|-----------------|---|
| 15 | Broken ground wire | | Several spans west of County Rd. 13W on County Rd. 6A |
| 15a | Missing guy marker | | Just south of County Rd. 6A on County Hwy. 21 |

MEMORANDUM

TO: Roy Buxton, Engineering Department Manager
FROM: Jim Spencer, Senior Electrical Engineer
DATE: August 11, 2005
RE: Tree Conditions in AmerenCIPS' Herrin, Illinois, Service Territory

1. Introduction

On April 18, 2005, I performed random inspections of tree conditions near AmerenCIPS electric lines in Herrin. I was accompanied by Craig Boland, Ameren's Supervising Engineer-Reliability. We performed the inspections by driving around the areas chosen and looking at trees near AmerenCIPS overhead electric lines without regard to circuit identification and without the use of circuit maps. This memorandum documents the results of the field inspections and my assessment of the state of tree trimming on that date in Herrin.

Note: Herrin is the only community served by AmerenCIPS for which Staff has conducted random tree trimming inspections to date in 2005, due to FY05 budget constraints. It was chosen because Staff had not inspected trees in Herrin before, and the inspection could be done in conjunction with an AmerenCIPS worst performing circuit inspection in Herrin & Freeman Spur.

2. Findings

I found no tree conflicts with AmerenCIPS distribution lines in Herrin.

3. Recommendations

- AmerenCIPS should assure that it meets the requirements of NESC Rule 218 throughout its service territory by assuring that all trees near its electric lines are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.
- Staff should perform random tree condition inspections throughout AmerenCIPS' service territory during FY06.