Illinois Commerce Commission

Assessment of

Central Illinois Light Company's

Annual Reliability Report and

Electric Service Reliability

For Calendar Year 2005

Pursuant to 83 Ill. Adm. Code 411.140

December 2006

1. Executive Summary

Pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules as found in 83 Illinois Administrative Code, Part 411 ("Part 411"), Central Illinois Light Company ("AmerenCILCO") filed its annual electric reliability report for the 2005 calendar year. AmerenCILCO's filed report for the 2005 calendar year complies with Part 411 requirements.

During 2005, for the second consecutive calendar year, AmerenCILCO's system average interruption frequency index ("SAIFI"), customer average interruption frequency index ("CAIFI"), and customer average interruption duration index ("CAIDI") all improved when compared to the values reported for the previous calendar year. These improved indices indicate that AmerenCILCO's customers, on average, experienced fewer and shorter interruptions during 2005. Despite the improvements, AmerenCILCO's indices indicated only average or below average performance when compared to the indices of all the reporting utilities. In particular Staff remains concerned that AmerenCILCO's CAIDI was the second highest reported during 2005. AmerenCILCO's CAIDI has been one of the highest reported for several consecutive calendar years. Staff believes AmerenCILCO is taking positive steps to improve service to its customers, but wishes AmerenCILCO would walk a little faster.

During the summer of 2006, Staff inspected AmerenCILCO's facilities on several different distribution circuits. Staff was concerned by the condition of AmerenCILCO's facilities at a number of locations where, in Staff's opinion, maintenance should be performed promptly. In addition, Staff noted several National Electrical Safety Code ("NESC") violations, such as conductor with inadequate ground clearance or inadequate conductor support at rail crossings, all of which AmerenCILCO agreed to promptly correct. Staff believes that the condition of AmerenCILCO's facilities on the various distribution circuits that Staff inspected during the summer of 2006, which were in several different geographic areas, were representative of the general condition of AmerenCILCO's distribution facilities. Staff's summary of specific inspection findings, which was previously provided to AmerenCILCO, is included as Attachment A to this assessment report.

Staff is very pleased by the gains in reliability performance AmerenCILCO exhibited over the last two years, as demonstrated by improving reliability indices. At the same time Staff was disappointed to find during its inspections that AmerenCILCO continues to allow some of its facilities to deteriorate to a great degree prior to performing maintenance, and that AmerenCILCO's remedial efforts directed toward poor performing distribution circuits appear to take a long time. Rather than performing preventative maintenance on its circuits to eliminate interruptions, it appears AmerenCILCO waits for a circuit to perform poorly, and then creates a large project to capture multiple maintenance tasks. This process eventually leads to improved distribution circuit performance, but significant improvement can take years. In the mean time customers continue to experience interruptions that could have been avoided. AmerenCILCO should instead perform maintenance as problem locations are identified so that service to customers can improve more quickly.

Based on AmerenCILCO's reliability report and Staff's inspections of AmerenCILCO's facilities, Staff suggests that AmerenCILCO:

- Be more diligent and responsive in performing maintenance on its deteriorated distribution facilities,
- Strive to reduce CAIDI by examining each service restoration effort to determine steps it can take to shorten the amount of time customers are without service,
- Examine its increasing interruptions due to failed underground equipment to determine steps it can take to reverse this troubling trend,
- Continue its efforts to keep its substations clear of debris,
- Insist that not just most, but all of the trees growing adjacent to its distribution circuits are trimmed adequately.
- Train its personnel to identify locations where distribution facilities do not comply with the National Electrical Safety Code.

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2. Introduction

This document assesses the reliability report that Central Illinois Light Company ("AmerenCILCO") filed with the Commission, and evaluates AmerenCILCO's reliability performance for the 2005 calendar year.

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 the entity's reliability performance. Code Part 411.140 requires the Commission's 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) Identify, assess, and make 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.

3. Customers and Service Territory

AmerenCILCO provided electric service to 209,518 customers in central Illinois during 2005, in a service area that covers about 3,700 square miles. This service area includes 136 communities, with urban areas in and around Peoria, East Peoria, Pekin, Lincoln, and parts of Springfield. AmerenCILCO also supplies customers in rural areas surrounding these communities, and in two smaller rural areas south of the communities of Champaign and Danville.

4. Description of Distribution System

AmerenCILCO stated its distribution facilities consist of 109 substations that supply 307 distribution circuits and about 7,850 miles of line. Approximately 74% of these miles are overhead, and 26% are underground. AmerenCILCO operates and maintains 14 transmission and switching substations, and 34 industrial/wholesale substations.

Subsection 411.120(b)(3)(G) requires AmerenCILCO to report on the age and condition of its distribution and transmission facilities. AmerenCILCO reported it believes its T&D system has been constructed, operated, and maintained in a manner that should ensure safe and reliable operations.

AmerenCILCO provided the information shown in Table 1 regarding the age of its distribution equipment investments:

Table 1: Average Age of Various Types of Distribution Equipment

Type of Distribution Equipment	Depreciable Life (Years)	Average Age (Years)
Substation Equipment	34	19.2
Poles and Fixtures	36	18.8
Dist. Transformers	33	17.2
UG conductor and devices	25	14.0

5. Assessment of Company's Reliability Report

83 Illinois Administrative Code Part 411.120(b) requires each non-exempt jurisdictional entity to file an annual reliability report for the previous calendar year by June 1 of the current year. AmerenCILCO's reliability report was filed on schedule, and contained nearly all the information necessary to comply with Subsection 411.120(b)(3). With its July 21st supplemental filing AmerenCILCO satisfied the reporting requirements by providing information missing from its initial filing concerning two worst performing circuits.

AmerenCILCO's reliability report includes a discussion of the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366 "as a means to more consistently compare reliability performance between utilities and over a period of time." The IEEE 1366 methodology alters reported reliability data by statistically eliminating certain "Major Event Days" (such as days with storms) without regard for the causes of the eliminated service interruptions or the causes of their extended durations. Staff has not accepted this statistical approach allowing utilities to eliminate service interruptions from their reliability statistics. Staff's position on this issue is described in detail in Attachment B to this report.

6. Historical Performance Relative to Established Reliability Targets

Code Part 411.140(b)(4)(A-C) establishes electric service reliability targets that jurisdictional entities (electric utilities) must strive to meet. These targets specify limitations on customer interruptions and hours of interruption time 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 the customer 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, all regulated Illinois electric utilities agreed to report on all interruptions (controllable and uncontrollable) 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 customer reliability concerns. The customer service reliability targets are listed in Table 2:

Table 2: Customer Service Reliability Targets

Immediate primary source of service operation voltage	Maximum number of interruptions in each of the last three 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 a supplemental report that AmerenCILCO filed with its reliability report AmerenCILCO explained that 487 of its 209,518 customers (0.23%) experienced interruptions in excess of reliability target during 2005 (more than six interruptions or a cumulative duration of more than 18 hours for at least 3 consecutive years). All of these customers were supplied at 15kV or below. During 2004, 528 of AmerenCILCO's customers experienced interruptions in excess of reliability targets. The data AmerenCILCO submitted indicates that three of its customers experienced interruptions exceeding Part 411 reliability targets for four consecutive calendar years (2002-2005), and 7 have experienced interruptions exceeding both duration and frequency targets for 3 consecutive calendar years (2003-2005). During 2005, 161 of AmerenCILCO's customers that experienced interruptions in excess of reliability targets, or about one-third, were supplied by the same distribution circuit, while the remaining two-thirds were distributed among ten different distribution circuits.

Subsection 411.140(b)(4)(D) requires the Commission's assessment to determine if AmerenCILCO has a process in place to identify, analyze, and correct service reliability for customers who experience a number or duration of interruptions that exceeds the reliability targets. While it seems that AmerenCILCO can identify and analyze service reliability for customers who experience interruptions that exceed the targets, it is not apparent to Staff that AmerenCILCO's process to correct service reliability issues for those customers is as effective as it could be. In 2005, 161 of AmerenCILCO's customers that experienced interruptions in excess of Part 411 reliability targets were supplied by Circuit A68001. This circuit has had a history of poor performance. It had higher than average SAIFI in 2003, and was listed as a worst performing circuit in 2004. AmerenCILCO indicated that it completed a work request in 2005 to replace numerous poles, equipment, and hardware on Circuit A68001. Staff is pleased that AmerenCILCO took these corrective actions, because clearly some facilities on Circuit A68001 were inadequate. Staff is concerned, however, that so many customers on Circuit A68001 had to endure interruptions in excess of reliability targets prior to AmerenCILCO's completion of corrective measures. Also, for several other circuits where customers experienced interruptions in excess of reliability targets, AmerenCILCO's work that involves pole installation or replacement is scheduled to be completed by the end of 2007: 2-years after the report year of 2005. Staff believes there is room for improvement in AmerenCILCO's process that requires so much time to identify and respond to reliability threats.

AmerenCILCO indicated that the majority of interruptions to customers that exceeded targets were the result of severe weather, which in many cases caused outages on the distribution circuit's subtransmission source. However, severe weather did not cause all

the interruptions, and Staff is convinced that AmerenCILCO could do a much better job eliminating poor-performing circuits by performing maintenance more promptly. AmerenCILCO should monitor interruptions to individual customers on an ongoing basis, and take prompt corrective action throughout the year when the same customer(s) experience multiple or lengthy interruptions. AmerenCILCO indicated that its subtransmission supply to most of its rural substations is radial, meaning no alternate source is available. Since AmerenCILCO has no plans at this time to provide looped or alternative subtransmission sources, it is especially important that AmerenCILCO adequately maintain its subtransmission facilities so that deteriorated facilities do not result in widespread interruptions.

Staff believes that AmerenCILCO has demonstrated it is capable of identifying its own deteriorated facilities that could pose a reliability threat. However, instead of performing maintenance on such facilities on an on-going basis, it appears AmerenCILCO waits until after the circuit has performed poorly, and then responds with a large work request that combines many maintenance tasks and capital improvements. Depending on budget constraints, these all-inclusive work requests might not be approved by management. Staff is concerned that AmerenCILCO's apparent lack of on-going maintenance on some distribution circuits is resulting in unnecessary interruptions to customers. AmerenCILCO could and should minimize interruptions to customers, especially customers who have experienced interruptions in excess of reliability targets, by making itself aware of deteriorated facilities on its distribution system, then promptly completing remedial actions on those facilities.

7. Analysis of Reliability Performance

Reliability indices can be used to compare the reliability performance of several utilities, and provide an indication of whether an individual utility's performance is improving or degrading over time. Since each reporting utility uses its own reporting and recording methods, direct reliability index comparisons between utilities are not exact, but can still be informative. When comparing the indices reported by all the utilities that filed reliability reports for 2005, Staff observed:

- AmerenCILCO's SAIFI of 1.23 was the 4th lowest reported for 2005: 3.4% higher than the average of the values reported by the other seven utilities.
- AmerenCILCO's CAIDI of 165 was the 2nd highest reported for 2005: about 36% higher than the average of the values reported by the other seven utilities.
- AmerenCILCO's CAIFI of 2.02 was the 3rd highest reported for 2005: about 14% higher than the average of the values reported by the other seven utilities.

AmerenCILCO indicated its SAIFI for customers receiving power from an alternative retail electric supplier ("ARES") or other utility was 1.00 during 2005. This SAIFI value indicates that, on average, customers that purchased electricity from a supplier other than AmerenCILCO experienced slightly fewer interruptions during 2005, which suggests no preferential treatment for AmerenCILCO's traditional customers.

Table 3 (a-c) shows the SAIFI, CAIDI, and CAIFI indices for 2005 as submitted by each reporting utility. The order of each index table is from best to worst performance:

Table 3: Year 2005 Reliability Indices for Reporting Utilities

a) SAIFI

UTILITY	SAIFI
IPL	0.54
South Beloit	0.69
ComEd	1.18
AmerenCILCO	**1.23**
AmerenIP	1.38
AmerenCIPS	1.38
Mt. Carmel	1.39
MidAmerican	1.77

b) CAIDI

UTILITY	CAIDI
Mt. Carmel	66
MidAmerican	72
ComEd	104
AmerenCIPS	112
South Beloit	135
IPL	162
AmerenCILCO	**165**
AmerenIP	196

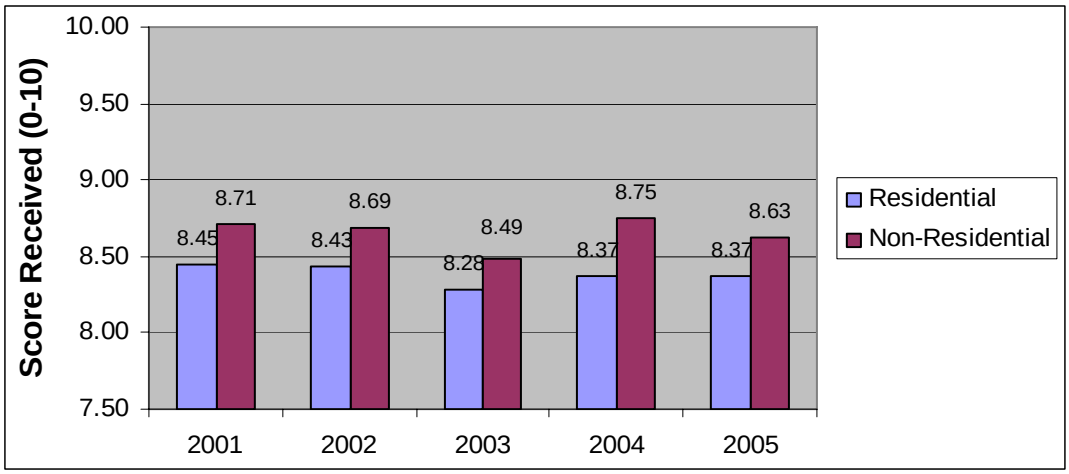
c) CAIFI

UTILITY	CAIFI
IPL	1.30
South Beloit	1.42
Mt. Carmel	1.43
AmerenIP	1.81
ComEd	1.95
AmerenCILCO	**2.02**
AmerenCIPS	2.12
MidAmerican	2.38

SAIFI= $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# of Customers Served}}$ **CAIDI=** $\frac{\text{Sum of all Interruption Durations}}{\text{Total \# of Customer Interruptions}}$ **CAIFI=** $\frac{\text{Total \# Customer Interruptions}}{\text{Total \# of Customers Affected}}$

The results of an annual independent survey indicate that during the 2005 calendar year AmerenCILCO's residential customers gave AmerenCILCO an average reliability score of 8.37 out of 10, and its non-residential customers gave AmerenCILCO an average reliability score of 8.63 out of 10. Figure 1 illustrates that AmerenCILCO's customers have rated its reliability performance fairly consistently over the past several years. AmerenCILCO stated that during 2005 it received 11 complaints relating to reliability or delivery voltage and that all were resolved.

Figure 1: AmerenCILCO's Survey Score for Providing Reliable Electric Service (2001-2005)



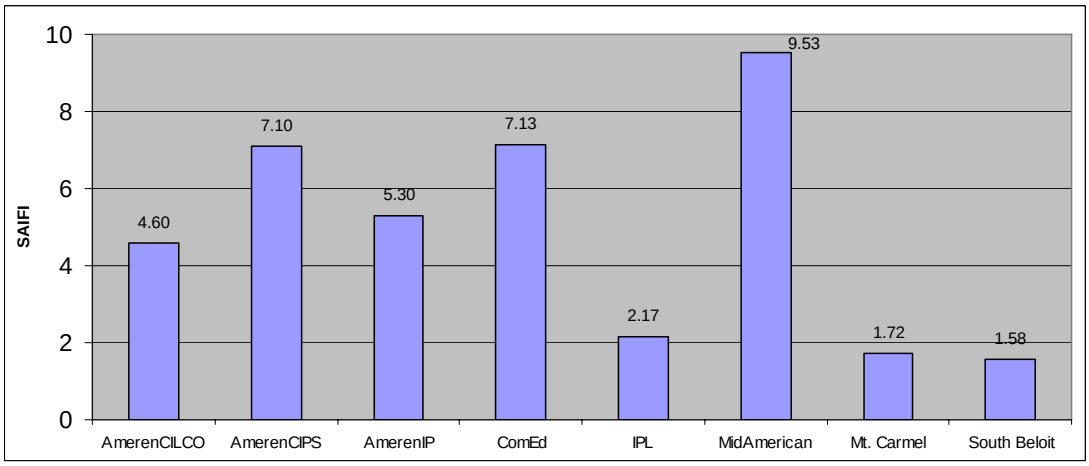
Worst Performing Circuits

Worst performing circuits are the 1% of a utility's distribution circuits that had the highest SAIFI, CAIDI, and CAIFI during the report year. Section 411.120 requires utilities to report worst performing circuits and state corrective actions taken or planned to improve the performance of these circuits. AmerenCILCO reported three worst performing circuits for each reliability index. Since two circuits were worst performing circuits due to both SAIFI and CAIFI, AmerenCILCO identified 7 different circuits as worst performing circuits.

A utility must report worst performing circuits even if all its circuits performed well during the year: the Part 411 requirement is simply that the utility report its circuits that performed the worst based on each index. Since designating a circuit as a worst performing circuit does not necessarily indicate that the circuit performed poorly, comparing the index values for worst-case circuits from utility to utility can be useful when assessing the relative performance of several utilities.

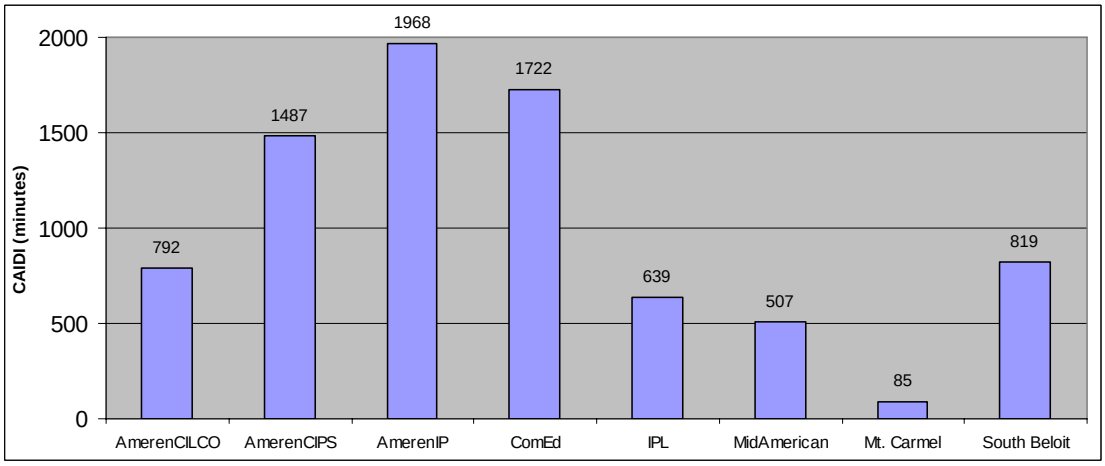
- As illustrated by Figure 2, the highest values of SAIFI for individual distribution circuits (worst performing) reported by each utility during 2005 ranged from 1.58 for South Beloit Water, Gas, and Electric Company to 9.53 for MidAmerican Energy Company. The SAIFI associated with AmerenCILCO's highest SAIFI circuit, Circuit B57002, was 4.60: the fourth lowest.

Figure 2: Highest Reported SAIFI for 2005 Worst Performing Circuits



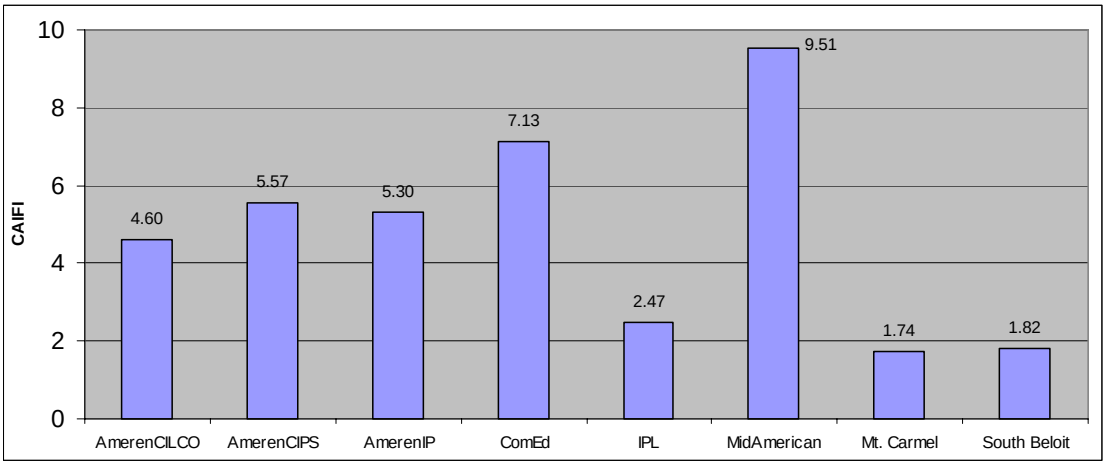
- As illustrated by Figure 3 the highest value of CAIDI reported for an individual distribution circuit during 2005 ranged from 85 (Mt. Carmel Public Utility Company) to 1968 (AmerenIP). The CAIDI associated with AmerenCILCO's highest CAIDI circuit, Circuit C21001, was 792: the fourth lowest.

Figure 3: Highest CAIDI for 2005 Worst Performing Circuits



- As illustrated by Figure 4, the highest value of CAIFI reported for an individual distribution circuit during 2005 ranged from 1.74 (Mt. Carmel Public Utility Company) to 9.51 (MidAmerican Energy Company). The CAIFI associated with AmerenCILCO's highest CAIFI circuit, Circuit B57002, was 4.60: the fourth lowest.

Figure 4: Highest CAIFI for 2005 Worst Performing Circuits



AmerenCILCO included information in its reliability report regarding the performance and operating and maintenance history of its circuits designated as worst performing. AmerenCILCO also listed some of the corrective actions it has taken or plans to take on two of these circuits. However, in its annual reliability report, which was filed in late May 2006, AmerenCILCO indicated that corrective measures had not yet been identified for the rest of its worst performing circuits. AmerenCILCO had not yet inspected several of its 2005 worst performing circuits, but indicated it planned to do so sometime in 2006. With such a long time elapsing between the time poorly performing circuits are identified and AmerenCILCO's corrective actions, Staff believes it likely that some of these circuits will continue to perform poorly during much of 2006.

AmerenCILCO estimated it would require less than 14 man-days to thoroughly inspect all of its 2005 worst-performing circuits, including the time required to prepare maps. Even so, as of May 2006, AmerenCILCO had not yet inspected all of these circuits, and Staff wonders whether AmerenCILCO's failure to perform timely inspections on its worst performing circuits is due to inadequate budget allocations or inadequate staffing levels. Staff continues to strongly recommend that AmerenCILCO modify its practices so that it can more quickly identify reliability threats and implement reliability improvements, especially on its worst performing circuits. Doing so would significantly reduce the number of interruptions to AmerenCILCO's customers, including customers who experience interruptions in excess of reliability targets.

Staff's Circuit Inspections

Staff inspected several of AmerenCILCO's distribution circuits during the spring and summer of 2006 that were either worst performing circuits during 2005, or were circuits that had higher than average SAIFI indices during that year. Representatives from AmerenCILCO accompanied Staff during six of these inspections. In addition, Staff re-inspected several locations on Circuit E10-001, a circuit Staff had previously inspected

during the summer of 2005. Staff also identified several threats to reliable service when inspecting the results of AmerenCILCO's tree trimming efforts in and around various communities throughout its service territory. Items Staff noted when inspecting AmerenCILCO's distribution facilities were conveyed to AmerenCILCO (see Attachment A). Additional information regarding each of the circuits that Staff inspected follows:

- *Circuit C50-001 (12 kV): (SAIFI=2.97; CAIDI=255; CAIFI=2.98)*

  Circuit C50-001, though not a worst performing circuit during 2005, had a SAIFI significantly higher than AmerenCILCO's system SAIFI of 1.23. It supplies 1336 customers in the community of Heyworth and the rural areas to the north and east. Of the 35 interruptions that occurred on this circuit during 2005, AmerenCILCO reported that 14 were related to overhead equipment failure, 8 to trees, 5 to underground equipment failure, and 4 to weather. AmerenCILCO reported that 3 interruptions were due to unknown causes. Tree trimming on Circuit C50-001 was last completed in March 2005. AmerenCILCO stated it had performed its own inspection of Circuit C50-001 in February of 2006, and identified several corrective items, including replacing 25 lightning arresters, 10 cross arms, 8 sets of cross arm braces, 2 down guys, and 4 poles. In addition AmerenCILCO had identified 6 locations where hardware needed to be tightened, and 3 locations where grounding connections required repair. AmerenCILCO did not provide its schedule for completing this work, but Staff would encourage AmerenCILCO to complete it soon.

  Staff observed a number of reliability concerns when inspecting Circuit C50-001, including three locations that did not comply with National Electrical Safety Code ("NESC") requirements. Staff found AmerenCILCO's commitment to resolve two of the NESC clearance violations by October 31, 2006, and the third by December 31 to be reasonable. Additional facility issues that Staff noted included 5 blown lightning arresters, 11 locations with deteriorated cross arms and/or cross arm braces (Photos 1-3), and a split pole that appeared to be previously marked for replacement. Staff noted one location where vines had grown to the primary level, but overall AmerenCILCO's tree trimming on this circuit looked good.

Photo 1: Two Broken braces with arm twisted on pole (C50-001)

Photo 2: Disconnected Brace Allowing Cross Arm to Tilt (C50-001)

Photo 3: Detached Bolt No Longer Holding either Brace to Pole (C50-001)

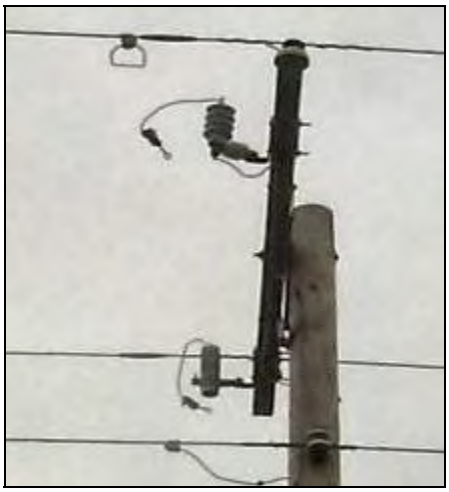
- *Circuit C50-003 (12 kV): (SAIFI=3.16; CAIDI=303; CAIFI=3.81)*

  Circuit C50-003 was a worst performing circuit due to SAIFI during 2005. It supplies 141 customers in the western part of the community of Heyworth, and the rural areas to the south and west of that community. Of the 18 interruptions that occurred on this circuit during 2005, AmerenCILCO reported that 8 were related to overhead equipment failure and 5 were due to unknown causes. Tree trimming on Circuit C50-003 was last completed in March 2005. AmerenCILCO stated it had performed its own inspection of Circuit C50-003 in February of 2006, and identified several corrective items, including replacing 10 lightning arresters, 1 cross arm, 4 insulators, 12 down guys, and 10 poles. In addition AmerenCILCO identified 4 locations where hardware needed to be tightened, 4 locations where grounding connections required repair, 14 locations where conductor needed to be re-sagged, 30 locations where lightning arresters should be added, and one location where a tap fuse should be added. Staff was pleased by AmerenCILCO's planned improvements; however, again noted AmerenCILCO did not include its schedule for completing this work.

  When inspecting Circuit C50-003, Staff observed no vegetation issues. Staff was pleased to note that AmerenCILCO had utilized overhead fault indicators at a few locations, and appeared to have made good use of tap fuses. Potential reliability threats Staff did observe included a deteriorated cross arm, a missing cross arm brace, 3 poles that were leaning severely, and a pole top that had been damaged by lightning (Photo 4). Staff noted 3 locations with blown or detached lightning arresters (Photo 5). Staff was disappointed that many down guys on this circuit were not covered with guy guards. Though Circuit C50-003 was reported as a worst performing circuit during 2005, generally Staff observed fewer and less severe threats to reliable service on Circuit C50-003 than on Circuit C50-001 (discussed previously) which supplies more customers and originates from the same substation.

Photo 4: Lightning Damage (C50003)

Photo 5: Detached Lightning Arresters (C50003)



- *Circuit D31-017 (12 kV): (SAIFI=2.49; CAIDI=231; CAIFI=2.49)*

  Circuit D31-017, supplies electricity to 841 customers on the east edge of the community of Lincoln, and also includes the rural area east of town. Circuit D31-017 was not a worst performing circuit during 2005, but AmerenCILCO reported a SAIFI for this circuit that was higher than its system average value of 1.23. Of the 21 interruptions occurring on this circuit during 2005, 9 were attributed to overhead equipment failure, 5 were recorded as weather related, and 4 were attributed to underground equipment failure. AmerenCILCO stated its records from its own 2005 inspection of Circuit D31-017 are not available, and provided no evidence to demonstrate that an inspection took place in 2005. Tree trimming on Circuit D31-017 was last completed in December of 2003, with a follow-up patrol completed in December of 2005.

  Staff noted no problems with vegetation during its inspection, and noted only a very few threats to reliable service: one severely deteriorated pole top and two leaning poles. One of the leaning poles caused excessive slack in a service drop so that it was sagging low over a front yard. Staff did not inspect several line sections on this circuit that extended along rear property lines and were not visible from the public roadway.

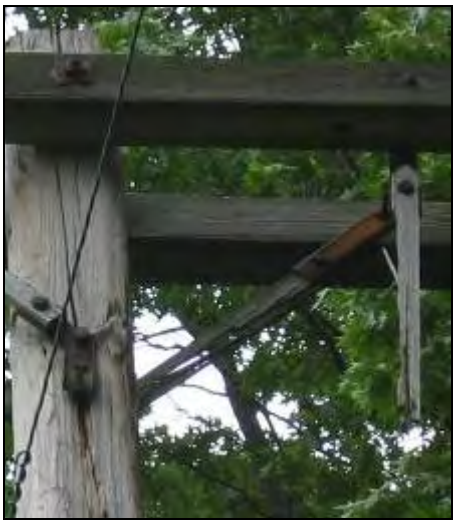
- *Circuit C36-001 (SAIFI=2.95; CAIDI=284; CAIFI=3.06)*

  Circuit C36-001 supplies approximately 630 customers in northeastern Springfield, and extends into nearby rural areas. AmerenCILCO reported Circuit C36-001 had a higher than average SAIFI during 2005. Of the 16 sustained interruptions that occurred on Circuit C36-001, 4 were attributed to underground equipment failure, 3 to animals, 2 to weather, 2 to overhead equipment, 2 to "other" and 2 to unknown causes. AmerenCILCO reported only 1 tree-related interruption during the year on Circuit C36-001. AmerenCILCO last completed tree trimming during January of 2006, which coincides with AmerenCILCO's last circuit inspection. No problems were found during AmerenCILCO's inspection.

Staff observed no vegetation conflicts when inspecting Circuit C36-001. Staff identified two locations where the primary and neutral conductors did not have adequate ground clearance per the NESC. Other facility problems Staff noted included broken insulators, deteriorated cross arm braces, and a splitting cross arm. Staff noted that many down guys on this circuit were missing guy guards. Though there were relatively few locations on this circuit that caused Staff concern, Staff was disappointed to find both NESC violations and reliability threats on a circuit that AmerenCILCO claimed to have recently inspected, in January of 2006, with no problems found. Staff's May 25, 2006, inspection revealed NESC violations and reliability threats that appeared to have existed for some time, and certainly existed at the time of AmerenCILCO's recent inspection.

Photo 6: Broken Insulators (C36001)

Photo 7: Deteriorated Braces (C36001)



- *Circuit A91-001(13.2kV): (SAIFI=3.06; CAIDI=194; CAIFI=3.06)*

  Circuit A91-001 supplies 655 customers in northern Peoria and the community of Mossville, and adjacent rural areas. Though not listed as a worst performing circuit, Circuit A91-001's SAIFI was significantly higher than AmerenCILCO's system average of 1.23. Of the 15 sustained interruptions recorded in 2005, 8 were attributed to overhead equipment failure, 4 to underground equipment failure, and 2 to weather. AmerenCILCO indicated it performed its own circuit inspection in April of 2005, and that a blown arrester had been found during the inspection and had been repaired the following week. Staff encourages AmerenCILCO to apply this practice of prompt repair to all its distribution circuits. AmerenCILCO stated its tree trimming on Circuit A91-001, previously completed in January of 2002, was still in progress in February of 2006.

  Staff noted only one vegetation issue when inspecting Circuit A91-001: a vine grown up a pole to the primary level (Photo 8). Staff identified one location where excessive sag in a neutral conductor caused it to have inadequate ground clearance, per NESC. Staff was disappointed AmerenCILCO had not identified and corrected this clearance violation as part of its own recent inspection. In addition,

Staff noted two broken/disconnected cross arm braces, three deteriorated cross arms (Photo 9), one pole with several woodpecker holes, and one pole leaning severely while supporting a transformer. Staff was very impressed that AmerenCILCO appeared to have installed guy guards on every down guy on the circuit. It appeared to Staff that with some fairly minor maintenance this circuit could perform much more reliably in future years.

Photo 8: Vines Grown to Primary (A91001)

Photo 9: End of Cross Arm Splitting at Insulator Pin (A91001)

- *Circuit B57-002 (13.2kV): (SAIFI=4.60; CAIDI=69; CAIFI=4.60)*

  Circuit B57-002 supplies approximately 1200 customers in the Community of Pekin. AmerenCILCO indicated this was its circuit with the highest SAIFI during 2005. Of the 19 service interruptions that occurred on this circuit during 2005, 7 were animal related, 4 were attributed to underground equipment failure, 3 to trees, and 2 to overhead equipment failure. AmerenCILCO's own inspection on May 31, 2005, revealed no problems. AmerenCILCO last completed trimming trees on the circuit in October of 2002, and completed a mid-cycle patrol in November of 2004.

  During its inspection, the only items of concern that Staff noted were one tree contacting the primary and one split pole top. Tree trimming looked good on the majority of the circuit. Though the majority of interruptions on Circuit B57-002 in 2005 were animal related, Staff noted that it appeared AmerenCILCO had done an excellent job utilizing animal protection. Staff's inspection did not reveal any reason this circuit should perform poorly again in 2006.

- *Circuit C66-002 (12.5kV): (SAIFI=3.56; CAIDI=205; CAIFI=3.56)*

  Circuit C66-002 supplies 378 customers near the north edge of Springfield. AmerenCILCO reported Circuit C66-002 as a worst performing circuit due to SAIFI in 2005, and Circuit C66-002 also had a high SAIFI in 2002 and 2004. Of the 17 service interruptions that occurred on this circuit during 2005, 5 were attributed to trees, 3 to overhead equipment failure, and 3 to weather. The remaining

interruptions were attributed to underground equipment failure, the public, other, and unknown. AmerenCILCO indicated it inspected the circuit on January 23, 2006, but provided no indication of the findings from that inspection. AmerenCILCO reported that tree trimming on the circuit was last completed in June of 2004.

During Staff's inspection, Staff noted 7 locations where vegetation was contacting the primary (Photo 10), plus one location where limbs were growing between the wires, and one location where vines had reached the primary. In addition to these vegetation concerns, Staff noted 2 splitting cross arms (Photo 11), and 2 splitting or deteriorated pole tops. Staff also noted one location where down guys on a pole that is jointly occupied by AmerenCILCO and CWLP had no strain insulators installed beneath the primary level, which is a violation of NESC Rule 297A. AmerenCILCO informed Staff that it reported the infraction to CWLP, and CWLP corrected that infraction in October of 2006. Staff believes AmerenCILCO needs to perform some maintenance at specific locations, and perform a mid-cycle trim on trees throughout this circuit in order to avoid an additional year of poor performance.

Photo 10: Trees Enveloping Transformer Pole (C66002)

Photo 11: Splitting Cross arm (C66002)

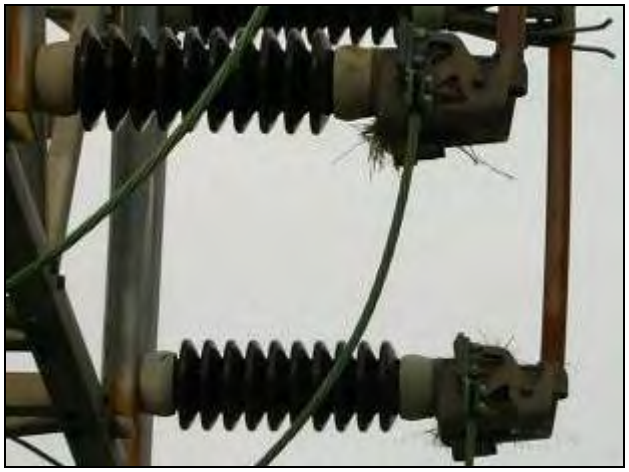
- *Circuit E10-001 (12.5kV): (SAIFI=1.60; CAIDI=418; CAIFI=1.74)*

  In 2004 Circuit E10-001 had a SAIFI significantly higher than AmerenCILCO's system average, prompting Staff to inspect this circuit in 2005. Circuit E10-001 supplies the communities of Waynesville and Hallsville and the rural areas between. During its inspection in 2005, Staff was astonished by the many locations where the poor condition of AmerenCILCO's distribution facilities could negatively impact circuit reliability. AmerenCILCO informed Staff that it would complete a work request in 2005 to address many of the locations on Circuit E10-001 that required maintenance.

  During the summer of 2006, Staff revisited about 20 locations Staff had noted during its 2005 inspection, and found that AmerenCILCO had addressed some of Staff's concerns, and not addressed others. Following its inspection in 2006, Staff asked AmerenCILCO to confirm that it had completed the work request it created for Circuit E10-001, and AmerenCILCO confirmed that it had. Staff understands that when many facilities on a circuit require repair, such as on Circuit E10-001, AmerenCILCO might need to prioritize its work, however, Staff was disturbed by the condition of some of the distribution facilities on Circuit E10-001 that AmerenCILCO failed to address. For example, Staff found bird nests all over the structure and high-voltage disconnects at the substation (Photos 12 & 13). As Staff indicated in its previous assessment, Staff believes these nests are a reliability threat not only because of the birds themselves, but because other animals, for example raccoons or opossums, sometimes go after birds and their eggs, and might be attracted to the nests. These larger animals might cause significant facility damage if they contact the grounded bus structure and the energized components when climbing on the structure to get to the nests.

Photo 12: Bird Nest on Substation Bus behind Disconnect (E10001)

Photo 13: Bird Nests at Hinge Points at High-Side Fuses (E10001)



Staff also found locations where loose and missing hardware had not been secured and/or repaired (Photo 14), locations where deteriorated cross arms and insulator pins had not been replaced (Photo 15 & 16), and locations that still require tree trimming (Photo 16 & 17).

Photo 14: Nuts Missing from Both Bolts (E10001)

Photo 15: Wood Pins Loose in Arm & Insulators Laying Over (E10001)

Photo 16: Wood Pin Broken & Pin Insulator Hanging from Conductor Next to Arm while Tree Envelopes Pole, Screening the Problem (E10001)

Photo 17: Trees Contacting and Growing through Primary (E10001)

Staff also noted a few new locations where reliability issues existed that were not noted during its 2005 inspection. Staff believes AmerenCILCO should address some of these new locations promptly, especially a location where a cross arm had been severely damaged by lightning (Photo 18). Staff's new findings discovered when re-checking just a few of the locations from its 2005 inspection illustrate why frequent facility inspections are a critical part of providing reliable service to customers.

Photo 18: Lightning Damaged Cross arm (E10001)

On a positive note, AmerenCILCO stated it has created an additional work request for additional maintenance-type work on Circuit E10-001 (insulators, crossarms, etc.). This work was expected to be completed by early November 2006, and that hot-spot tree trimming will begin on Circuit E10-001 in mid-November. The reliability indices for Circuit E10-001 improved significantly in 2005 over 2004, when the circuit's SAIFI was 3.47, CAIDI was 927, and CAIFI was 3.60.

While Staff was pleased that AmerenCILCO took some important corrective actions on Circuit 10-001 during 2005 to improve service to customers, Staff was disappointed and puzzled that AmerenCILCO left so much repair work undone, and is taking so long to complete its maintenance/repairs on this circuit. During 2005, Circuit 10-001 supplied 76 customers that experienced interruptions in excess of reliability targets. It does not appear to Staff that AmerenCILCO has allocated adequate resources to complete remedial actions on Circuit 10-001 in a timely manner.

- *Additional Locations where Staff Noted Facility Problems:*

  During the summer of 2006, Staff noted several additional reliability concerns on various AmerenCILCO distribution circuits while inspecting the quality of AmerenCILCO's tree trimming. These reliability threats were generally similar to those identified for the specific circuits listed above. For example, Staff noted a number of deteriorated/splitting poles (Photo 19), failing cross arms, and broken or detached cross arm braces (Photo 20). Staff provided AmerenCILCO with a description and location for each reliability threat noted during these inspections.

Photo 19: Split & Deteriorated Pole Top (In Washington)

Photo 20: Detached Brace with Arm Beginning to Lean (Near Homer)

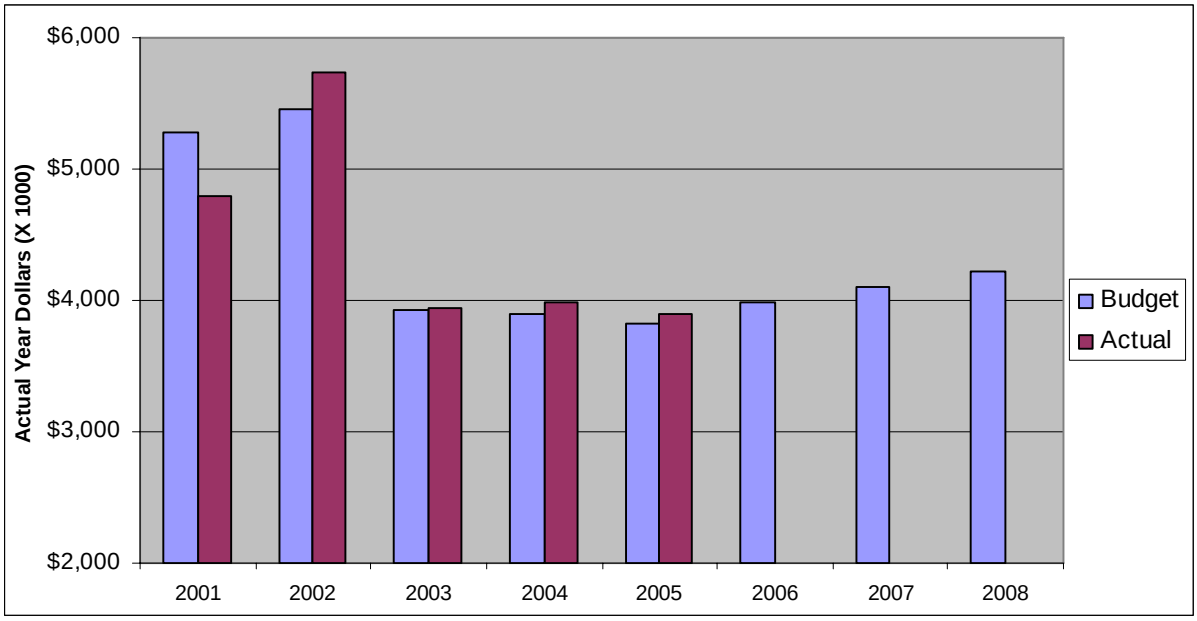
Tree Trimming:

In its reliability report covering the 2005 calendar year AmerenCILCO stated that it is trimming the trees adjacent to its distribution circuits on a four year cycle, and that it intends to maintain that cycle in future years. Trees and vegetation were trimmed clear of most of AmerenCILCO's distribution circuits that Staff inspected during the summer of 2006, but Staff did note several isolated tree contacts, especially on Circuit C66-002. A memorandum describing Staff's findings regarding AmerenCILCO's tree trimming is included as Attachment C.

AmerenCILCO indicated there were 231 tree related interruptions on its distribution system during 2005, compared to 226 in 2004, and 626 in 2003. Staff is encouraged that AmerenCILCO maintained the reduced level of tree-related interruptions that it achieved during 2004. Staff believes interruptions categorized as weather related and unknown also often involve trees. AmerenCILCO's interruptions attributed to the combined categories of trees, weather, and unknown were nearly 28% fewer in 2005 than in 2004.

Figure 5 illustrates AmerenCILCO's budgeted and actual expenditures for tree trimming for the years 2001-2005, and its budgeted tree trimming expenditure for 2006-2008. The information shown indicates that AmerenCILCO intends that its expenditures for tree trimming will remain fairly flat for the next few years. Staff would be more comfortable with AmerenCILCO's planned future expenditures for tree trimming if Staff had found during its inspections that AmerenCILCO's distribution lines were free from tree contacts.

Figure 5: AmerenCILCO's Actual and Budgeted Tree Trimming Expenditures



Staffing Levels:

Ameren has provided conflicting utility staffing level information to Staff, preventing Staff from drawing meaningful conclusions concerning whether or not each Ameren company is maintaining adequate staffing to provide reliable service to its customers. Because of Ameren's indication that staffing information it provided annually prior to 2004 in response to Staff's data requests was not comparable with data for 2004 and 2005, Staff sent a new request to Ameren on November 2, 2006, asking for employee staffing levels information that was comparable year-to-year for each of its Illinois utilities for years 1997-2005. Ameren provided the requested information on November 21, 2006, stating "we believe this is the best apple-to-apple comparison available for this period of time". Ameren met with Staff to further discuss the data on December 18, 2006. This year-to-year staffing levels information and the data provided in earlier annual data request responses are shown for comparison in Attachment D to this report.

The new information Ameren provided indicates that the numbers of electric operating employees have fluctuated year-to-year for each of the Ameren utilities, but the staffing trends based on that information have not given Staff cause for alarm concerning each company's ability to maintain acceptable reliability of its electric system. The staffing level data previously provided by the Ameren companies in response to annual reliability data requests, however, bear little resemblance to Ameren's more recent data

and lead Staff to much more worrisome conclusions. Because of the conflicting data provided by Ameren, Staff is unable to determine whether or not changes in each of the Ameren companies' staffing levels are negatively affecting the reliability of its electric system and service to its customers.

Even more troubling is the extreme inconsistency in the data provided by Ameren. The new data for total number of employees *for each company*, for example, differs by several hundred employees from the employee totals Ameren provided in April 2006, even for the most recent two years reported, 2004 and 2005. Ameren's new data indicates that AmerenUE-Illinois had 185 employees at the end of 2005, when that utility did not even exist at that time. As an example of the inconsistencies in Electric Operating employees data, the new data for AmerenCILCO indicates that its Electric Operating headcount went from 113 in 1997 to 143 in 2003 (an increase of 30 employees) and to 136 in 2005 (an overall increase of 23 employees). Ameren's previous information for AmerenCILCO Electric Operating, however, indicated headcounts of 327 in 1997, 274 in 2003 (a decrease of 53 employees), and 105 in 2005 (an overall decrease of 222 employees). Because of these huge inconsistencies in the Ameren data, it is impossible for Staff to evaluate the effects changes in staffing levels might have had on electric reliability and customer service at any of the Ameren companies.

Perhaps the most troubling aspect of Ameren's staffing data inconsistencies is the implication regarding the possible inaccuracy, unreliability, and uselessness of any data that Staff in both the Energy and Financial Analysis Divisions receives from Ameren in the course of performing its oversight duties for the Commission. It should be a simple matter for Ameren to determine and report consistently how many employees it has in each utility. Since it has not, and perhaps cannot, Staff wonders if any of Ameren's other data is accurate or reliable. It seems obvious to Staff, for example, that rate case information is not nearly as straightforward as employee headcounts. Can any of Ameren's data be relied upon?

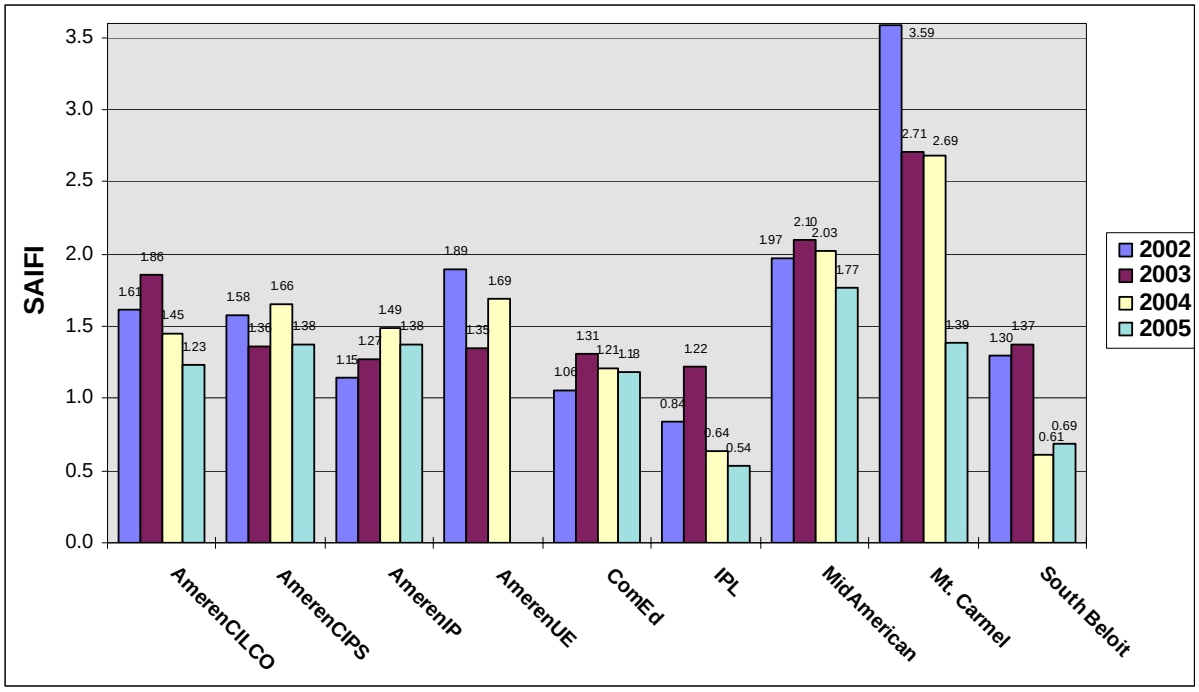
It remains important that each of the Ameren companies maintains adequate staffing levels to provide reliable service to its customers. From the data Ameren has provided, Staff is not able to determine if Ameren is doing so.

8. Trends in Reliability Performance

A summary of trends in AmerenCILCO's reliability performance follows:

- *SAIFI:* Figure 6 shows system SAIFI values for years 2002-2005 for all reporting electric utilities:

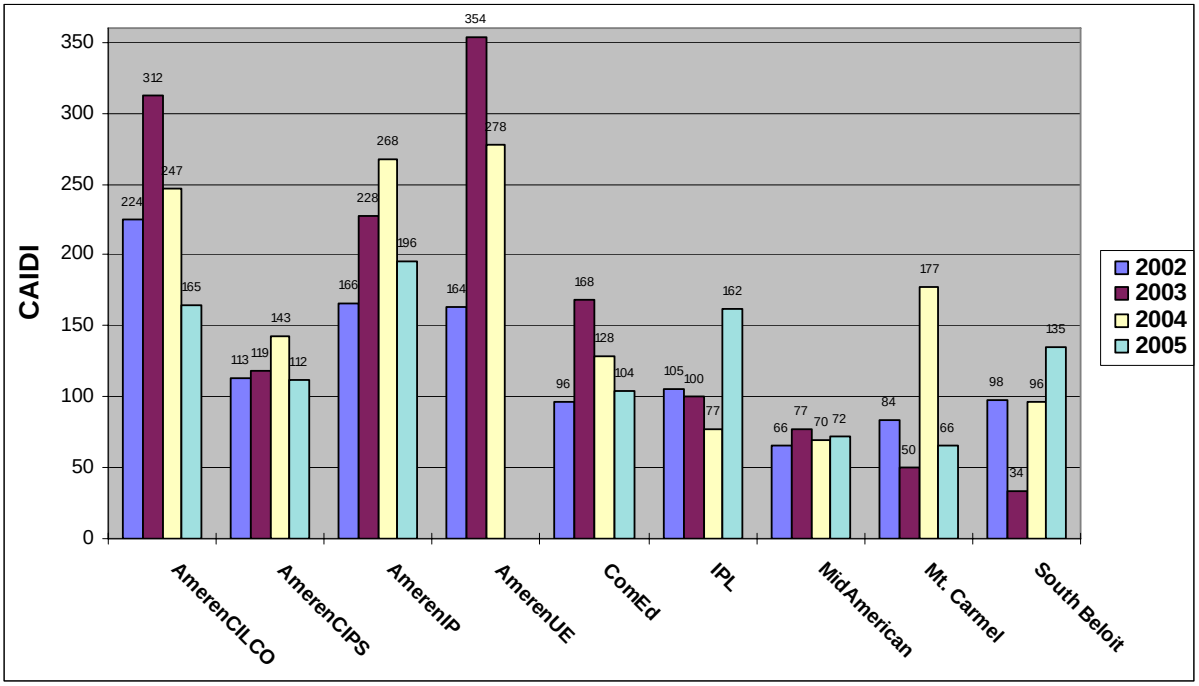
Figure 6: SAIFI by Utility (2002-2005)



- In 2002, AmerenCILCO's reported SAIFI was about 4% lower than the average of the SAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2002 SAIFI=1.61).
- In 2003, AmerenCILCO's reported SAIFI increased (worsened) by approximately 16%, and was about 17% higher than the average of the SAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2003 SAIFI=1.86).
- In 2004, AmerenCILCO's reported SAIFI decreased (improved) by approximately 22%, and was about 3% lower than the average of the SAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2004 SAIFI=1.45).
- In 2005, AmerenCILCO' reported SAIFI decreased by approximately 15%, but was about 3% higher than the average of the SAIFI values reported by the seven other reporting utilities (AmerenCILCO's 2005 SAIFI=1.23).

- *CAIDI:* Figure 7 shows system CAIDI values for years 2002-2005 for reporting electric utilities*:*

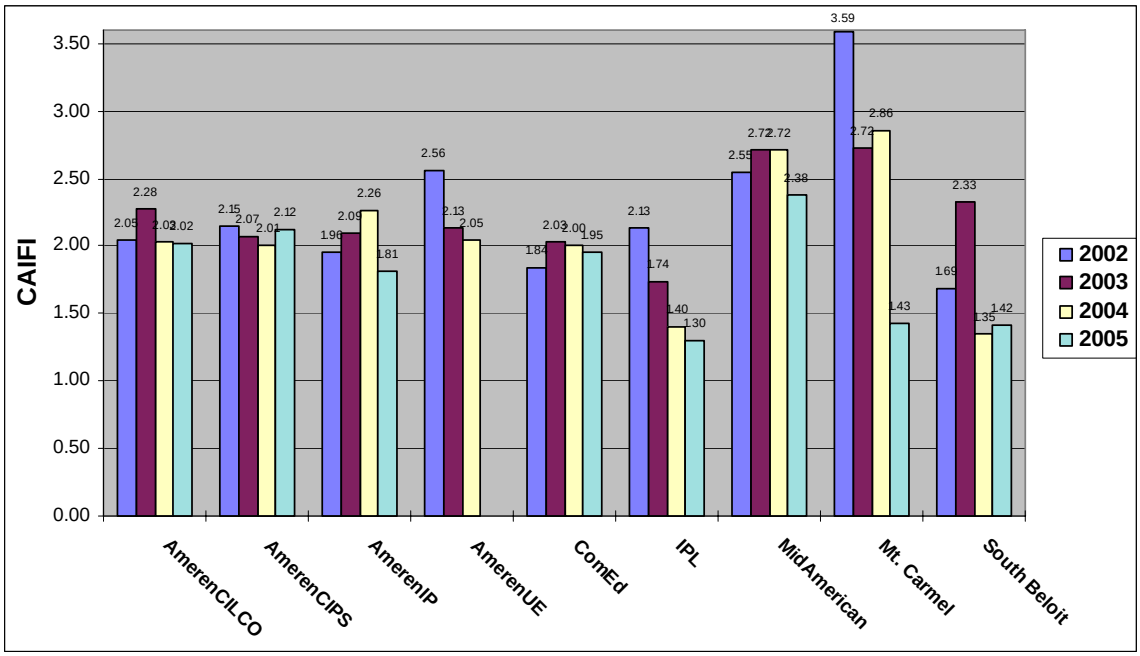
Figure 7: CAIDI by Utility (2002-2005)



- In 2002, AmerenCILCO's had the highest (worst) CAIDI reported: approximately 101% higher than the average of the CAIDI values reported by the eight other reporting utilities (AmerenCILCO's 2002 CAIDI=224).
- In 2003, AmerenCILCO's CAIDI increased (worsened) by approximately 39%, and was about 121% higher than the average of the CAIDI values reported by the eight other reporting utilities (AmerenCILCO's 2003 CAIDI=312).
- In 2004, AmerenCILCO's CAIDI decreased (improved) by approximately 21%, but was still about 60% higher (worse) than the average of the CAIDI values reported by the eight other reporting utilities (AmerenCILCO's 2004 CAIDI=247)
- In 2005, AmerenCILCO's CAIDI decreased (improved) approximately 33%, but many other utilities also reported CAIDI improvements, so that AmerenCILCO's CAIDI was still about 36% higher (worse) than the average of the CAIDI values reported by the seven other reporting utilities (AmerenCILCO's 2005 CAIDI=165).

- *CAIFI:* Figure 8 shows system CAIFI values for years 2002-2005 for reporting electric utilities:

Figure 8: CAIFI by Utility (2002-2005)



- In 2002, AmerenCILCO's CAIFI was about 11% lower than the average of the CAIFI values reported by the other eight utilities (AmerenCILCO's 2002 CAIFI=2.05).
- In 2003, AmerenCILCO's CAIFI increased (worsened) by approximately 11%, and was about 2% higher than the average of the CAIFI values reported by the other eight utilities (AmerenCILCO's 2003 CAIFI=2.28).
- In 2004, AmerenCILCO's CAIFI decreased (improved) by approximately 11% and was about 2% lower than the average of the CAIFI values reported by the eight other reporting utilities (AmerenCILCO's 2004 CAIFI=2.03).
- In 2005, AmerenCILCO's CAIFI changed very little from its 2004 value, while the other utilities reported more significant improvements. As a result, AmerenCILCO's CAIFI was about 14% higher than the average of the CAIFI values reported by the seven other reporting utilities (AmerenCILCO's 2005 CAIFI=2.02).

AmerenCILCO's reliability indices for 2005 compared to 2004 indicate that, on average, AmerenCILCO's customers experienced fewer and significantly shorter interruptions during 2005.

A comparison between the changes in AmerenCILCO's reliability indices from 2004 to 2005 to changes in the average of the indices from all reporting utilities further illustrates AmerenCILCO's relative reliability performance:

- AmerenCILCO's SAIFI decreased 15% from 2004 to 2005; the average of the SAIFI values from all reporting utilities decreased 20%.

- AmerenCILCO's CAIDI decreased 33% from 2004 to 2005; the average of the SAIFI values from all reporting utilities increased 23%.
- AmerenCILCO's CAIFI stayed about the same from 2004 to 2005; the average of the CAIFI values from all reporting utilities decreased 13%.

Interruptions to Individual Customers

AmerenCILCO's reliability report listed the number of customers that experienced various quantities of interruptions during the year. AmerenCILCO reported an increase in the number of customers experiencing zero interruptions, and a general reduction in the number of customers experiencing repeat interruptions, clearly a desirable trend.

- *Zero interruptions*: During 2005, 32% of AmerenCILCO's customers experienced zero interruptions. During 2004, 26% experienced zero interruptions. During 2003 and 2002 this value was 14% and 17%, respectively.
- *3 or Fewer Interruptions*: During 2005, nearly 90% of AmerenCILCO's customers experienced 3 or fewer interruptions. During 2004, 88% experienced 3 or fewer. During 2003 and 2002 this value was 81% and 83%, respectively.
- *More than six Interruptions*: During 2005, 0.4% of AmerenCILCO's customer experienced more than 6 interruptions. During 2004, 0.8% experienced more than 6. During 2003 and 2002 this value was 2.6% and 1.2%, respectively.

Figure 9 illustrates that nearly 90% of AmerenCILCO's customers experienced 3 or fewer interruptions during 2005 and more of AmerenCILCO's customers experienced zero interruptions. This improving statistic could be the combined result of AmerenCILCO's maintenance efforts on poorly performing circuits, AmerenCILCO's installation of additional protective equipment such as tap fuses, and/or significantly fewer weather related customer-interruptions. In any event, AmerenCILCO should continue its efforts to reduce the number of repeat interruptions to its customers.

Figure 9: AmerenCILCO's Customers with 3 or Fewer Interruptions Annually (2000-2005)

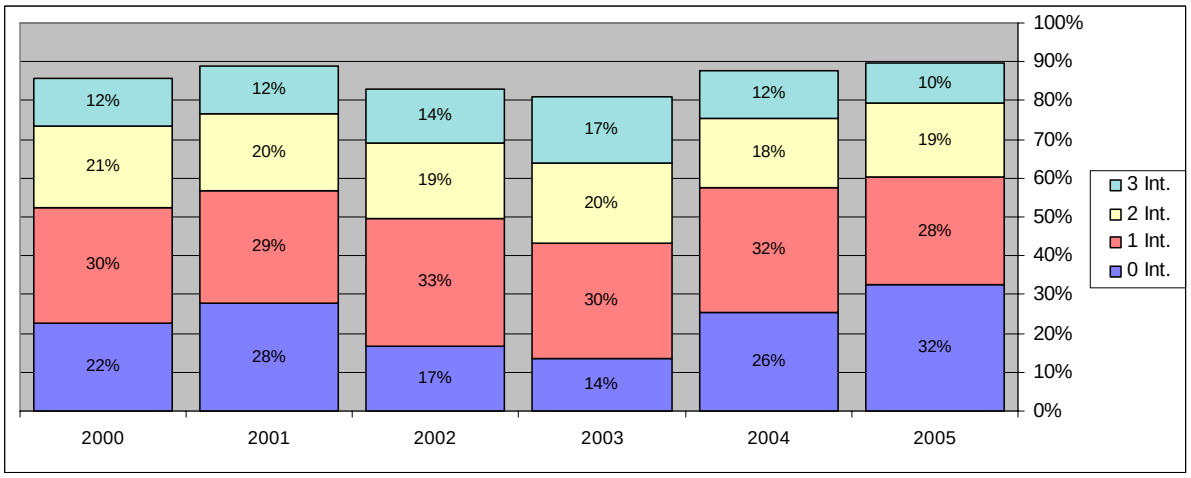
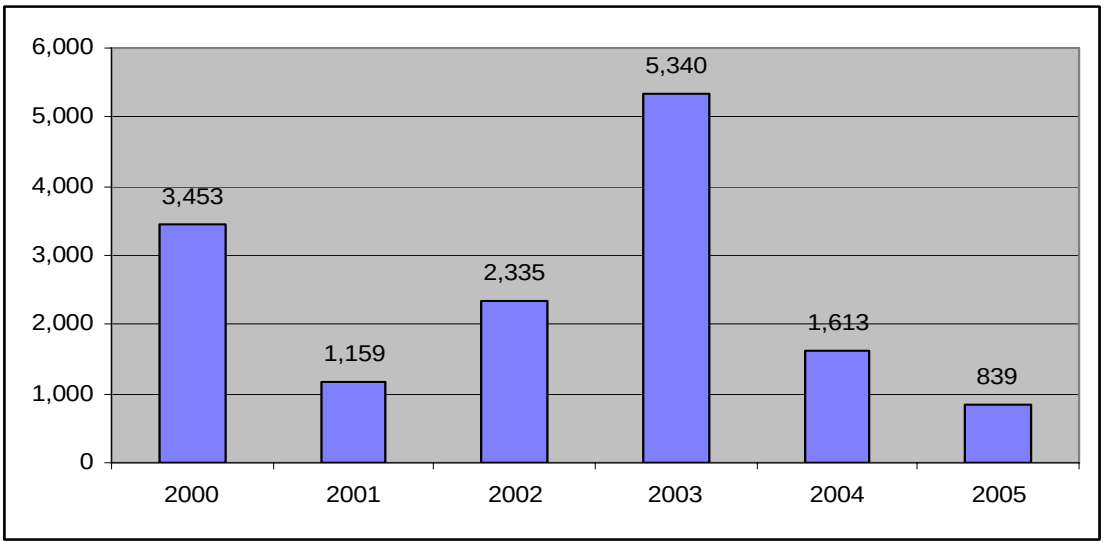


Figure 10 shows the number of AmerenCILCO's customers that experienced more than 6 interruptions annually during the years 2000-2005. As Figure 10 illustrates, significantly fewer AmerenCILCO customers experienced more than 6 interruptions

during 2004 or 2005 than during 2003. AmerenCILCO reported nearly a 70% reduction in the number of customers experiencing more than 6 interruptions from 2003 to 2004, followed by a 48% reduction from 2004 to 2005. Staff is pleased AmerenCILCO reversed the trend that existed from 2001 to 2003, when the number of AmerenCILCO customers experiencing more than 6 interruptions during the calendar year increased by 360%.

Figure 10: Number of AmerenCILCO Customers Experiencing More than 6 Interruptions Annually



Utilities can minimize interruptions and reliability complaints from customers by keeping track of interruptions that occur beyond specific protective devices on their distribution systems, and by taking prompt corrective action throughout the year when customer(s) beyond any protective device experience multiple interruptions. Prompt corrective actions would reduce the number of AmerenCILCO's customers that experience multiple interruptions. AmerenCILCO claims it will implement a new inspection program in January of 2007 that Ameren Services, its unregulated affiliate, has developed. Staff is hopeful that AmerenCILCO will thoroughly inspect its own facilities to improve the reliability of service it provides to its customers.

Customer Interruption Cause Categories

Interruptions that occurred on AmerenCILCO's distribution system for the period 2002-2005 are listed by cause in Table 4. The table shows there were fewer total interruption events affecting AmerenCILCO's distribution system in 2005 than in any of the previous 3 years. Staff is pleased with AmerenCILCO's reduction in total interruption events.

Table 4: AmerenCILCO's 2005 Interruptions by Various Causes

Interruption Cause	Interruption Events				Percentage of Interruption Events			
	2005	2004	2003	2002	2005	2004	2003	2002
Weather Related	1064	1611	1130	1797	20.9%	28.2%	21.2%	28.5%
Overhead Equipment Related	1004	1086	823	811	19.7%	19.0%	15.5%	12.9%
Underground Equipment Related	740	699	676	636	14.6%	12.2%	12.7%	10.1%
Intentional	688	539	717	913	13.5%	9.4%	13.5%	14.5%
Animal Related	478	635	598	519	9.4%	11.1%	11.2%	8.2%
Public	306	288	255	293	6.0%	5.0%	4.8%	4.6%
Unknown	242	286	174	152	4.8%	5.0%	3.3%	2.4%
Tree related	231	226	626	310	4.5%	4.0%	11.8%	4.9%
Other	112	127	26	8	2.2%	2.2%	0.5%	0.1%
Jurisdictional Entity/Contractor Personnel-Errors	102	105	55	86	2.0%	1.8%	1.0%	1.4%
Customer	78	73	25	636	1.5%	1.3%	0.5%	10.1%
Transmission and Substation Equipment	30	31	212	119	0.6%	0.5%	4.0%	1.9%
Other Alternative Supplier/Utility	10	5	4	27	0.2%	0.1%	0.1%	0.4%
TOTAL	5085	5711	5321	6307	100%	100%	100%	100%

Table 4 illustrates that during 2005, as in previous years, AmerenCILCO attributed the most interruption events to weather, and then overhead equipment. AmerenCILCO reported 231 tree related interruptions in 2005, which is close to the quantity it reported for 2004.

Staff is concerned that AmerenCILCO's lack of adequate maintenance on its overhead distribution facilities, as identified by Staff during its circuit inspections, is the cause of the roughly 25% increase in overhead equipment related interruptions when comparing 2004 and 2005 to 2002 and 2003.

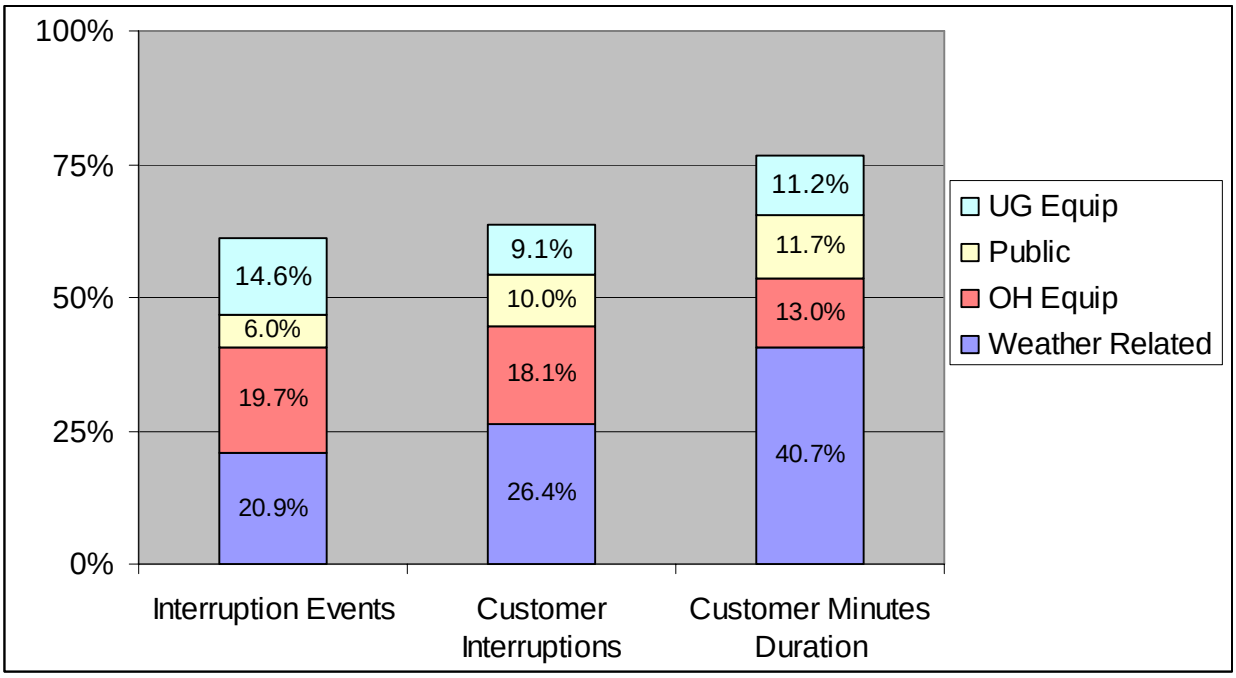
AmerenCILCO's data for 2005 indicates a high number of interruptions were caused by underground equipment problems. Table 4 illustrates that the number of interruptions on AmerenCILCO's system due to problems with underground equipment has been increasing each year. It seems likely AmerenCILCO's underground equipment failures contributed significantly to its relatively high CAIDI for 2005, since underground faults can be difficult to locate and isolate and can take a long time to repair.

While Staff recognizes and is pleased that the number of electric service interruption events on AmerenCILCO's system during 2005 was significantly less than during 2004, Staff also recognizes that fewer interruption events does not necessarily mean fewer or shorter interruptions for customers. The number of customers affected by each

interruption and AmerenCILCO's response to each interruption has a significant impact on reliability indices.

Figure 11 shows that four interruption categories contributed most significantly to the duration of AmerenCILCO's customer interruptions during 2005. Weather, overhead equipment failure, public, and underground equipment failure accounted for more than 76% of interruption durations. Weather related interruptions contributed the most: more than 40% of the total of AmerenCILCO's interruption durations. AmerenCILCO should carefully review its policies and practices for responding to interruptions attributed to these four causes in order to improve its CAIDI, which has been significantly higher than the CAIDI of most other reporting utilities for several years.

Figure 11: Contribution of AmerenCILCO's Top Four Interruptions Causes during 2005

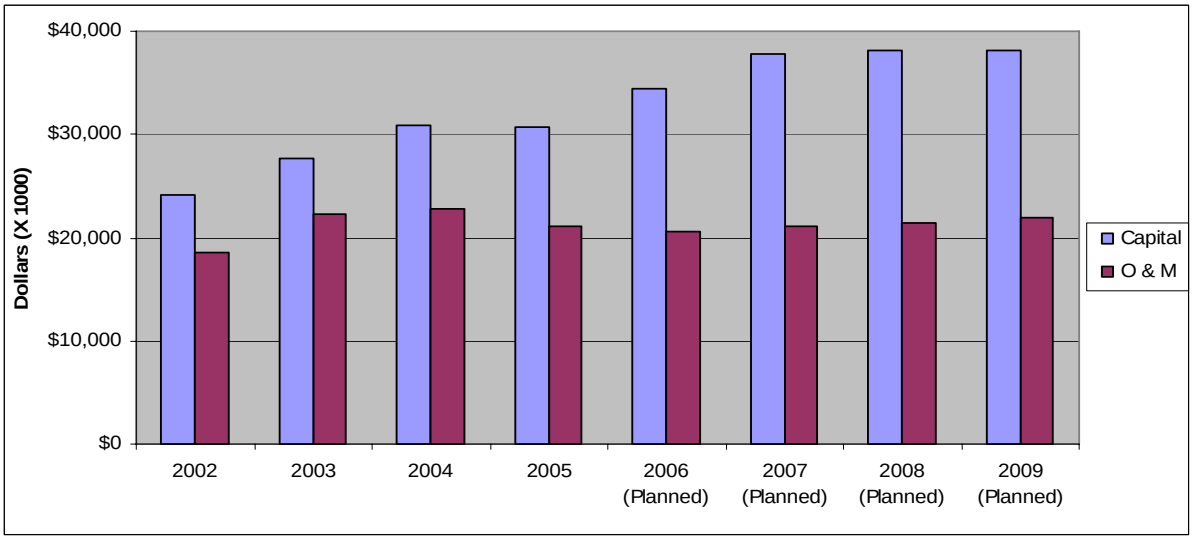


9. Plan to Maintain or Improve Reliability

AmerenCILCO listed several activities in its reliability plan for 2006 that could have a positive impact on the reliability of its system, depending on AmerenCILCO's execution of each activity. These activities include: tap fusing, pole inspection and treatment, vegetation management, and installation of animal protection.

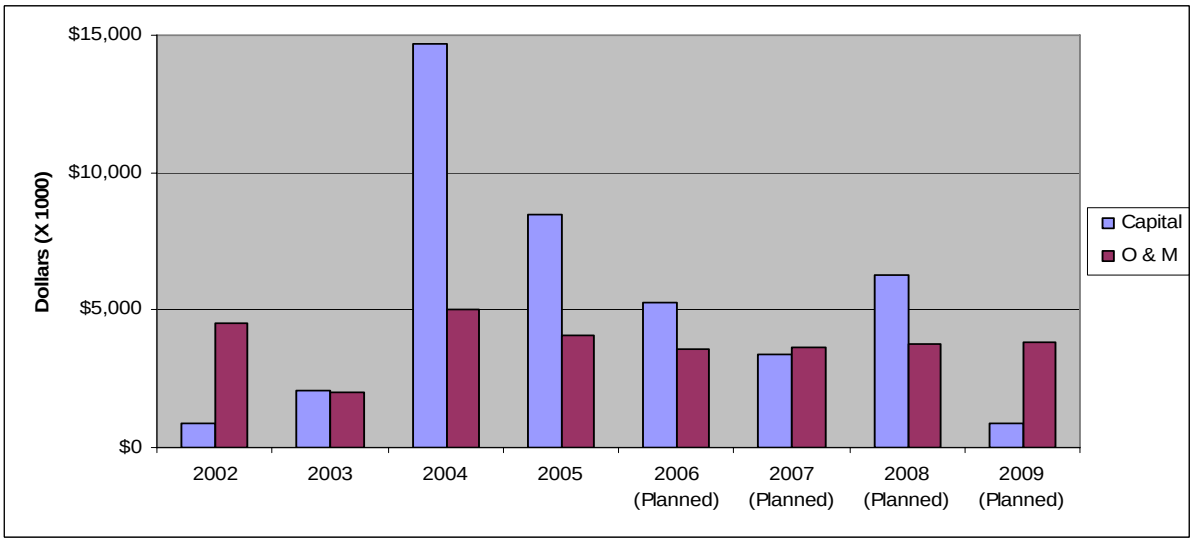
AmerenCILCO decreased its expenditures for distribution O&M during 2005 compared to 2004, and anticipates expenditures in 2006-2008 to be consistent with 2005 amounts, adjusted for inflation. Staff is concerned that AmerenCILCO's planned reduction in O&M expenditures will have a negative effect on its reliability performance in future years. Figure 12 illustrates AmerenCILCO's historical and planned distribution O&M and distribution capital expenditures.

Figure 12: AmerenCILCO Distribution Expenditures (2002-2009)



AmerenCILCO is also planning a reduction in transmission O&M spending in future years when compared to 2005, with fairly flat transmission O&M spending thereafter, as shown by Figure 13. AmerenCILCO's planned capital spending for transmission varies significantly from year to year, depending on the number of transmission construction projects scheduled.

Figure 13: AmerenCILCO's Transmission Expenditures (2002-2009)



In addition to general budget information, AmerenCILCO provided definitive plans for two of its seven worst performing circuits from calendar year 2005. AmerenCILCO stated it would install additional animal guards on Circuit B57002, and would take no additional corrective actions on Circuit B79002. For both of these circuits Staff found AmerenCILCO's action, or decision to take no action, to be appropriate based on the nature of the interruptions that had occurred. Staff was troubled, however, that for the other five worst performing distribution circuits from calendar year 2005, AmerenCILCO still had not determined what actions, if any, it would take in order to improve reliability.

10. Potential Reliability Problems and Risks

As a result of Staff's review of AmerenCILCO's reliability report, AmerenCILCO's responses to Staff's data requests, and Staff's inspection of AmerenCILCO's distribution circuits, Staff identified the following concerns:

- AmerenCILCO still does not appear to consistently and adequately maintain all of its distribution facilities. When inspecting AmerenCILCO's distribution circuits during the summer of 2006, Staff observed locations on some circuits with deteriorated arms, braces, pole tops, and loose hardware that posed a threat to reliable service. It appears to Staff that AmerenCILCO does not dedicate enough resources to perform adequate preventative maintenance work on some of its distribution circuits.

  Service interruptions can happen when deteriorated facilities, such as poles and cross arms, ultimately fail. If the failure and interruption occurs on a calm day, the interruption would likely be categorized as overhead equipment related. If the failure and interruption occurs during a storm with associated high winds, the interruption would likely be categorized as weather related. The number of AmerenCILCO's interruptions attributed to both of these categories, which were the two most frequently occurring on AmerenCILCO's system during each of the last 3 years, could decrease significantly if AmerenCILCO dedicated more resources toward maintaining its distribution facilities on an on-going basis.

- AmerenCILCO's 2005 system CAIDI, though better than during calendar year 2004, continues to be high when compared to other reporting utilities. For 2005, only AmerenIP reported a higher CAIDI than AmerenCILCO's 165 minutes. AmerenCILCO's CAIDI indicates that, on average, customers who experienced interruptions during 2005 had their service interrupted two and three-quarters hours.

- The number of AmerenCILCO's interruptions due to underground equipment failure has been steadily increasing each year. 740 interruptions were attributed to underground equipment failures in 2005, compared to 636 in 2002. Nearly 15% of the interruption events on AmerenCILCO's system were underground equipment related in 2005. Since more than 25% of its circuit miles of distribution are underground, it is likely that underground equipment failures will continue to be an important issue for AmerenCILCO to address.

- When inspecting AmerenCILCO's distribution circuits during the summer of 2005, Staff noted that birds had been nesting at disconnects and on the bus work at AmerenCILCO's Van Cleave Substation. Staff recommended that AmerenCILCO remove the nests and strive to keep nesting material off of its substation equipment. During the summer of 2006, Staff again observed nesting material on the bus work, at disconnects, and even at the high-side fuses at Van Cleave Substation.

- Trees were contacting the primary conductor on circuits that Staff inspected, including Circuit E10-001 and worst performing circuit C66002. While it appears AmerenCILCO trims trees adequately in some areas, it does not consistently do so.

11. Implementation of the Plan Listed in the Previous Reliability Report

AmerenCILCO's expenditures for distribution capital and O&M during 2005 were consistent with the plan it listed in its 2004 reliability report. AmerenCILCO's report provided information about its progress on activities and specific projects that had been part of its 2004 reliability plan. Generally, AmerenCILCO's report indicated that it had completed the majority of its planned work during the year, but that construction projects to add 3 separate distribution feeders originally scheduled to take place during 2005 were deferred to 2006 and 2007.

12. Summary of Recommendations

- AmerenCILCO should monitor the condition of its distribution facilities more closely, and take action to remedy problems more promptly after it identifies threats to reliable service. AmerenCILCO should not wait until its customers are affected by multiple outages, and maintenance tasks become tied to large capital projects that require upper management approval. Instead AmerenCILCO should allocate adequate resources for on-going maintenance of its distribution facilities.
- AmerenCILCO should strive to further reduce its CAIDI. Staff is pleased that AmerenCILCO's 2005 CAIDI is a full 82 minutes less than the value it reported for the 2004 calendar year, but Staff is convinced AmerenCILCO could do better simply by addressing maintenance issues sooner in order to minimize the number of interruptions that occur. In addition, AmerenCILCO should carefully examine its procedures for responding to interruptions and determine if its interruption response time can be improved upon.
- AmerenCILCO should strive to reduce the number of underground equipment related interruptions by examining its existing policies and practices. AmerenCILCO should take immediate steps to curb the trend of increasing underground equipment failures on its system. AmerenCILCO should identify the most common cause(s) of its underground interruptions so it can take preemptive action. For example, AmerenCILCO might identify specific cable types and/or vintages that are prone to failure, and initiate a cable replacement program to eliminate those cable types, rather than replacing the cable only after three interruptions occur.
- AmerenCILCO should increase its efforts to keep its substations clear of debris, including bird nesting materials. Staff recognizes that preventing birds from nesting on the substation structure and equipment might not be a simple matter, but Staff encourages AmerenCILCO to continue trying various methods until it is successful.
- AmerenCILCO should insist its tree trimming personnel clear trees away from its power lines in such a manner that the trees will not contact the power lines prior to getting trimmed again. AmerenCILCO should insist that 100% of the trees growing adjacent to its distribution circuits are trimmed adequately, not just most of them.
- AmerenCILCO should ensure its inspectors are familiar with sections of the NESC that apply to overhead distribution facilities, and provide a mechanism for reporting and correcting NESC infractions. When inspecting AmerenCILCO's facilities during the summer of 2006, Staff identified 9 locations that violated applicable sections of

the NESC. While Staff was satisfied with AmerenCILCO's response to correct each of the infractions Staff identified, AmerenCILCO should identify and correct NESC infractions on its own.

From: Rockrohr, Greg
Sent: Friday, June 30, 2006 2:28 PM
To: @ Voiles, Jackie
Cc: 'Bev Hall (BHall@ameren.com)'; 'CBoland@ameren.com'; Stoller, Harry; Buxton, Roy
Subject: Staff's recent inspections of AmerenCILCO's distribution circuits

The attached worksheets summarize the notes I took during my recent inspections of various AmerenCILCO distribution circuits. These worksheets are not represented as capturing all of the potential reliability problems that may exist on the circuits that I inspected: in many cases there were portions of the circuits that I did not see. My inspections are not intended to take the place of the thorough, detailed inspections that your company should periodically perform. Note that I included on the worksheet the last name of the AmerenCILCO representative that accompanied me during each inspection.

As was also the case last year, I noted several locations with apparent National Electric Safety Code ("NESC") clearance violations, and have shown them in bold font in the attached worksheet summaries. The circuit number and a description of each location are repeated below:

1. Circuit C50-001: Primary appeared to be too close to a roof in violation of Rule 234 –Heyworth on S. Poland south of E. Main.
2. Circuit C50-001: Low sagging neutral and primary -County Rd. 430 North: East of RR tracks (note: large dog in area).
3. Circuit C50-001: Low neutral –County Rd. 1500 East: North of trf (701402), near meter #815040.
4. Circuit C36-001: Primary & neutral appear very low –Camp Butler Rd.: tap to trf (606034).
5. Circuit C36-001: Primary & neutral appear very low –Oak Crest Rd.: 3-4 cross-country spans to trf (602415).
6. Circuit A91-001: Low sagging neutral –E. Boy Scout Rd. west of Old Galena Rd.: tap to cell tower.

For location 1, please provide the actual vertical/horizontal distances measured from the conductor to the building's roof/wall. For locations 2 through 6, please provide the actual measured height of the primary/neutral conductor above the ground (at its closest point). For all locations where the clearance is confirmed to be less than allowed by NESC Rule 232 or Rule 234, please provide AmerenCILCO's plan, including a schedule, for modifying the facilities to comply with NESC requirements. Please provide this information to me no later than July 28, 2006.

If you have any questions about any of the information contained in the attached summaries, or about the information I requested above, please contact me.

Greg Rockrohr
Illinois Commerce Commission
Energy Division: Engineering
217-524-0695

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/10/06**
Circuit:	**C50001**	**Inspector:**	**Rockrohr(ICC)/Petrone(Ameren)**
Gen. Notes:	Heyworth -rural area. Tree trimming last completed March '05. Tree trimming looked good. Noted only one vegetation issue: vines. CILCO recommended several maint. items after inspecting circuit in February 2006. Good coverage of LA's & AG's. 2005 "Next 10" Circuit -Most frequent outage cause: overhead equipment (14 of 35). Some line sections not visible from vehicle.		

Map No.	*Item Description*	*Photo(s)*	*Location*
9	Splitting pole (appeared marked for replacement)		Old Rt. 51 -2nd pole on tap to trf. (702728)
10	Broken braces and cross arm spun to vertical	6-8	Old Rt. 51 -tap N/Circle Dr. to trf (703327)
10	Blown lightning arrester		Old Rt. 51 -N/ trf (706037)
11	Splitting cross arm (lightning)		Old Rt. 51 -just south of tap to trf (703367)
13	**Pos. NESC violation: Primary clearance to roof.**	2-3	S. Poland- S/ E. Main
13	Broken cross arm brace & tilting arm	4-5	Non-passable alley S/Clarks btw N. Willis & N. Poland
13	Blown lightning arrester		E. Pease E/Coomer Ct.
15	**Pos. NESC violation: Low sagging pri. & neutral**		E. 430 N just E/ RR (near trf (703345))
19	Visibly loose hardware - two separate poles		E. 100 North -E/N. 1500 East.
19	Pole with two detached cross arm braces	9-10	Constitution Ave S/Rt. 136
20	Blown lightning arrester		Constitution Ave @ Rt. 136
22	Vines grown to primary	19	E. 425 North W/ trf (703352)
23	**Pos. NESC violation: Low sagging neutral**		N. 1500 East -N/trf(701402) (near meter # 815040)
26	Failing cross arm brace		Rt 136 @ tap to trf (703394)
26	Lightning damaged cross arms X 2		Rt 136 E/ tap to trf (703394)
26	Blown lightning arrester	18	Rt 136 W/ tap to trf (702406)
26	Pin pulled over and laying on top of cross arm	17	Rt 136 W/ tap to trf (702406)
28	Apparent mapping error -existing line not indicated		N. 1625 East -where primary extends N/E. 400 North
28	Cross arm brace broken/ low svc due to pole lean	14-16	E. 400 North E/ N. 1625 East
34	Blown lightning arrester	11	E. 100 North at easternmost end-of-line.
39	Cross arm damaged/loose ins. pin/slack down guy	12	Rt 136 E/N. 1800 East -on tap to trf (703401)
42	Failing cross arm braces	13	Rt 136 -2nd & 4th poles E/N. 2000 East

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/11/06**
Circuit:	**C50003**	**Inspector:**	**Rockrohr(ICC)/Gary(Ameren)**
Gen. Notes:	Heyworth -rural area. Tree trimming last completed March '05. No vegetation issues noted & most facilities in good shape. CILCO recommended several maint. items after inspecting circuit in February 2006. Good tap fusing on this cct. Some OH FI's installed. 2005 Worst performing circuit -Most frequent outage cause: overhead equipment (8 of 18). Lots of missing guy guards.		

Map No.	*Item Description*	*Photo(s)*	*Location*
13	Corner pole leaning severely		E. 1375 North -E/N. 500 East (where line turns north)
13	Secondary duct damaged		E. 1375 North -near trf (701743)
23	Cross arm brace missing on underbuilt distribution	1-2	E. 100 North -1-span S/trf (764228)
30	Trf. pole leaning over		E. 1500 North at trf (703439)
38	2 blown and detached lightning arresters	3	N. 1400 East -3 poles S/ Riser (771007)
40	Apparent mapping error: line shown does not exist		Rt. 136 -Tap to trf(703417)
40	Deteriorated cross arms		N/Rt. 136 -@ trf (703418): (tap opposite N. 1400 East)
42	Trf. pole leaning over	4	N. 800 East -S/Bucks Rd.
42	Blown lightning arrester		N. 850 East -S/Bucks Rd.
42	Severely damaged pole top: apparently lightning	5-6	N. 850 East -S/Bucks Rd.
46	Trf. supplying capacitor is hanging at odd angle		W/Rt. 51- @ Cap Bk (710908)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/24/06**
Circuit:	**D31017**	**Inspector:**	**Rockrohr(ICC)/Petrone(Ameren)**
Gen. Notes:	Lincoln -urban area. Tree trimming last completed December '03. No tree trimming problems noted. CILCO stated it inspected circuit in 2005 but records are not available. Some back-lot areas not visible from vehicle. 2005 "Next 10" Circuit -Most frequent outage: overhead equipment (9 of 21).		

Map No.	*Item Description*	*Photo(s)*	*Location*
2	Leaning trf. pole		NW of Kickapoo St. @ trf (763992 & 763993)
2	Leaning pole causing service to hang very low		Kickapoo 1-span NE of trf (700229)
7	Severely deteriorated pole top & pole top pin at angle		2nd pole W/1400th Ave -N/Airport Rd.

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/25/06**
Circuit:	**C36001**	**Inspector:**	**Rockrohr(ICC)/Hutchinson(Ameren)**
Gen. Notes:	NE Springfield -rural area. Tree trimming scheduled for January '06. No tree trimming problems noted. CILCO patrolled in January '06 & found no problems. Guy guards were missing at many locations on this circuit. 2005 "Next 10" Circuit -Most frequent outage cause: underground (4 of 16).		

Map No.	*Item Description*	*Photo(s)*	*Location*
8	**Pos. NESC violation: Primary & neutral low**	1	Camp Butler Rd. -tap to trf (606034)
8	Cross arm appears to be twisted out of alignment		Camp Butler Rd. -just west of tap to trf (606034)
9	Ground wire loose from ground rod		Golf Cs. entrance (Dave Stockton Rd) -S/Oakcrest Rd.
9	At least two dead-end insulators broken	2	Tap to Golf Cs. -3 spans N/3-ph trf. (662999-663001)
9	Cross arm braces broken and/or failing	3	Tap to Golf Cs. -2spans N/3-ph trf. (662999-663001)
9	Limb caught on neutral wire pulling it very low		Tap to Golf Cs. -near riser at end-of-line
14	Dead-end arm splitting	4	Oak Crest @ tap to 3-phase trf (662830 to 662832)
15 & 16	**Pos. NESC violation: Primary & neutral appear low**		Oak Crest: 3-4 spans crossing field to trf (602415)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/31/06**
Circuit:	**A91001**	**Inspector:**	**Rockrohr(ICC)/Craig Frommelt(Ameren)**
Gen. Notes:	Peoria -rural area. Tree trimming scheduled for '06: Tree trimming looked good. Noted only one vegetation issue: vines. Good use of animal guards & tap fuses. CILCO patrolled in April '05. Not all line sections visible from vehicle. Great coverage of guy guards. 2005 "Next 10" Circuit -OH equip. listed as most frequent outage cause (8 of 15)		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Broken cross arm brace	2	Bristol Hollow Rd.-at 2nd transformer east/IL Rt. 40
4	Pole supporting transformer leaning fairly severely		End of OH, W. Singing Woods Rd. N/W. Cedar Hills Rd.
5	Woodpecker holes in pole		W. Singing Woods -N of W. Cedar Hills: 5th from end/OH
11	Vines covering pole to primary level	3	N. Ivy Lake Rd -1st pole on tap to Recreation Club
14	**Pos. NESC violation: Neutral slack & appears low**		Tap to cell tower: E. Boy Scout Rd. W/Old Galena Rd.
16	Cross arm brace disconnected from cross arm	7	Mossville: E/Galena Rd.& N/Sheffield St.
23	Failing cross arm	4	N. Wayne -N/E Hurricane Ln.
23	Alley arm badly twisted	5	N. Wayne N/E Hidden Valley Rd. (@14808 Wayne Rd.)
24	Splitting cross arm and pole top	6	N. Wayne -1st S/riser that is south of microwave tower.

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**5/31/06**
Circuit:	**B57002**	**Inspector:**	**Rockrohr(ICC)/Craig Frommelt(Ameren)**
Gen. Notes:	Pekin -urban area. Tree trimming scheduled for '06: Tree trimming looked good except one contact. CILCO patrolled in May '05. Some rear lot construction not visible from vehicle 2005 Worst Performing Circuit -Most frequent outage cause was animal (7 of 19). It appeared animal guards were installed at most trfs.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Tree contacting primary and burning		Buena Vista Ave @ Broadway
4	Splitting pole top		7th St btw. Market and Ann Eliza

From: Rockrohr, Greg
Sent: Friday, October 13, 2006 1:06 PM
To: @ Voiles, Jackie
Cc: 'Bev Hall (BHall@ameren.com)'; 'CBoland@ameren.com'; Stoller, Harry; Buxton, Roy
Subject: Staff's inspections of additional AmerenCILCO distribution facilities during August and September of 2006

The attached worksheets summarize notes Staff took during additional inspections of AmerenCILCO's distribution facilities completed during the summer of 2006. These worksheets are not represented as capturing all of the potential reliability problems that may exist on circuits that were inspected: in many cases there were portions of the circuits not seen. The inspections are not intended to take the place of the thorough, detailed inspections that your company should periodically perform.

Staff noted one apparent NESC violation when inspecting circuit C66-002 in the Springfield area. It appears two down guys extend through AmerenCILCO's primary conductor with no strain insulators installed. The poles appear to be occupied by both AmerenCILCO and CWLP facilities. Please inform Staff if AmerenCILCO agrees or disagrees with Staff's assessment that insulators must be installed or in the alternative that the guys must be solidly grounded, per NESC 279A. If AmerenCILCO disagrees with Staff regarding this requirement, explain why Staff is in error. If AmerenCILCO agrees, please provide a date by which the facilities will be modified to meet NESC requirements.

Note that Staff previously inspected Circuit E10001 during the summer of 2005, and during 2006 Staff spot-checked a few locations in the southern part of this circuit. Staff identified three new issues that were not noted during Staff's 2005 inspection. Last year AmerenCILCO informed Staff that Work Request #009022 would be completed to address many of the deteriorated facilities and loose hardware on this circuit. Please provide me with the current status of and AmerenCILCO's future plans for completing Work Request #009022.

Note also that the worksheet entitled "CIL06-Spot Checks" is a summary of locations noted by ICC Staff representative James Spencer during his inspections of tree conditions throughout AmerenCILCO's service territory. Two listings on this worksheet identify apparent National Electric Safety Code ("NESC") violations. It is my understanding that Mr. Spencer has previously notified you of these two locations, and that one has already been addressed, and the other will be addressed by October 20. Please inform me if my understanding is incorrect.

Please provide the information requested regarding the apparent NESC infraction on Circuit C66-002 and about Work Request #009022 no later than October 27. If you have any questions about any of the information contained in the attached summaries, or about the information I requested, please contact me.

Greg Rockrohr
Illinois Commerce Commission
Energy Division: Engineering
217-524-0695

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**9/21/06**
Circuit:	**C66002**	**Inspector:**	**Rockrohr & Spencer (ICC)**
Gen. Notes:	Springfield -semi-rural. Tree trimming last completed June, 2004. Some line sections not visible from vehicle. CILCO recently replaced poles & conductor on Sangamo Rd. Also replaced some crossarms & poles following 2004 inspection. 2005 Worst performing circuit, "Next 10" Circuit in both 2002 & 2004. -Most frequent outage cause: trees (5 of 17).		
Map No.	***Item Description***	***Photo(s)***	***Location***
2	Pole overgrown by vines & tree close to conductor		Camp Lincoln Rd. S/Veterans (at angle pole)
6	Tree growing over transformer	2	Alley E/Kings Hwy. btw. Elliott & Calhoun
6	Split pole top	3	N. MacArthur N/Oak Ridge (at riser at end of line)
6	Trees contacting primary		Yates btw. N. MacArthur & Osburn (2 locations)
6	Tree contacting primary		N. MacArthur S/N. Grand
7	Tree contacting primary		Tap W/ J David Jones Pkwy & S/Veterans-w/(602587)
7	Split cross arm and deteriorated pole top	4	J David Jones Pkwy S/Veterans: near tap to (606642)
9	Splitting cross arm at primary dead-end	9 to 11	Estill W/J David Jones Pkwy - @ (602207)
10	Trees contacting primary		J David Jones Pkwy N/Camp Sangamo Rd. (602182)
10	Trees contacting primary	7 & 8	E/Chinquapin Rd. on tap to (661875)
10	Trees contacting primary		Chinquapin Rd. past (602191)
11	Trees growing between conductors		N. 1st S/Sangamon -N/(602572)
12	**NESC 279A: Ungrounded guys with no insulators**	5 & 6	Browning Rd. W/Veterans (Joint with CWLP?)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenCILCO**	**Date:**	**9/21/06**
Circuit:	**E10001**	**Inspector:**	**Rockrohr & Spencer (ICC)**
Gen. Notes:	Waynesville -rural area. Re-inspection of several locations Staff noted during in the Spring of 2005. CILCO indicated plans to install additional fuses & improve device coord. Fairly good coverage of LA's & AG's observed. 2004 "Next 10" circuit -weather & overhead listed as most frequent outage cause in '04		
Map No.	***Item Description***	***Photo(s)***	***Location***
4	Bird nests at several disconnect devices -still	1 to 3	Van Cleave Subsation
15d	Both nuts off pole top pin bolt -still	5	300 E -S/Hwy 10
5	Loose bolt on pole top pin -still		2400 E -3 poles S/1800 N
10	Failed x-arm brace -OK		200 E N/900 N (at jog in road near top of map)
16	Neutral pin dropped through arm -still		300 E -N/ 900 N (at tap to trf. #(704586))
16	Several poles/arms severely twisted -OK		900 N -W/ 300 E
16	Blown lightning arrester-OK		900 N -W/ 300 E
16	Loose pole top pin -missing nut -OK		300 E -N/ 800 N
16	**NEW**: Severely damaged cross arm	9 & 10	900N -W/300E
33	NESC Violation: Guy +/-8' above edge of drive-OK		600 E at 700 N (at "T") -see NESC Table 232-1
33	**NEW:** Blown lightning arrester		575E -9th pole N/Hwy 10
34	**NEW:** Blown lightning arrester		575E -S//800N
9	NESC Violation: Low neutral conductor (+/-12')-OK		125 E S/Hwy 10
27c	Loose pole top pin-still		550N: 1 span W/450E
28	Failed insulator pins two adjacent poles -still	6 to 8	500 E -S/Hwy 10 at lane to east
28	Trees burning on primary -still		Lane E/500 E and S/ Hwy 10 (E/ trf 704573)
21	Detached gnd/splitting pole top-still		650 N at 400 E (corner)
21	Failing cross arm -still		400 E -2 spans S/650 N
21	Split pole top -still		400 E -N/600N (2 poles S/ riser)
21	Split pole top & loose bolt on pole top pin -still		400 E -1 span N/600N
22	**NEW:** Neutral wire on ground on de-energized tap		425 E -S/ 800N

Summary of Distribution Circuit Spot Checks by ICC Staff			
Utility:	**AmerenCILCO**	**Dates:**	**8/14/06**
Circuits:	**Philo (Random); Homer (Random); D67001 (E. of Homer); D66001 (W. of Catlin); Oakwood (Random); Catlin (Random); Peoria (Random); Bartonville (Random); E. Peoria (Random); Washington (Random); Pekin (Random); Morton (Random); & D31016 (S. of Lincoln)**	**Inspector:**	**J. D. Spencer, w/ Ron Roof (Ameren--8/14) & Mary Bilyeu (ICC--9/20).**
Gen. Notes:	These are 2006 spot-checks of AmerenCILCO circuits, consisting either of follow-ups on prior year circuit problems or of new problems found that are not associated with other circuit inspections performed by ICC Staff. ***Two NESC violations are noted.***		

Circuit--Date	***Item Description***	***Photo(s)***	***Location***
Philo--8/14/06	Leaning steel primary pins on center phase (upper bolt above pole top) & deteriorated pole top.	111-1156, 1157	Jefferson St. west of Adams St., Philo.
Homer--8/14/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the south side of the railroad crossing. (Double crossarms required). *AmerenCILCO installed 2nd crossarm on the south side of the crossing on 9/1/06.*	1181, 1182	Along Ellen St. at the railroad crossing, Homer.
	Hanging wood brace & twisted crossarm	1183, 1184	2 spans west of Rd. 2600E, south of the railroad, at the west edge of Homer.
D67001--8/14/06	2 broken crossarm braces & twisted crossarm	1185	2 spans east of Rd. 300E on Catlin-Homer Rd., east of Homer.
D66001--8/14/06	Very badly lightning damaged pole top (red "X" painted on pole). *AmerenCILCO replaced the pole 8/21/06.*	1186, 1187, 1188	12 spans north of Catlin-Homer Rd. on Rd. 800E (810E), west of Catlin.
Oakwood--8/14/06	Hanging steel brace		Just south of Penz Dr. on Oakwood St., Oakwood.
Catlin--8/14/06	Disconnected wood braces (field side brace missing) & tilted crossarm.	1197, 1198	Sandusky St. north of Harrison St., Catlin.
Peoria--9/20/06	Hanging wood brace	112-1218	1st pole west of Merrimac in the easement north of Cimmaron Dr.
	Broken primary downguy	1219	Northwest corner of Martin St. & Becker Lane.
Bartonville--9/20/06	Split & deteriorated crossarm	1220	1st pole west of McMullen Rd. on South St.
	Hanging wood brace (road side)		North of Treasure St. on Harrison St.
East Peoria--9/20/06	Hanging wood brace (road side)		Spencer St. between Cass & Chicago Sts. (3rd pole north of Cass St.)
	Broken spacer cable spacers		Meadow Ave. (Rt. 150) east of Neuman Rd. on both sides of Little Farm Creek.
Washington 9/20/06	Badly shell rotted pole & fiberglass pole top extension leaning badly	1231	Eldridge St. between Cedar & Spruce Sts.
	Split & deteriorated pole top & pole top pin leaning badly	1232	1 span west of Elm St. on Oakland Ave.
Pekin--9/20/06	Spacer cable phase conductor out of four spacers in a row	1235	2nd span east of Orchard Ave. on Broadway Rd.
	Broken spacer cable spacer		Broadway Rd. east of Sycamore St.
	Broken spacer cable spacer		Derby St. between 12th & 13th Sts.
	Several broken spacer cable spacers		Derby St. between 6th & 11th Sts.
Morton--9/20/06	Broken spacer cable spacer		Jefferson St. between 5th & 6th Aves.
D31016--9/20/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a single-phase crossing of a railroad (with phase conductor & neutral on the crossarm), on the east side of the railroad crossing. (Double crossarms required).	1236, 1237, 1238	At the railroad crossing of Rt. 121 just south of Deer Creek, south of Lincoln.

Discussion of Ameren's Use of Major Event Days and The Institute of Electrical and Electronics Engineers' Standard 1366-2003 In its Annual Reliability Reports

By the Engineering Program Staff,
Energy Division,
Illinois Commerce Commission

December 2006

The Commission's electrical engineering staff ("Staff") worries that engineers working for utilities in this country have created Standard 1366, and that utilities such as Ameren are using Standard 1366 in an attempt to avoid acknowledging utility responsibility for many of the electric service interruptions that consumers experience. Of course, that is not how AmerenCILCO, AmerenCIPS, and AmerenIP are selling Standard 1366. Instead, these Ameren utilities characterize Standard 1366 as a tool for making better comparisons between utilities and identifying reliability trends over time. However, the Ameren sales pitch does not change the fact that Standard 1366 alters reliability statistics by eliminating recognition of electric service interruptions during storms (or "Major Event Days" as Standard 1366 likes to call them) without regard to the cause of the interruptions or the cause of their extended duration. It may be that Standard 1366 could so alter the reliability indices of a poorly maintained utility that it would appear to be a well maintained utility. Staff believes that the Commission should consider any statistical reliability data that Standard 1366 has altered to be suspect and untrustworthy.[1]

Adding to Staff's concerns about IEEE Standard 1366-2003 is a statement in Annex B, Section B.5.1 of the standard explaining that members of IEEE's Distribution Design Working Group chose its 2.5 Beta method after reaching a consensus on the appropriate number of days that Standard 1366 should identify as Major Event Days. It seems that IEEE specifically designed Standard 1366 to identify the number of Major Event Days per year that its members collectively felt was desirable. Put another way, IEEE chose the answer it wanted and then designed a standard to get it. Section B.5.1 then goes on to say that, in practice, IEEE committee members have found that the number of Major Event Days that Standard 1366 identifies is even larger than the number they prescribed. Staff thinks IEEE's process may have resulted in a standard that is a bit more self-serving than the Commission should be willing to tolerate.

[1] "It is important that we view all statistics and sets of data with a critical eye and apply common sense and intuition about the problem to our decision format before arriving at a conclusion." [William Mendenhall & James E. Reinmuth, Statistics for Management and Economics 9 (Carol Beal ed., Duxbury Press, 1978)]
"There are three kinds of lies: lies, damned lies, and statistics." [British Prime Minister, Benjamin Disraeli (1804-1881)]

Below is an excerpt from AmerenIP's 2005 reliability report. The excerpt is Ameren's explanation of Standard 1366. Staff's analysis of Ameren's presentation of Standard 1366 and the problems it might create for consumers follows the excerpt. Staff's analysis contains other references to AmerenIP's 2005 reliability report, but Staff notes that AmerenCILCO and AmerenCIPS have sections of their reliability reports that are similar to the sections referenced below and Staff's comments are applicable to all three reports.

Excerpt from AmerenIP's 2005 Reliability Report, pages 1 and 2

The Institute of Electronic and Electrical Engineers ("IEEE") adopted Standard 1366 as a means to more consistently compare reliability performance between utilities and to better identify trends over a period of time. The System Average Interruption Duration Index ("SAIDI") is used in this calculation. The IEEE methodology calls for segregating Major Event Days (MED), i.e. days where SAIDI is more than two-and-a-half standard deviations greater than the five-year average daily SAIDI, from other days. Unlike the ICC reliability indices, the IEEE reliability indices include all outage types; therefore, all outages identified in 83 Illinois Administrative Code 411, Section 411.20 Definitions, are included in the calculation. As a result, IEEE indices might be lower or higher than the ICC indices depending on how many MED's are identified. The IEEE normalized data is used to assess overall performance and trends, while MED performance is assessed separately to identify lessons learned and implement work plans, policies and processes to improve performance.

AmerenIP's System Average Interruption Frequency Index ("SAIFI") and Customer Average Interruption Duration Index ("CAIDI") demonstrate the significant impact of outages from the days in 2005 that were MED's, as seen in Figure 1 and Figure 2. The majority of these MED's were due to weather events.

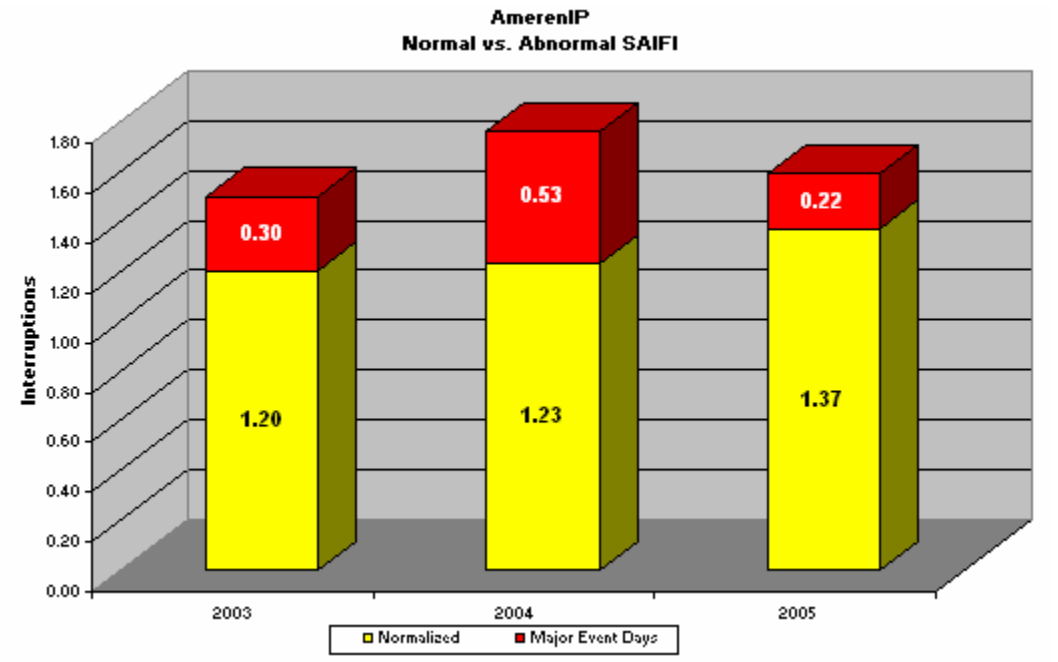


Figure 1 Normalized SAIFI Data

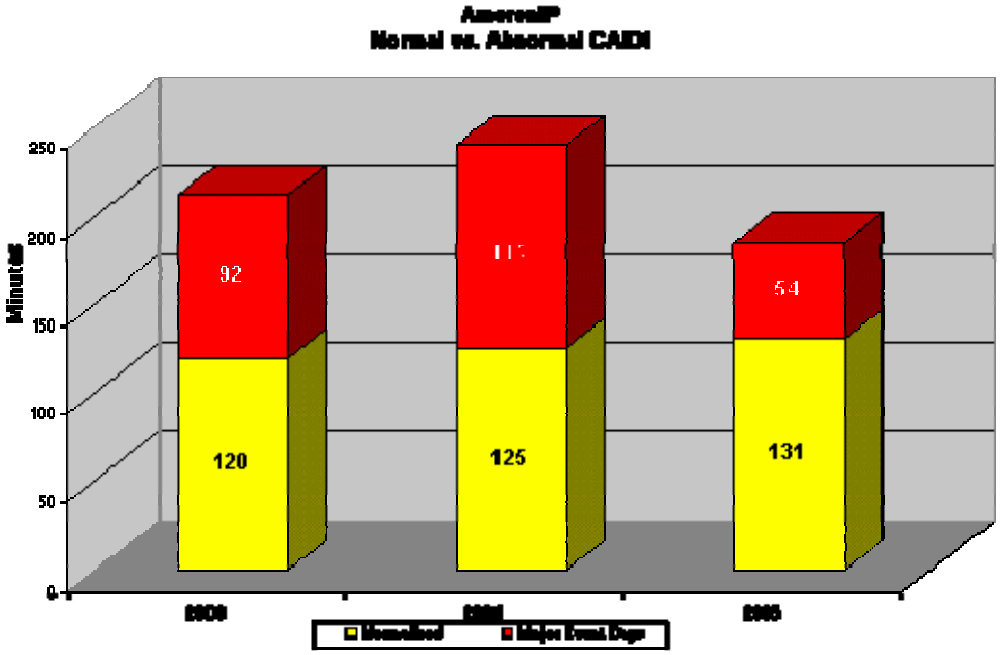


Figure 2 Normalized CAIDI Data

Staff's Analysis

The electric utility industry has long understood that utility regulatory commissions are disadvantaged by their near total reliance on the utilities they regulate for all the data necessary to monitor the operation of those utilities. Regulatory commissions simply do not have the resources to create their own data or verify data supplied by utilities. The Illinois Commerce Commission certainly fits this description.

Now, the Ameren utilities want to begin with electric service reliability data the Commission cannot verify and use statistical methods to manipulate it in ways that may produce deceptive results. The Commission should view this proposal with skepticism. Staff believes it unlikely that Ameren would propose to the Commission a method of viewing electric service reliability data that has any credible potential to reveal flaws in Ameren's operations. A remaining possibility is that Ameren wishes to make its service reliability look better than it is.

Part of the excerpt from AmerenIP's 2005 report in the previous section of this paper states that utilities separately assess Major Event Day performance to identify lessons learned and implement work plans, policies, and processes to improve performance.[2] Staff notes that while Ameren has been quick to use Major Event Days to reduce the

[2] Cheryl Warren, an expert on Standard 1366-2003, agrees that, ". . . the major event days should be reviewed separately to assess performance during that very different operating condition." [Cheryl Warren, *The Impact of Regulatory Policy on Reliability,* December 1, 2003.]

number of electric service interruptions for which it takes responsibility, it has included nothing in its reliability report that addresses lessons learned, work plans, or new policies and processes from Major Event Days. Staff finds this selective treatment illuminating.

The Commission should take note from Figures 1 and 2 in the above excerpt that Ameren's manipulation of the SAIFI and CAIDI indices by using Standard 1366 would seem to eliminate a significant number of electric service interruptions and cause their average duration to drop by nearly half in 2004. The Commission should also note Ameren's first hint in the last paragraph of the excerpt that it intends to place the blame for many electric service interruptions on "weather" and not on itself or its electricity delivery facilities. This theme runs throughout AmerenIP's report. Further, the Commission should note that Ameren has combined many separate causes together into one cause that it has chosen to call weather. Those many separate causes include tornados, floods, winds, excessive heat, excessive cold, and ice storms.

According to Cheryl Warren, an expert on the subject, "Major Event Days" represent days in which the utility's operating capability and system design is exceeded.[3] Staff certainly acknowledges that events occur that are outside utility control and that cause electric service interruptions. However, Staff is concerned that no one has offered any convincing studies demonstrating that the condition of a utility's delivery system and the number of employees a utility has available to perform service restoration work do not affect Standard 1366's identification of Major Event Days. Staff worries that Major Event Days are simply days on which a particular utility's delivery system could not withstand the conditions that existed on that day without regard to how well or poorly a utility has maintained its facilities and without regard to the adequacy of a utility's restoration resources. It is not clear to Staff that the number of Major Event Days identified by Standard 1366 per year will remain unaffected if a utility chooses to ignore necessary maintenance of its facilities and downsizes its workforce to an inadequately small size. It seems to Staff that Standard 1366 may eliminate enough electric service interruptions from the reliability data of a poorly maintained utility to cause the resulting reliability indices to portray the utility's service reliability much better than that experienced by the utility's customers and possibly more comparable to the service reliability of a well maintained utility.

Some examples might help to explain Staff concerns. Consider a utility that has failed to adequately test older delivery system wood poles and replace those poles that have lost too much strength. Staff is concerned that the only time this utility failure will become evident is on days when the wind is blowing extraordinarily strong. Staff is also concerned that Standard 1366 might identify such a day as a Major Event Day and exclude electric service interruptions during that day from the reliability indices, when the real cause of the service interruptions was bad poles. The resulting reliability indices could hide a serious reliability problem.

[3] Cheryl Warren, *The Impact of Regulatory Policy on Reliability,* December 1, 2003.

Staff finds a significant number of weakened, split, and damaged wooden crossarms and loose and broken crossarm braces during its worst performing circuit inspections each year. Crossarms in such condition can fail under loads that they should have been able to support and can allow insulator pins to slip from their mounts and drop wires. These damaged crossarms and broken braces remain in service because the utility has not found them through inspection and replaced them. Bad crossarms combined with bad poles could significantly increase the number of service interruptions during storms and might cause Standard 1366 to identify the day as a Major Event Day, when the real cause of the interruptions was no crossarm inspection and maintenance.

Lightning arrestors are another potential problem that Major Event Days might hide. If a utility failed to install lightning arrestors at close enough intervals on its electric delivery lines and then failed to inspect and replace lightning arrestors that had failed, it is quite probable that the delivery system would experience excessive damage from lightning during storms. When combined with other utility failures like the failure to test and replace old wood poles or to inspect and replace wooden crossarms, a system wide lightning arrestor problem might help cause Standard 1366 to identify an occurrence as a Major Event Day, when the truth was that the utility's delivery system was not able to withstand the occurrence because of inadequate maintenance. Other problems on electric delivery lines such as inadequate tree trimming, broken ground wires, and loose hardware on poles that a utility has allowed to exist might also help trigger the identification of a Major Event Day.

A utility with a good maintenance program could significantly reduce or find and repair all of the potential service interruption causes discussed above: rotten or damaged poles; decayed and damaged crossarms; lightning damage to structures and equipment; trees growing into high voltage wires, poor grounds, and loose hardware. In other words, a good maintenance program could reduce the number of electric service interruptions during storms and might reduce the number of Major Event Days that Standard 1366 identifies.

Standard 1366 identifies Major Event Days using the electric service reliability index called System Average Interruption Duration Index ("SAIDI"). Since a shortage of available workers for service restoration could lengthen the duration of interruptions during storms, it seems entirely likely that decisions by a utility to reduce the number of workers it employs to inadequately low levels might have an important influence on the selection of Major Event Days. It is common knowledge that one of Ameren's efforts after each merger with another utility was employment reduction. It is also true for AmerenCILCO and AmerenIP that the former owners of those utilities engaged in a number of employment reduction efforts such as early retirement. Staff does not know the extent to which employment reduction to unreasonable low levels may be contributing to the lengthening of electric service interruptions in all of Ameren's service territories in Illinois, but Staff is concerned about the possibility.

Ameren could choose not to exclude interruptions from its IEEE reliability calculations that have nothing to do with an event leading to a Major Event Day, but has elected not

to do so. This fact might lead one to conclude that the motivation behind Standard 1366 is simply to reduce the number of interruptions for which Ameren must accept responsibility. Because Standard 1366 is a statistical exercise that, by design, takes no notice of the cause of electric service interruptions, it excludes interruptions from reliability data that the utility knows were not caused by extreme weather or any other factor beyond its control. In response to a Staff data request, Ameren included a table that shows that AmerenCIPS excluded interruptions during two Major Event Days in 2005 from its IEEE reliability calculations and those excluded interruptions included some categorized as "Animal Related", "Other", "Unknown." Preventative equipment exists for animal related interruptions, and AmerenCIPS could have used it. The interruptions categorized as "Other" and "Unknown" preclude Staff comment other than the obvious observation that AmerenCIPS did not place them in a category that would have indicated they were outside its control.

Returning to the AmerenIP reliability report for 2005 and turning to the section covering requirements under Subsection 411.120(j) of Part 411, Staff notes that Ameren has included graphics and text calling attention to the contribution that weather played as the cause of many circuits being worst performers. These graphs, in combination with other information in AmerenIP's report, may be an attempt to lull the Commission into disregarding many electric service interruptions related to the effects of weather on AmerenIP's electric delivery systems and perhaps missing some important indicators of possible utility maintenance shortcomings or excessive personnel reductions.

Staff has taken some information from the graphs and the accompanying text in the AmerenIP report that might help explain why Staff is concerned about attempts to blame electric service interruptions on the weather. The table below contains rows that identify a worst-performing circuit and list the following: the percent of electric service interruptions on the circuit that AmerenIP attributed to weather; the percent of total customer interruption minutes in the circuit that AmerenIP attributed to weather; and an excerpt from the accompanying text in the AmerenIP report that explains what action AmerenIP took to improve reliability. The Commission may find it interesting that while AmerenIP attributes a large percentage of the interruptions to weather, it then goes on to explain in many cases that it found it necessary to perform a significant amount of maintenance to the old or inadequate equipment on the circuit, including poles, crossarms, fuses, and lightning arrestors.

Worst-Performing Circuit
Information Taken From AmerenIP's 2005 Reliability Report

Circuit I.D.	**Interruptions Due To Weather %**	**Customer Interruption Minutes Due To Weather %**	**Excerpts From AmerenIP Description**
H10843	56	59	More than 3,000 poles were tested on this

Circuit I.D.	Interruptions Due To Weather %	Customer Interruption Minutes Due To Weather %	Excerpts From AmerenIP Description
			117-mile circuit. As a result, many poles will be replaced and some will be restored. Several crossarms, braces, and hardware issues will also be addressed.
J71129	87	93	Corrective work plans include removing several coiled stingers, installing animal protection at 131 locations, installing a few additional lightning arresters, replacing missing or loose hardware, replacing 5 old poles and installing 3 additional poles.
J84124	82	91	A priority pole was replaced in June 2005, seventeen poles were reinforced with C-truss in September 2005, and a complete circuit-wide trim was completed in August last year. A patrol was also performed in the late summer of 2005 and several maintenance items, including lightning arrester replacement, were completed in early 2006 at a cost of $7,000. The Company is currently working on replacing a buck pole and addressing an identified tree issue at an approximate cost of $5,000; this work will be completed by July 2006.
K32915	26	38	A total of nineteen poles were replaced between the second half of 2005 and April 2006.
L17101	26	51	Eighteen poles and two crossarms will be replaced and other minor repairs will be implemented. The Company will also upgrade the circuit protective coordination scheme by adding one set of three reclosers and 13 tap fuses.
M81402	38	82	As a result, several poles will be replaced or restored. Corrective maintenance items include replacing defective or missing hardware, installing missing guy guards, and replacing several crossarms.
R20502	93	99	A review of the protective coordination yielded a total of 10 additional fuses and one additional set of reclosers; this work was

Circuit I.D.	Interruptions Due To Weather %	Customer Interruption Minutes Due To Weather %	Excerpts From AmerenIP Description
			completed in May 2006 at an approximate cost of $10,800. A circuit inspection and pole testing showed that several poles needed reinforcement and in excess of 40 other poles should be replaced. In addition, numerous maintenance items were identified.
R58932	51	94	A field check of the circuit in early 2006 showed that in addition to a few minor maintenance items, replacement of two spans of old copper single phase primary, nine poles, and the addition of four fuses would be beneficial.
R78300	20	37	All 487 poles on this ten-mile circuit were inspected. As a result, four poles will be replaced and several maintenance items, including broken, missing, or defective hardware will be replaced.
R94271	87	81	A section of overhead electric line will be removed from a wooded creek area to a location along HH Road to improve access and reliability. This work will be completed by fall 2006 at a cost of approximately $11,000; two structures will be replaced at a cost of $20,000 by fall 2006; various other maintenance projects including lightning arrester replacement, additional tap fuses, etc. will also be completed during the fall at an additional cost of $15,000.
R99180	100	100	Field review of the circuit in early 2006 showed that maintenance work, including replacement of some lightning arrestors and cross arms, was warranted. It also appears that replacement of approximately seventeen poles, and the addition of five sets of lightning arresters and three fuses would be beneficial.

Weather likely was not the cause of many of the interruptions that AmerenIP blamed on it. What is more likely is that AmerenIP had not adequately maintained the circuits and they were just not able, in their deteriorated condition, to withstand the normal forces that nature brought against them. An illustration of similar circumstances related to an

automobile might help with understanding of this idea. Let's suppose that a driver ignores the tires on his car until they lose all their tread and become bald. Then, let's suppose that the driver finds himself spinning out of control and crashing into a deep ditch during a pouring rain storm. Was this accident caused by the rain storm or the driver's poor maintenance of his automobile? Most likely, the tires simply could not maintain contact with the road surface at the speed they were driven and prevent the spin because they were slick and hydroplaned on the wet road. The driver had asked worn out tires to perform a function of which they were no longer capable. Certainly the weather played a role in the accident, but blaming the weather and not the worn out tires would be a dangerous mistake. Staff thinks that AmerenIP is making the same mistake with its electric delivery system.

The table below shows that all three Ameren utilities have reported weather to be the number one cause if interruptions and interruption duration. It is also interesting to note that overhead equipment is shown in every case to be the number two cause. Staff engineers have always known that line repair workers have great discretion in the field when they select the cause of interruptions for reporting purposes. Verification by utility supervisors of each line crew's cause selection shortly after the interruption would be difficult and is not generally practiced. Verification many months later by Staff engineers is practically impossible. For that reason, Staff engineers worry that many of the interruptions a utility reports as caused by weather may actually have been caused by trees or by failed equipment.

Top Four Interruption Causes for Ameren Utilities
As Shown in Figures 5 and 6
In 2005 Ameren Reliability Reports

	#1 Cause	#2 Cause	#3 Cause	#4 Cause
AmerenCILCO Interruption Frequency	Weather 26%	Overhead Equipment 18%	Intentional 12%	Public 10%
AmerenCILCO Interruption Duration	Weather 41%	Overhead Equipment 13%	Public 12%	Underground Equipment 11%
AmerenCIPS Interruption Frequency	Weather 42%	Overhead Equipment 13%	Intentional 9%	Public 9%
AmerenCIPS Interruption Duration	Weather 53%	Overhead Equipment 10%	Public 8%	Intentional 7%
AmerenIP Interruption Frequency	Weather 41%	Overhead Equipment 12%	Intentional 12%	Animal 8%
AmerenIP Interruption	Weather	Overhead Equipment	Intentional	Trees

	#1 Cause	#2 Cause	#3 Cause	#4 Cause
Duration	61%	8%	7%	5%

Conclusion

The Commission should ask itself if Ameren has an ulterior motive for pushing the Institute of Electrical and Electronics Engineers' Standard 1366-2003. Staff's answer is yes, absolutely.

If Ameren utilities could classify a significant number of the electric service interruptions their customers experience as caused by the weather and use a method supported by a long established and internationally recognized engineering organization to make many of those weather interruptions disappear from their statistics, then they could report reliability to the Commission that their customers could only wish for, but had never actually seen. Staff is concerned that Ameren wants to do exactly that and is attempting to use the Institute of Electrical and Electronics Engineers' Standard 1366-2003 for that purpose.

Staff does not have complete knowledge of Ameren's maintenance programs or workforce adequacy. However, Staff does know that not all Ameren utilities have distribution circuit inspection programs or distribution pole inspection and replacement programs.[4] Staff also knows of the equipment and tree trimming problems on Ameren distribution lines that Staff has documented by inspection and has reported to the Commission for several years. These facts cause Staff to remain concerned about the large numbers of interruptions classified as caused by weather on Ameren's electric distribution system.

Utilities that choose to adequately maintain their electric delivery facilities and workforces might significantly reduce the number and duration of electric service interruptions that their customers experience during storms. The reductions could cause Standard 1366 to identify fewer Major Event Days. Conversely, utilities that fail to adequately maintain their electric delivery systems and workforces might increase the number and duration of electric service interruptions that their customers experience during storms and cause Standard 1366 to identify more Major Event Days. With a larger number of Major Event Days, the utility with the inferior maintenance programs or too-small workforce might appear in the resulting reliability statistics to be performing better than the utility with the superior maintenance program and bigger workforce.

The disturbing possibility that Standard 1366 could alter reliability statistics to favor utilities with poor maintenance programs and inadequate workforces seems to Staff to make Standard 1366 unsuitable for Commission use.

[4] Ameren has made a commitment to Staff that it will begin a distribution inspection program by the start of 2007 and has told Staff that this new program will include pole inspections, but only for poles on three-phase main feeders coming out of substations, not for poles on single-phase lines such as would serve residential and many rural areas. Ameren made this commitment only under pressure from Staff.

If, as utilities would have the Commission believe, Standard 1366 is a tool designed to allow utilities to make better comparisons and to identify reliability trends over time, it seems peculiar to Staff that those same utilities would try so hard to push regulatory authorities such as the Commission into adopting its use. Staff certainly has no concerns about utilities using Standard 1366 internally for their own reliability improvement purposes, but Staff is concerned about its use by the Commission.

If utilities developed a method of identifying electric service interruptions that were caused by weather conditions that clearly exceeded the design criteria of their distribution systems and backed up their claims for each occurrence with verifiable weather information, then Staff would be willing to consider reliability indices calculated after those interruptions were removed from the data. Standard 1366 fails this test. Standard 1366 appears to be nothing more than statistical manipulation of data to achieve a predetermined result. One way of explaining how Standard 1366 works is that it examines utility service restoration activities and removes from the data any instances where the utility performs particularly poorly. Standard 1366 does not consider the cause of interruptions, it knows nothing of the cause, and it cares nothing about the cause. In fact, if Ameren decided to open all its switches, shut its utility systems down, and go on holiday for a week, Standard 1366 would blindly label the event as a Major Event Day and eliminate it from the reliability data.

Staff has made its thoughts on Standard 1366 known to Ameren and other utilities in the past. The Director of the Commission's Energy Division has expressed Staff's concerns about Standard 1366 to large groups at national training events and other gatherings. To Staff's knowledge, no utility or the Institute of Electrical and Electronics Engineers has responded to Staff's concerns by performing a comprehensive study to prove that utility decisions on matters such as maintenance adequacy and workforce size do not affect the number of Major Event Days that Standard 1366 identifies each year. No one has ever offered convincing evidence that Standard 1366 will not favor a utility with a poor maintenance program or a workforce that is too small by identifying more Major Event Days than it would for a similar utility with a good maintenance program and an adequate workforce.

Staff urges the Commission to reject Standard 1366.

MEMORANDUM

TO: Roy Buxton, Engineering Department Manager

FROM: Jim Spencer, Senior Electrical Engineer

DATE: October 17, 2006

RE: Tree Conditions in AmerenCILCO's Service Territory

1. Introduction

During July, August, and September 2006, I performed random inspections of tree conditions near AmerenCILCO's overhead electric lines in thirteen cities served by AmerenCILCO. I was accompanied by Ameren's Bev Hall on July 19, by Ameren's Ron Roof on August 14, and by Mary Bilyeu on September 20, 2006. The communities inspected on each date were as listed below:

Date	Location(s)
7/19/06	Mt. Pulaski, Lincoln
8/14/06	Philo, Sidney, Homer, Oakwood, Catlin
9/20/06	Peoria, Bartonville, East Peoria, Washington, Pekin, Morton

The cities chosen for inspection provide a fairly wide geographic diversity within the area of Illinois served by AmerenCILCO. I performed the inspections by driving around each of the areas chosen and looking at trees near AmerenCILCO 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 those dates in the thirteen communities inspected. Example photographs of some of the more severe tree conflicts noted are included in AmerenCILCO 2006 Tree Trimming Exhibit "A" as a part of this memorandum.

2. Findings

The quality of AmerenCILCO's tree trimming varied greatly from town to town, with few problems noted in some and many problems in others. Most of the tree conflicts I noted this year involved fast-growing tree species, with many locations where the trees were burned due to contact with AmerenCILCO's primary. Some conflicts involving oak trees and other hardwoods were also noted, which are harder to understand due to the slow growth of these species. These observances of actual conditions in the field seem to be contradictory to AmerenCILCO's claim to be on a four-year trimming cycle. At the least, AmerenCILCO is not performing a *quality* trim each four years throughout its

service territory, trimming each tree enough to allow for growth without contact before it returns to trim again.

My general and detailed notes for each community inspected are summarized in Tables 1 through 13 at the end of this memorandum. *Note that my overall impression of AmerenCILCO's tree trimming in each community inspected is included near the top of the table (highlighted) for each community.* Example photographs of some of the tree conflicts noted are included in Tree Trimming Exhibit "A".

In summary, my inspections of tree conditions near AmerenCILCO's overhead electric lines in the thirteen communities inspected revealed inconsistency in the quality of AmerenCILCO's tree trimming program. Trimming was very well done in some of the cities, but much worse in some of the others. In some cases, there were very noticeable differences in tree conflicts between different areas of the same town. There was evidence of recent trimming in some locations. Generally, I would categorize trimming in each of the communities inspected as shown below:

Trimming Quality	**Communities Inspected**
Excellent	Peoria, Bartonville, Pekin, Morton
Good	Homer, Oakwood
Fair to Poor (mixed)	Mt. Pulaski, Catlin, East Peoria, Washington
Poor	Lincoln, Philo, Sidney

2002 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 its annual reliability report for 2005, AmerenCILCO stated that it is on a four-year tree trimming cycle and that it intended to remain on that cycle in 2006. The evidence in the field seems to say otherwise. Also, based on my observations of tree trimming in the thirteen AmerenCILCO communities I inspected during 2006, it is clear that AmerenCILCO is not in compliance with the requirements of 2002 NESC Rule 218 throughout its service territory. It is apparent that AmerenCILCO is not making sufficient effort to assure adequate tree trimming is being done and properly maintained to assure that there are no tree contacts with its energized primary conductors before it returns to trim them again in all of the communities in its service territory.

The problem areas discussed in this memo and the photos shown in Tree Trimming Exhibit "A" are meant to demonstrate that AmerenCILCO still has work to do to achieve *and maintain* a four-year (minimum) tree trimming cycle that is in compliance with 2002

NESC Rule 218 throughout its service territory. AmerenCILCO should investigate the problem areas mentioned and determine the cause(s) for the apparent inconsistency of tree trimming in those deficient areas with the good tree trimming noted in some of its communities, such as in Peoria. It should also take steps to correct those problem areas and to prevent recurrence of the problem.

3. Recommendations

- AmerenCILCO should investigate the problem areas discussed in this memorandum to determine why those areas are not in compliance with 2002 NESC Rule 218 and to determine the cause(s) of inconsistency of tree trimming in these areas with the communities found to be well trimmed.

- AmerenCILCO should resolve the tree clearance problems identified in this report as soon as possible.

- AmerenCILCO should assure that it meets and continues to meet the requirements of 2002 NESC Rule 218 throughout its service territory by assuring that all trees near its overhead electric lines are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

4. Summaries of Field Notes for Each Community Inspected

Note that my overall impression of AmerenCILCO's tree trimming in each community inspected is highlighted near the top of the table for each community.

Table 1 (Mt. Pulaski)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Mt. Pulaski (7/19/06) -- *Much of the town looked okay, but there were too many trimming problems for a town this size.*			
	Hard maple tree growing into primary	110-1093	Morgan St. east of Mason St.
	Pin oak tree very close to primary	1094	Morgan St. west of Mason St.
	Sweet gum tree growing into primary, with burning	1095, 1096	Morgan St. west of Mason St.
	2 Bradford pear trees into primary, with burning	1097, 1098	DeKalb St. between Mason & Park Sts. (405 DeKalb St.)
	Soft maple tree into primary, with burning		DeKalb St. between Mason & Spring Sts.
	Tree very close under primary		DeKalb St. just west of Spring St.
	2-phase primary through a soft maple tree, with burning	110-1099, 1100, 111-1101	Jasper St. at Bellmont St.
	Tree into primary		South of Dekalb St. in the alley east of Vine St.
	Sycamore tree into primary, with burning	1102, 1103	Just south of Morgan St. in the alley east of Vine St.
	Soft maple tree into primary		Just west of Garden St. on Jefferson St.
	Tree close to primary		Just north of Wayne St. in the alley west of Vine St.
	Soft maple tree into primary		On Cook St. between Scott & Bellmont Sts.

Figures 1 through 4 in Tree Trimming Exhibit "A" are example photographs of some of the tree conflicts noted in Mt. Pulaski.

Table 2 (Lincoln)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Lincoln (7/19/06) -- *This inspection was more limited in scope than normal due to time constraints. Along the route inspected, there were many close tree clearances, with some severe locations (photos).*			
	Soft maple trees into 12 kV underbuild on 34 kV line	111-1104	Beason St. between Broadway & Pulaski Sts.
	Soft maple trees into primary		Union St. between 11th St. & Park Place.
	Locust tree very close to primary		Just south of Woodlawn St. on College St.
	Trees very close to primary		On Jefferson St. between Woodlawn & 21st Sts.
	Trees close to primary		On 21st St. east of Monroe St.
	Soft maple tree very close to primary		On College St. between 10th & 11th Sts.
	Several soft maple trees into primary, with burning	1109, 1110, 1111, 1112	Along S. State St. between 2nd & 3rd Sts.
	Several trees into primary, with burning (photo 1107 is a sycamore tree)	1105, 1106, 1107, 1108	Along S. State St. between 1st & 2nd Sts.
	Maple tree into primary		On State St. south of 1st St.

Figures 5, 6, and 7 in Tree Trimming Exhibit "A" show examples of some of the tree conflicts noted in Lincoln.

Table 3 (Philo)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Philo (8/14/06) -- *There were many trimming problems, many close clearances, & several trees burned by the primary. Structural problems noted in Philo are summarized separately.*			
	Sugar maple very close to primary		Adams St. south of Van Buren St.
	Primary burning silver maple tree	1153, 1154	Adams St. just north of Van Buren St.
	Primary burning white pine tree	1155	Jefferson St. west of Adams St.
	Single-phase primary burning sycamore tree	1158	Jefferson St. west of Jackson St.
	Tree very close to primary		Just east of Harrison St. in the easement north of Madison St.
	Tree very close to primary		Tyler St. east of Harrison St.
	Hackberry tree close to primary		West of Cleveland St. in the easement north of Washington St.
	Mulberry tree very close to primary		West of Cleveland St. in the easement north of Madison St.
	Primary burning white pine trees	1159, 1160	East of Hayes St. in the easement north of Jefferson St.
	Primary through (& burning) tulip tree	1161, 1162, 1163	Hayes St. south of Van Buren St.
	Primary burning silver maple trees	1164	Van Buren St. west of Garfield St.
	Primary burning Norway maple tree		Van Buren St. west of Garfield St.
	Primary burning silver maple trees	1165	Van Buren St. just west of Garfield St.

See Figures 8 and 9 in Tree Trimming Exhibit "A" for two examples of tree conflicts noted in Philo.

Table 4 (Sidney)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	**Item Description**	**Photo(s)**	**Location**
Sidney (8/14/06) -- *There were many tree clearance problems & many trees burned by the primary.*			
	Trees close to primary		Along Main St. at the west edge of Sidney.
	Primary burning tulip tree	1166, 1167	Main St. west of James St.
	Black locust tree close to primary		South of Main St. in the easement west of David St.
	Walnut tree close to primary		South of Main St. in the easement east of David St.
	Silver maple tree into primary, with burning	1168	Just north of Byron St.in the easement east of David St.
	Soft maple tree close to primary		Just north of Byron St.in the easement east of David St.
	Butternut tree very close to primary		Railroad St. just west of Harrison St.
	Single-phase primary burning hackberry tree	1169, 1170	East of David St. in the alley north of Prairie St.
	Redbud tree into primary	1171, 1172	South of Prairie St. in the easement west of David St.
	Primary through edge of trees		East of Scarborough St. in the easement south of Prairie St.
	Crabapple tree into primary		East of David St. in the easement south of Prairie St.
	Silver maple tree into primary		East of David St. in the easement south of Prairie St.
	Silver maple tree into primary, with burning	1173	South of Victory St. on Harrison St.
	Hackberry & locust trees into primary		On Victory St. between Harrison & Washington Sts.
	Sycamore tree into primary, with burning	1174	Brian St. south of Victory St.
	Maple tree into primary		Brian St. south of Victory St.
	Tulip tree into primary, with burning	1175, 1176	Brian St. south of Victory St.
	Silver maple tree into 3-phase feeder, with burning	1177, 1178	Main St. east of Brian St.

Figures 10 through 12 in Tree Trimming Exhibit "A" show example photographs of tree conflicts in Sidney.

Table 5 (Homer)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	**Item Description**	**Photo(s)**	**Location**
Homer (8/14/06) -- *Trimming was well done, generally, with a few problems noted. Structural problems noted in Homer are summarized separately.*			
	Walnut tree close to primary	1179	South of 4th St. in the alley east of Waverly St.
	Walnut tree close to primary		West of Main St. in the easement north of 4th St.
	Maple tree close to primary		North of 2nd St. in the easement east of Main St.
	Hackberry tree into primary	1180	Just north of the substation, on the south side of 3rd St. at the west end of the street.

One of the tree conflicts in Homer is shown in Figure 13 of Tree Trimming Exhibit "A".

Table 6 (Oakwood)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	**Item Description**	**Photo(s)**	**Location**
Oakwood (8/14/06) -- *Trimming was well done, generally, with a few problems noted. Structural problems noted in Oakwood are summarized separately.*			
	Silver maple tree into primary, with burning	1189, 1190	Green St. just east of Oakwood St.
	Silver maple tree into primary	1191	Just east of Olmstead St. in the easement north of Longstreth St.
	Silver maple tree close to primary	1192	Just south of Longstreth St. in the easement west of Seymour St.

Figure 14 in Tree Trimming Exhibit "A" shows an example tree conflict in Oakwood.

Table 7 (Catlin)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Catlin (8/14/06) -- *Trimming was okay in parts of the town, but there were areas in both the south and north parts of town with many problems. Structural problems noted in Catlin are summarized separately.*			
	Soft maple trees close to primary		Sandusky St. between Jones & Tilton Sts.
	Silver maple tree very close to primary	1193, 1194	Sandusky St. north of Tilton St.
	Silver maple tree into primary, with burning	1195	Harrison St. just west of Sandusky St.
	Silver maple tree very close to primary	1196	Sandusky St. north of Harrison St.
	Walnut tree into primary	1199	East of Sandusky St. in the alley north of Harrison St.
	Silver maple tree into primary, with burning	111-1200, 112-1201, 1202	East of Merrill St. in the alley north of Harrison St.
	Mulberry tree into primary	1203	East of Merrill St. in the alley north of Harrison St.
	Silver maple tree into primary	1204	Orchard St. south of Vermilion St.
	Honey locust tree into single-phase primary, with burning	1205	Orchard St. south of Buckingham St.
	Silver maple tree close to primary		Center & Walnut Sts.
	Silver maple tree close to primary		North of Center St. in the easement west of Webster St.
	Sycamore tree into primary		Center St. west of Walnut St.
	Sycamore tree into primary		North of Center St. in the easement east of Westwood Dr.
	Walnut tree very close to primary		Westwood Dr. north of Kent Dr.

See Figures 15, 16, and 17 in Tree Trimming Exhibit "A" for examples of tree conflicts noted in Catlin.

Table 8 (Peoria)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Peoria (9/20/06) -- *Trimming was very well done, generally, with only a few scattered close locations noted. Structural problems noted in Peoria are summarized separately.*			
	Locust tree close to primary		Livingston St. at the south end of Logan Park.
	Maple tree close to primary		Madison Park Terrace at Starr St.
	Tree close to primary		Webster St. south of Hurlburt St.
	Locust tree close to primary		Saratoga St. just south of Hurlburt St.
	Locust tree close to primary		Sheridan Rd. south of Eleanor Place.
	Soft maple tree close to primary		McClure Ave. west of Wisconsin Ave.
	Ash tree close to primary		Camile St. just west of Ronald Rd.

Table 9 (Bartonville)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Bartonville (9/20/06) -- *Trimming was very well done, with no problems noted. Structural problems noted in Bartonville are summarized separately.*			

Table 10 (East Peoria)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
East Peoria (9/20/06) -- *Trimming was okay along parts of the route inspected, but there were also many locations of tree conflicts. Structural problems noted in East Peoria are summarized separately.*			
	Trees very close to primary		Springfield Rd. south of George Ct.
	Black locust tree into primary	1226, 1227	Springfield Rd. north of Lincoln Parkway.
	White pine trees into primary		Along Springfield Rd. north of Fieldgrove Rd.
	Trees very close to primary		Along Springfield Rd. south of Duever St.
	Trees very close to primary		Along Springfield Rd. south of Season Dr.
	Tree into primary	1224, 1225	Springfield Rd. just north of Season Dr.
	White pine trees into primary, with burning		Springfield Rd. across from Fon Du Lac Park.
	Soft maple trees into primary, with burning	1222, 1223	Cass St. west of Franklin St.
	Elm tree into primary	1221	Cass St. east of Monson St.
	Trees into primary		Bloomington Rd. just east of Crestwood Dr.
	Soft maple tree into 12 kV primary, with burning	1228	Meadow Ave. (Rt. 150) west of Gardener Ave.
	Several trees close to primary		Meadow Ave. (Rt. 150) between Kenwood Ave. & Anderson Ct.
	Trees close to primary		Arnold Rd. south of Bennett Rd.
	Single phase primary through a tulip tree	1229, 1230	Mt. Aire Dr. just south of Highview Rd.
	Trees close to primary		Highview Rd. south of Vonachen Ct.

Figures 18 through 22 in Tree Trimming Exhibit "A" show some of the tree conflicts noted in East Peoria.

Table 11 (Washington)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Washington (9/20/06) -- *Trimming was well done in about 2/3 of the town, but there were several conflicts in the south and southeast parts of town. Structural problems noted in Washington are summarized separately.*			
	Trees close to primary		Hillcrest Dr. just north of Kern Rd.
	Oak tree into 3-phase primary	1233, 1234	Hillcrest Dr. north of Kern Rd.
	Maple trees very close to primary		Hillcrest Dr. south of Washington Rd. (Rt. 24)
	Trees very close to primary		Main St. just south of Holland St.
	Trees very close to primary		Main St. north of Melvin St.
	Trees very close to primary		Eldridge St. west of Lawndale St.
	Soft maple tree very close to primary		Oakland Ave. between High & Elm Sts.

See Figure 23 in Tree Trimming Exhibit "A" for an example of one of the tree conflicts noted in Washington.

Table 12 (Pekin)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Pekin (9/20/06) -- *Trimming was well done, generally, with three close locations noted. Structural problems noted in Pekin are summarized separately.*			
	Trees close to primary		Caroline St. between 4th & 5th Sts.
	Soft maple tree very close to primary		Willow St. between 10th & 11th Sts.
	Trees very close to primary		14th St. between Willow & Hamilton Sts.

Table 13 (Morton)

Summary of Tree Conditions Field Inspections by ICC Staff			
Town	***Item Description***	***Photo(s)***	***Location***
Morton (9/20/06) -- *Trimming was well done, with evidence of recent trimming. Structural problems noted in Morton are summarized separately.*			
	Tree very close to primary		Main St. north of Fernwood St.

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 1 (Photo 06-CIL1098)
2 Bradford pear trees into primary, with burning,
DeKalb St. between Mason & Park Sts., Mt. Pulaski

Figure 2 (Photo 06-CIL1101)
2-phase primary through a soft maple tree, with burning ,
Jasper St. at Bellmont St., Mt Pulaski

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 3 (Photo 06-CIL1100)

2-phase primary through a soft maple tree, with burning ,
Jasper St. at Bellmont St., Mt Pulaski (same location as in Figure 2)

Figure 4 (Photo 06-CIL1102)

Sycamore tree into primary, with burning
Just south of Morgan St. in the alley east of Vine St., Mt. Pulaski

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 5 (Photo 06-CIL1104)
Soft maple trees into 12 kV underbuild on 34 kV line,
Beason St. between Broadway & Pulaski Sts., Lincoln

Figure 6 (Photo 06-CIL1110)
Several soft maple trees into primary, with burning,
Along S. State St. between 2nd & 3rd Sts., Lincoln

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 7 (Photo 06-CIL1105)
Trees into primary, with burning,
Along S. State St. between 1st & 2nd Sts., Lincoln

Figure 8 (Photo 06-CIL1155)
Primary burning white pine tree,
Jefferson St. west of Adams St., Philo

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 9 (Photo 06-CIL1164)
Primary burning silver maple trees,
Van Buren St. west of Garfield St., Philo

Figure 10 (Photo 06-CIL1168)
Silver maple tree into primary, with burning,
Just north of Byron St. in the easement east of David St., Sidney

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 11 (Photo 06-CIL1171)
Redbud tree into primary,
South of Prairie St. in the easement west of David St., Sidney

Figure 12 (Photo 06-CIL1178)
Silver maple tree into 3-phase feeder, with burning,
Main St. east of Brian St., Sidney

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 13 (Photo 06-CIL1180)

Hackberry tree into primary, (just north of the substation),
On the south side of 3rd St. at the west end of the street, Homer

Figure 14 (Photo 06-CIL1190)

Silver maple tree into primary, with burning,
Green St. just east of Oakwood St., Oakwood

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 15 (Photo 06-CIL1195)
Silver maple tree into primary, with burning,
Harrison St. just west of Sandusky St., Catlin

Figure 16 (Photo 06-CIL1201)
Silver maple tree into primary, with burning,
East of Merrill St. in the alley north of Harrison St., Catlin

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 17 (Photo 06-CIL1205)
Honey locust tree into single-phase primary, with burning,
Orchard St. south of Buckingham St., Catlin

Figure 18 (Photo 06-CIL1227)
Black locust tree into primary,
Springfield Rd. north of Lincoln Parkway, East Peoria

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 19 (Photo 06-CIL1225)
Tree into primary,
Springfield Rd. just north of Season Dr., East Peoria

Figure 20 (Photo 06-CIL1221)
Elm tree into primary,
Cass St. east of Monson St., East Peoria

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 21 (Photo 06-CIL1228)
Soft maple tree into 12 kV primary, with burning,
Meadow Ave. (Rt. 150) west of Gardener Ave., East Peoria

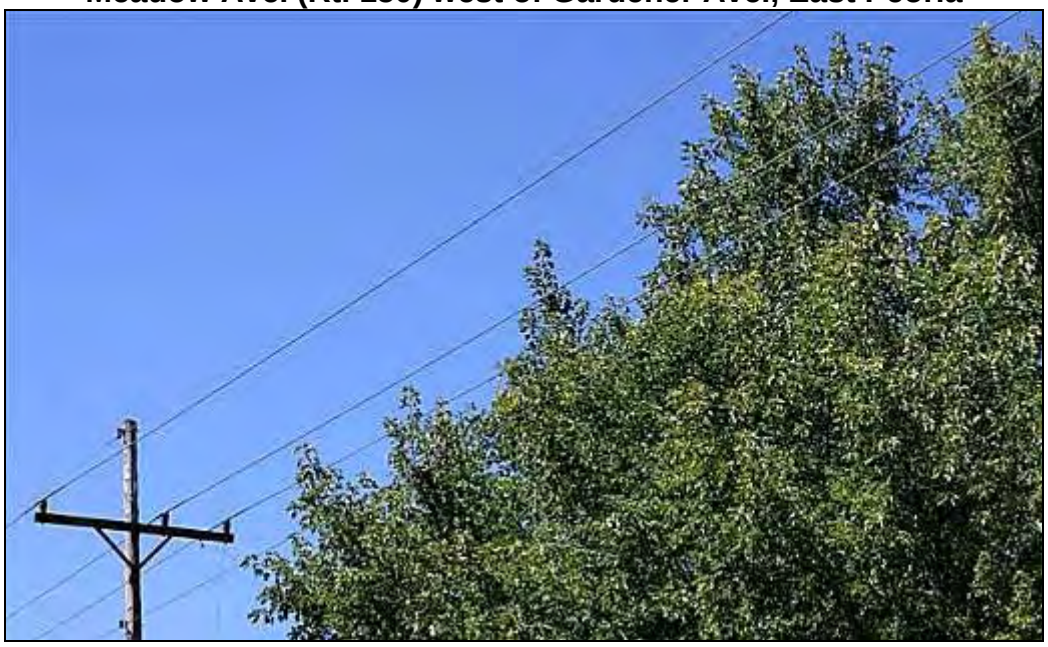


Figure 22 (Photo 06-CIL1230)
Single-phase primary through a tulip tree,
Mt. Aire Dr. just south of Highview Rd., East Peoria

AmerenCILCO 2006 Tree Trimming Exhibit "A"

Figure 23 (Photo 06-CIL1233)

Oak tree into 3-phase primary,
Hillcrest Dr. north of Kern Rd., Washington

Ameren Companies Headcount Summaries 1997-2005

AmerenIP	1997		1998		1999		2000		2001		2002		2003		2004		2005	
Total Company	2330	3630	2386	3788	2403	2978	2301	2656	1930	2582	1870	1883	1806	1809	967	1723	968	1275
Forestry	15	15	13	17	13	17	3	7	3	8	3	11	2	5	1	8	0	0
Electric Operating	330	277	413	311	441	358	443	386	422	383	402	370	393	384	319	383	314	377
Electric Engineering & Planning	269	237	259	253	273	242	234	230	216	215	205	199	199	199	107	195	104	112
Customer Service	159	152	166	157	175	167	154	148	153	141	146	134	157	146	122	130	132	132

Ameren CIPS	1997		1998		1999		2000		2001		2002		2003		2004		2005	
Total Company	N/A	2219	688*	1797	654*	1757	635*	903	593*	900	574*	878	500*	764	605	753	666	801
Forestry	N/A	20	3	14	3	10	3	9	3	10	3.5	10	3.5	5	4	0	0	0
Electric Operating	N/A	391	489	371	442	356	430	364	401	365	395	360	360	327	226	320	286	356
Electric Engineering & Planning	N/A	109	95	78	77	78	80	69	81	66	78	63	70	52	46	54	57	49
Customer Service	51	53	45	45	53	53	46	47	50	59	51	61	50	51	43	53	41	41

AmerenCILCO	1997		1998		1999		2000		2001		2002		2003		2004		2005	
Total Company	1376	1288	1254	1303	1272	1037	779	1002	708	925	696	910	561	646	403	561	389	527
Forestry	1	6	1	6	1	4	1	1	1	1	1	1	1	1	0	0	0	0
Electric Operating	327	113	402	128	356	133	310	141	310	138	301	143	274	143	107	133	105	136
Electric Engineering & Planning	32	18	39	17	38	21	13	17	16	15	17	16	17	20	18	19	18	20
Customer Service	141	28	130	26	114	46	116	47	68	39	64	34	62	36	48	50	47	46

AmerenUE-IL (Alt & ESL Only)	1997		1998		1999		2000		2001		2002		2003		2004		2005	
Total Company	115*	157	102*	266	99*	253	102*	269	93*	322	84*	318	73*	290	90	280	0	185
Forestry	N/A	0	0.6	0	0.6	0	1	0	1	0	1	0	1.2	0	1	0	0	0
Electric Operating	66	70	63	68	63	65	67	64	62	64	54	67	50	62	36	61	0	3
Electric Engineering & Planning	N/A	10	10	10	10	10	10	13	10	12	10	12	9	10	2	8	0	0
Customer Service*** (all of UE)**	111	8	115	96	112	93	126	97	164	107	165	103	163	99	0	97	0	94

Ameren Services	1997		1998		1999		2000		2001		2002		2003		2004		2005	
Total Company	N/A	1333	N/A	1288	N/A	1325	N/A	1347	N/A	1406	N/A	1397	N/A	1312	1279	1497	1267	1813
Forestry	N/A	2	N/A	4	N/A	4	N/A	4	N/A	5	N/A	5	N/A	5	29	6	32	10
Electric Operating	N/A	15	N/A	16	N/A	15	N/A	12	N/A	12	N/A	12	N/A	17	398	20	392	51
Electric Engineering & Planning	N/A	138	N/A	140	N/A	144	N/A	149	N/A	164	N/A	148	N/A	132	234	141	233	192
Customer Service	N/A	94	N/A	4	N/A	5	N/A	2	N/A	2	N/A	0	N/A	0	0	0	0	0

Notes: 1) Data in highlighted columns are from annual data request responses. New (11/21/06) data are in un-highlighted columns.
2) Exclusive of forestry if noted *.