Illinois Commerce Commission

Assessment of AmerenIP's

Reliability Report and Reliability Performance

for Calendar Year 2005

Pursuant to 83 Illinois Administrative Code 411.140

December 18, 2006

1. Executive Summary

Pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411, Illinois Power Company d/b/a AmerenIP (AmerenIP) filed its annual electric reliability report for calendar year 2005 on May 26, 2006. It filed a revised report on July 21, 2006, to correct non-compliant items in its initial report. This document details Staff's assessment of AmerenIP's 2005 reliability report and Staff's evaluation of AmerenIP's reliability performance for calendar year 2005.

AmerenIP's reported company-wide average interruption frequency index (SAIFI) for 2005 improved 7% from that reported for year 2004, but is 7% worse than in 2003. Its overall SAIFI performance was tied with AmerenCIPS for fifth place among the eight reporting utilities in 2005, with only two utilities (MidAmerican and Mt. Carmel) posting higher (worse) system-wide SAIFI values in 2005. AmerenIP's worst circuit SAIFI for 2005 was nearly equal to its worst circuit SAIFI in 2004 and, like in 2004, was just slightly worse than average among the other utilities, with three utilities performing worse in this category in 2005.

AmerenIP's reported company-wide average duration of customer interruptions (CAIDI) for 2005 was nearly 27% better than it reported for year 2004 and 14% better than it reported for 2003, though still significantly worse than it reported in any of years 1999-2002. With its overall CAIDI of 196 minutes, AmerenIP ranked last (worst) among the eight reporting utilities in this category in 2005. AmerenIP's worst circuit CAIDI for 2005 was 34.6% better than for 2004 and 13.5% better than in 2003. At 1,968 minutes (nearly 33 hours), however, AmerenIP ranked last among the eight reporting utilities in this category in 2005.

AmerenIP listed weather as the most predominant cause of customer interruptions in 2005, causing nearly 41% of its total customer interruptions. AmerenIP reported forestry problems as the cause for only 5.73% of the total customer interruptions, though Staff believes that some of the interruptions attributed to weather may have been tree related. Staff did not perform any random inspections of tree conditions in AmerenIP service territory in 2006, but did note that tree trimming was well done, overall, on most of the distribution circuits it inspected. Staff noted many tree trimming problems on three of the circuits it inspected. AmerenIP reported that it is committed to staying on a four-year trimming cycle, but it also needs to assure compliance with 2002 NESC Rule 218 by assuring that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

Staff found National Electrical Safety Code (NESC) violations at twenty-eight locations during its inspections of AmerenIP electric circuits this year, all of which pose a threat to service reliability and public safety. AmerenIP has resolved all but three of the NESC violations listed, and needs to resolve the others within a reasonable time. AmerenIP should also assure that watching for and noting NESC violations of these and other types are included in its circuit inspection program and that all violations found are resolved in a

timely manner. Staff also noted the need for more lightning arresters, the need for more animal guards, and several other problems on AmerenIP's worst performing and other circuits inspected this year. Many of these problems, while not necessarily causes of poor performance in 2005, will have adverse effects on reliability and public safety in the future if not corrected. (Photos of some of the structural problems found are included in this report, and summaries of problems noted by Staff on AmerenIP circuits inspected this year are included as Attachments "A" through "P"). AmerenIP should perform field inspections of all circuits on a regular basis and correct the problems found which can significantly affect reliability or public safety.

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. 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. A more detailed discussion of this issue is provided at the end of Section 7 of this report. Ameren's staffing levels data is summarized in Attachment "R".

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

AmerenIP reported that all remedial work on worst performing circuits described in its 2004 reliability report has been completed.

AmerenIP's 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 to better identify trends 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 "Q" to this report.

While the above discussion covers the most significant items in a general way, a total of six specific recommendations are included in this Staff report, summarized on page 54.

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2. Introduction

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

A) Assess the reliability report of each entity.

B) Assess the jurisdictional entity's historical performance relative to established reliability targets.

C) Identify trends in the jurisdictional entity's reliability performance.

D) Evaluate the jurisdictional entity's plan to maintain or improve reliability.

E) Include specific identification, assessment, and recommendations pertaining to any potential reliability problems and risks that the Commission has identified as a result of its evaluation.

F) Include a review of the jurisdictional entity's implementation of its plan for the previous reporting period.

This document provides Staff's assessment of the annual reliability report covering calendar year 2005 filed by Illinois Power Company d/b/a AmerenIP (AmerenIP) on May 26, 2006 (revised and re-filed on July 21, 2006), and Staff's evaluation of AmerenIP's reliability performance for calendar year 2005. This report is organized to include all of the above listed requirements.

3. AmerenIP's 2005 Customer Base and Service Territory

As of December 31, 2005, AmerenIP provided electric service to 615,272 customers in Illinois, of which nearly 89% are residential, 11% are commercial, and less than 1% are industrial. AmerenIP's service territory covers approximately 15,000 square miles and primarily serves rural areas and small towns.

AmerenIP's service territory consists of sixteen geographic areas:

Belleville	Danville	Hillsboro	Maryville
Bloomington	Decatur	Jacksonville	Mt. Vernon
Centralia	Galesburg	Kewanee	River Bend
Champaign	Granite City	LaSalle	Sparta

4. AmerenIP's Electric Distribution System

Approximately 88% of AmerenIP's electric distribution system is overhead, with the remaining 12% being underground. AmerenIP reported that it has a total of 885 electric distribution circuits.

Code Part 411.120(b)(3)(G) requires the utilities to report on the age of their distribution facilities. AmerenIP estimates that the approximate average ages of its distribution equipment range from 11.1 years (for underground conductor and devices) to 24.6 years (for structures and improvements), with an average age of 14.0 years for poles, towers, and fixtures, and 17.7 years for line transformers. AmerenIP estimates the remaining average lives of its distribution equipment to range from 10.7 years (for overhead services) to 35.4 years (for structures and improvements), with an average remaining life of 17.0 years for poles, towers, and fixtures, and 25.3 years for line transformers. See Table 16 (page 35) in AmerenIP's annual reliability report for more details.

5. Assessment of AmerenIP's 2005 Reliability Report

Illinois Power Company d/b/a AmerenIP (AmerenIP) filed its annual electric reliability report for calendar year 2005 on May 26, 2006, as required by Section 16-125 of the Public Utilities Act and the Commission's electric reliability rules in 83 Illinois Administrative Code, Part 411. AmerenIP filed a revised annual reliability report on July 21, 2006, to correct non-compliant items by including information omitted from the initial report.

AmerenIP's revised reliability report contains the information necessary to comply with the requirements of Code Part 411.120(b)(3). The report is generally well organized, with the information sequenced to follow the pattern of Code Part 411. This makes it less difficult to find information in the report. AmerenIP described several specific projects intended to improve system reliability.

AmerenIP's initial report was non-compliant with the reporting requirements specified in the Code in two respects:

- AmerenIP's Table 36 (page 90), reporting the total number of customers that experienced set numbers of service interruptions in 2005, did not contain data for the entire year as required by Code Part 411.120(b)(3)(K).

- The costs and/or schedules for completion of remedial actions taken or planned for five of AmerenIP's worst performing circuits were not included as required by Code Part 411.120(b)(3)(J).

These non-compliant items were addressed in AmerenIP's revised reliability report filed July 21, 2006.

AmerenIP's 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 to better identify trends 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 "Q" to this report.

6. AmerenIP's Historical Performance Relative to Established Reliability Targets

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

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

The customer service reliability targets are listed in Table 1.

Table 1
CUSTOMER SERVICE RELIABILITY TARGETS

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

In its 2005 reliability report, AmerenIP reported that the following numbers of customers in each of the above categories exceeded the service reliability targets in each of the three preceding years:

- 69kV or above: None
- Between 15kV & 69 kV: None
- 15kV or below: 1,539

AmerenIP reported that 1,386 customers exceeded the target in 2005 for duration only, 102 exceeded it for frequency only, and 81 exceeded it for both duration and frequency.

It is notable that the 1,539 AmerenIP customers exceeding the reliability targets in 2005 is 4.17 times the number (369) reported in AmerenIP's 2004 reliability report and 9.62 times the number (160) reported in Illinois Power's 2003 reliability report. The breakdown of AmerenIP reliability target violations by number of consecutive years is shown in Table 2:

Table 2
AmerenIP CUSTOMERS EXCEEDING RELIABILITY TARGETS

Consecutive Years	AmerenIP Customers
3	1,368
4	171
5	0
6	0
3 or more years total:	**1,539**

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

It is also noteworthy that AmerenIP reported that 7,111 of its customers experienced more than six interruptions in 2005, down 8% from the 7,713 customers in this category in 2004 but nearly 60% higher than the 4,473 customers in 2003. In the extreme cases, a total of 94 AmerenIP customers were in the 11 to 15 interruptions category in 2005, down from the 110 reported in this category in 2004 and the 99 in this category in 2003. See Section 8 of this report for more information on this, including trends of AmerenIP customers experiencing high numbers of interruptions.

7. Analysis of AmerenIP's Year 2005 Reliability Performance

Table 3 shows AmerenIP's company-wide reliability indices for calendar year 2005 compared to the other seven reporting Illinois electric utilities. This data indicates that AmerenIP tied with AmerenCIPS for fifth in the eight utility group in terms of average frequency of system interruptions (SAIFI) in 2005, and ranked fourth in terms of average frequency of customer interruptions (CAIFI).

At 196 minutes, AmerenIP reported the highest (worst) average duration of customer interruptions (CAIDI) in the eight utility group in 2005, but did show a 27% improvement from the CAIDI of 268 minutes it reported for 2004.

Table 3
ILLINOIS UTILITY RELIABILITY INDICES
CALENDAR YEAR 2005

	SAIFI	CAIDI (minutes)	CAIFI
AmerenCIPS	1.38	112	2.12
AmerenCILCO	1.23	165	2.02
AmerenIP	**1.38**	**196**	**1.81**
ComEd	1.18	104	1.95
MidAmerican	1.7719	72.17	2.376
Interstate	0.54	161.5	1.3
Mt. Carmel	1.39	66.19	1.43
South Beloit	0.69	135	1.42

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

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

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

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

Table 4 shows a breakdown of thirteen causes of sustained customer interruptions by cause category, as reported by AmerenIP for year 2005. The total number of interruptions ("events") reported for 2005 is down 16.5% from the same data reported for year 2004, and down 3.9% from the same data reported for year 2003. The total number of customer interruptions went down 7.1% from 2004 and up 9.7% from 2003.

AmerenIP reported that the highest percentages of customer interruptions in 2005 were caused by weather (40.95%) and "intentional" (12.34%). Overhead equipment (12.01%) and animals (7.79%) were the next leading causes. AmerenIP listed trees as the cause for only 6.77% of the events and 5.73% of the customer interruptions in 2005, though some of the interruptions attributed to weather may have been tree related. Staff did not perform any random inspections of tree conditions in AmerenIP's service territory in 2006. Tree

trimming looked generally good to very well done on twelve of the fifteen AmerenIP circuits Staff inspected this year, however. The three exceptions were circuits in 1) Mt. Vernon, 2) O'Fallon, and 3) Marseilles.

Table 4
TOTAL INTERRUPTIONS BREAKDOWN BY CAUSE

Interruption Cause Category	Events	Customers Interrupted	Percent of Events	Percent of Customer Interruptions
Animal Related	2,692	76,462	13.79%	7.79%
Customer	108	7,680	0.55%	0.78%
Intentional	4,233	121,109	21.68%	12.34%
Jurisdictional Entity / Contractor Personnel Errors	173	22,028	0.89%	2.25%
Loss of Supply	21	2,969	0.11%	0.30%
Other	245	5,506	1.25%	0.56%
Overhead Equipment Related	3,035	117,856	15.54%	12.01%
Public	924	69,008	4.73%	7.03%
Substation & Transmission	83	49,669	0.43%	5.06%
Tree Related or Tree Broken	1,322	56,184	6.77%	5.73%
Underground Equipment Related	1,231	29,178	6.30%	2.97%
Unknown	380	21,732	1.95%	2.21%
Weather	5,079	401,778	26.01%	40.95%
TOTALS:	**19,526**	**981,159**	**100.00%**	**100.00%**

Code Part 411.120(b)(3)(I)&(J) requires the reporting utility to list its worst performing circuits (subsection I) and then state (subsection J) what corrective actions are planned to improve those circuits' performance. Table 5 shows the AmerenIP circuits with the highest (worst) reliability indices for 2005. The bolded values in the SAIFI, CAIFI, and CAIDI columns represent the indices that caused the circuit to be a worst performer.

Table 5
AmerenIP CIRCUITS WITH HIGHEST SAIFI, CAIFI, & CAIDI
CALENDAR YEAR 2005

Substation	Circuit	SAIFI	CAIFI	CAIDI (minutes)
Witt (Witt, Irving, & rural)	**H10843**	2.86	**3.22**	111
Blandinsville	J71129	0.18	**3.83**	193
Belleville 44th Street	J83139	**3.47**	*3.47	115
Belleville 65th Street (Belleville)	**J84124**	**5.30**	***5.30**	254
Belleville 8th Street	J87101	0.25	1.00	**1226**

Table 5 (continued)
AmerenIP CIRCUITS WITH HIGHEST SAIFI, CAIFI, & CAIDI
CALENDAR YEAR 2005

Substation	Circuit	SAIFI	CAIFI	CAIDI (minutes)
Belleville Belle Valley	J88165	**3.58**	*3.58	223
Centerville 138 kV	K15205	3.33	**3.58**	637
Chester	K32915	**4.06**	*4.06	68
Edwards Street	K95203	0.77	1.03	**1042**
Decatur Leafland Ave.	L08225	0.02	1.00	**1362**
Decatur Michigan Ave.	L11242	0.11	1.00	**1489**
Decatur Northgate (Decatur)	**L17101**	**4.11**	***4.11**	94
Decatur Northgate	L17104	1.06	*1.06	**1331**
Granite City Parkview	M81402	1.73	**3.19**	296
Monticello (Monticello & rural)	**P52306**	**4.82**	*4.82	174
Mt. Vernon 27th Street (Mt. Vernon)	**P58155**	**3.58**	**3.96**	68
O'Fallon Seven Hills Rd. (O'Fallon)	**Q23256**	**4.11**	***4.11**	281
Okawville (Addieville & rural)	**Q27186**	0.18	**3.44**	171
St. Joseph Rural	R20502	1.35	1.46	**1272**
Urbana Five Points	R58922	0.03	1.00	**1968**
Urbana Five Points	R58931	0.20	1.00	**1066**
Urbana Five Points	R58932	0.10	0.99	**1213**
Urbana Goodwin	R59411	0.19	1.00	**1023**
Venice 4th Street	R78300	**4.16**	*4.16	100
Waterloo (Rural Waterloo)	**R94271**	2.85	**3.14**	129
Weedman (Rural Farmer City, Weedman, & rural)	**R99180**	**3.47**	*3.47	639

Notes: *Belleville 65th Street Circuit J84124 was also a worst SAIFI performer in 2004 & 2002.*
Belleville 8th Street Circuit J87101 was also a worst CAIDI performer in 2001 & 2000.
Centerville Circuit K15205 was also a worst SAIFI performer in 2003.
Chester 138 kV Substation Circuit K32915 was also a worst SAIFI performer in 2004 & 1999.
Venice 4th Street Circuit R78300 was also a worst SAIFI & CAIFI performer in 2004.
** Ameren reported that it changed CAIFI to equal SAIFI for these circuits because "indices are based upon end-of-year customer counts which can vary significantly due to circuit reconfiguration."*

As part of his review of AmerenIP's 2005 reliability, Staff's Senior Electrical Engineer Jim Spencer inspected the nine AmerenIP worst performing circuits which have their circuit numbers indicated in bold in Table 5. Staff performed spot-checks of prior-year or newly discovered current-year circuit problems on the following fifteen circuits and two 34 kV substation taps:

- Circuit L12127 (Decatur—1st location)
- Circuit K79222 (Champaign)
- Circuit R20502 (Mayview, rural St. Joseph, Glover, & rural Ogden)
- Circuit N50331 (Jacksonville & rural)
- Circuit L17101 (Decatur)
- Circuit J33803 (Benld)
- Circuit R78300 (Venice, Brooklyn, & National City)
- Circuit P26283 (Marseilles & rural)
- Circuit Q34360 (West of Ottawa)
- Circuit L12127 (Decatur—2nd location)
- Circuit L23145 (Decatur)
- Circuit K89143 (Decatur)
- Circuit P69175 (Decatur)
- Two 34 kV taps (Baltimore Ave. Substation, Decatur)
- Circuit N73121 (Danville)
- Circuit M45212 (Georgetown, Olivet, Vermilion Grove, & rural)

Staff also inspected the following six AmerenIP "next-worst SAIFI" circuits:

- Bunker Hill Circuit J80806 (Wilsonville, Dorchester, & rural)
- Shiloh Valley Circuit Q95248 (Scott AFB, Belleville)
- Cooksville Circuit K65221 (Colfax, Ellsworth, Cooksville, & rural)
- Marseilles Circuit P26281 (Marseilles & rural)
- DeLand Circuit L42158 (DeLand, Weldon, DeWitt, & rural)
- Champaign Mattis Avenue Circuit K74162 (Champaign & rural)

Ameren Services and/or AmerenIP personnel accompanied Staff on 26 of these 28 circuit inspections and were very cooperative and helpful to Staff in accomplishing the work.

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

Summaries of items noted by Staff during the field inspections of the selected AmerenIP distribution circuits this year are included in this report as Attachments "A" through "P". *(As mentioned to AmerenIP when providing them with a copy of these summaries in September 2006, the summary for each of the circuits inspected represents typical observations noted by ICC Staff during the field inspections and is not intended to represent all of the problems or potential problems that may exist on each circuit. Also, Staff's inspections are not intended to take the place of the more thorough, detailed inspections that should be performed periodically by the utility company.)*

There were some mapping errors and some cases where roads and/or towns were not labeled on the circuit maps provided by AmerenIP again this year, but these problems were fewer than in past years. AmerenIP should be commended for the progress it has made in these areas. It should continue its efforts to improve its circuit maps and make them more user friendly

Witt Circuit H10843 is a large 12 kV circuit serving Witt, Irving, and a large rural area mostly west and northwest of those communities. It was an AmerenIP worst performing circuit in 2005, with weather (56%) and overhead equipment problems (31%) listed as the predominant causes of the customer interruptions. Staff inspected this circuit on March 6 & 7, 2006, finding that the tree trimming and animal guarding looked good. There were many lightning damaged, woodpecker damaged, and shell rotted poles. There were also several areas of the circuit with new poles and crossarms, however, and AmerenIP reported that it plans to replace and restore many more poles on this circuit. While some lightning arresters have been added in rural areas, more are needed. Six blown or broken lightning arresters were noted. Staff noted guy markers missing at 23 locations, which is far more than on most AmerenIP circuits inspected. There were several mapping errors, and the towns were not labeled on the circuit maps provided. One National Electrical Safety Code (NESC) violation was noted, involving a primary neutral conductor with inadequate ground clearance. Staff's field inspection notes for this circuit are summarized in Attachment "A". Figures 1 through 11 show some of the problems noted on this circuit.

Figure 1 (Photo 06-IP797)
Badly shell rotted pole with large woodpecker hole,
Circuit H10843, McKay Avenue east of Held Road, south of Raymond

Figure 2 (Photo 06-IP812)
Split pole top,
Circuit H10843, N. 19th Street, southeast of Witt

Figure 3 (Photo 06-IP823)
Split (lightning damaged) crossarm & bolt coming out of poletop pin,
Circuit H10843, Witt Avenue, west of Witt

Figure 4 (Photo 06-IP813)
Inadequate neutral clearance above ground,
(NESC Clearance Violation)
Circuit H10843, north of Hillside Avenue, northeast of Witt

Note: AmerenIP reported that it corrected this code violation on 5/19/06.

Figure 5 (Photo 06-IP821)
Badly split (lightning damaged) pole top,
Circuit H10843, N. 17th Ave., east of Witt

Figure 6 (Photo 06-IP819)
Poletop pin coming off pole & bad top,
Circuit H10843, N. 16th Ave., SE of Witt

Figure 7 (Photo 06-IP815)
Bad pole top,
Circuit H10843, Witt Tr., southeast of Witt

Figure 8 (Photo 06-IP818)
Badly split pole top,
Circuit H10843, Carriker Tr., SE of Witt

Figure 9 (Photo 06-IP802)
Split pole top,
Circuit H10843, northwest of Irving

Figure 10 (Photo 06-IP803)
12(+) large woodpecker holes in pole, Circuit H10843, Spike Rd., NW of Irving

Figure 11 (Photo 06-IP805)
Hollow pole top (woodpecker holes), Circuit H10843, Doe Run Ct., NW of Irving

Bunker Hill Circuit J80806 is a 12 kV circuit serving Wilsonville, Dorchester, and a rural area mostly west of those communities. While not on AmerenIP's worst performing circuits list for 2005, this circuit was one of AmerenIP's next ten worst SAIFI circuits, with a SAIFI of 2.77 and a CAIFI of 2.84. During the inspection of this circuit on March 8, 2006, Staff noted that tree trimming looked good, but animal guarding was sporadic in Wilsonville, Dorchester, and in the rural areas. There were some mapping errors, and the towns were not labeled on the circuit maps provided. Several of the roads were not labeled or incorrectly labeled. NESC violations were noted at four locations, all involving ungrounded downguys without strain insulators below energized conductors. See Attachment "B" for a summary of Staff's field notes and Figures 12 and 13 for example photographs of two of the problems noted.

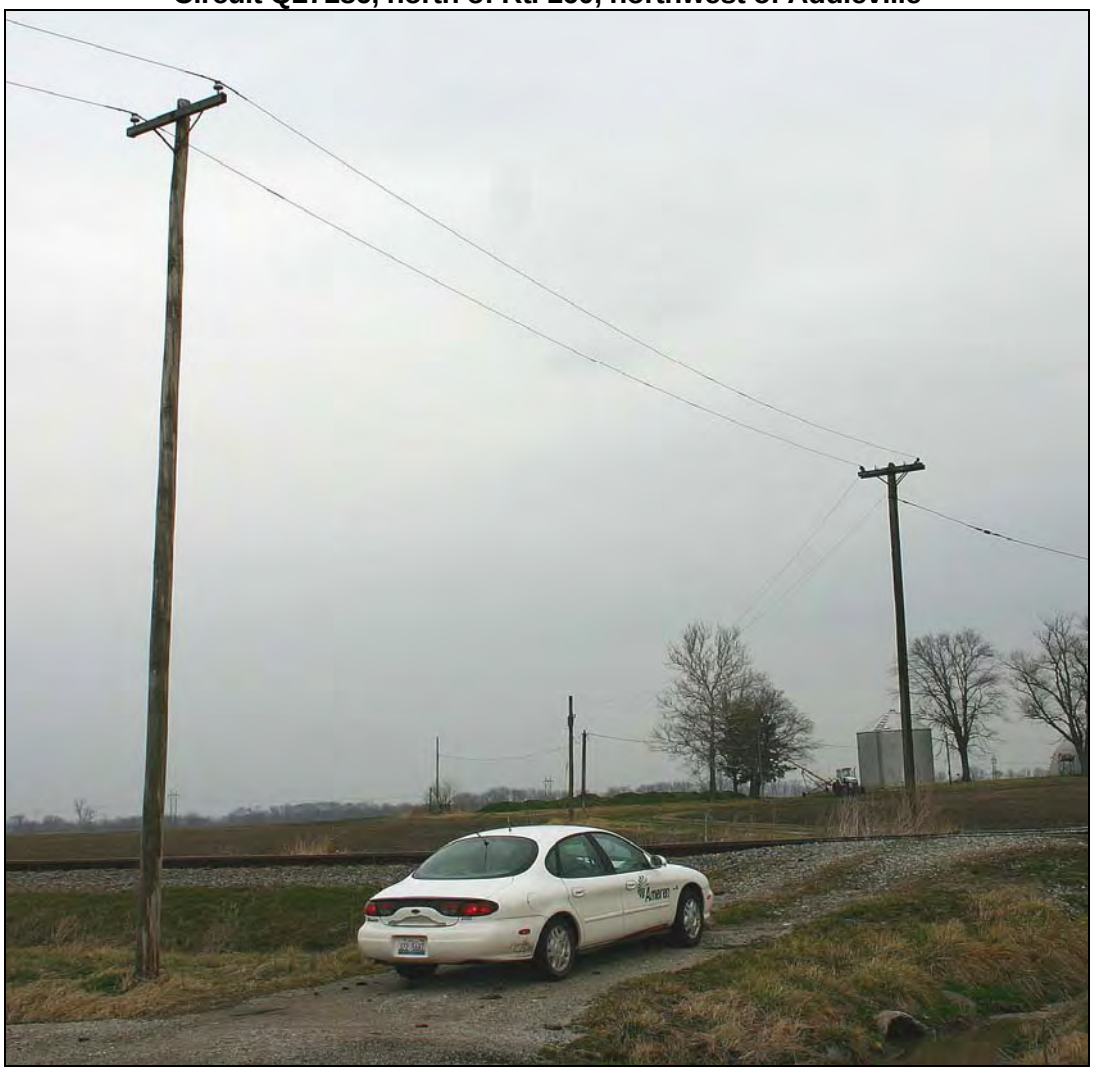
Figure 12 (Photo 06-IP827)
Broken strand in neutral conductor,
Circuit J80806, north of Fahrenkrog Lane, west of Dorchester

Figure 13 (Photo 06-IP829)
Ungrounded 34 kV & 12 kV downguys without required strain insulators,
(NESC Violation)
Circuit J80806, Miles Station Road, west of Bunker Hill Substation

Note: AmerenIP installed guy strain insulators in the downguys on 5/10/06.

Okawville Circuit Q27186 is a 12 kV circuit serving Addieville and a small rural area mostly between Addieville and Okawville. It was an AmerenIP worst performing circuit in 2005, primarily because of weather (74% of the interruptions) and broken tree problem(s) (23% of the interruptions). When inspecting this circuit on March 8, 2006, Staff noted that animal guarding and tree trimming were very well done. The circuit looked very good overall except for NESC violations at six locations, involving one location with a single crossarm on one side of a railroad crossing (double crossarms are required) and five locations with ungrounded downguys without strain insulators below energized conductors. See Attachment "C" for a summary of Staff's inspection notes. Figures 14 and 15 are photographs of two of the NESC violations noted on this circuit.

Figure 14 (Photo 06-IP837)
Single wood crossarm supporting a single phase crossing of a railroad,
(NESC Structural Strength Violation)
Circuit Q27186, north of Rt. 160, northwest of Addieville



Note: AmerenIP installed double crossarms to resolve this code violation on 8/16/06.

Figure 15 (Photo 06-IP839)
Broken top primary downguy, and:
Ungrounded downguys without strain insulators below energized conductors,
(NESC Violation)
Circuit Q27186, County Highway 6, west of Addieville

Note: AmerenIP reported that it installed guy strain insulators here 8/16/06.

Mt. Vernon 27th Street Circuit P58155 was also an AmerenIP worst performing SAIFI circuit in 2005, primarily because of overhead equipment problems (74% of the interruptions) and trees (25% of the interruptions). This 12 kV circuit serves a southwestern portion of the City of Mt. Vernon. Staff's inspection on April 4, 2006, revealed several new poles scattered throughout the circuit and only one structural problem. Animal guarding was well done, but there were several tree trimming problems. One NESC violation was noted, involving inadequate clearance of a 12 kV spacer cable primary crossing over a skip-span pole. Staff's field notes for this circuit are summarized in Attachment "D". Figures 16 and 17 show some of the problems noted.

Figure 16 (Photo 06-IP870)
Soft maple tree into primary,
Circuit P58155, Cherry Street at 24th Street, Mt. Vernon

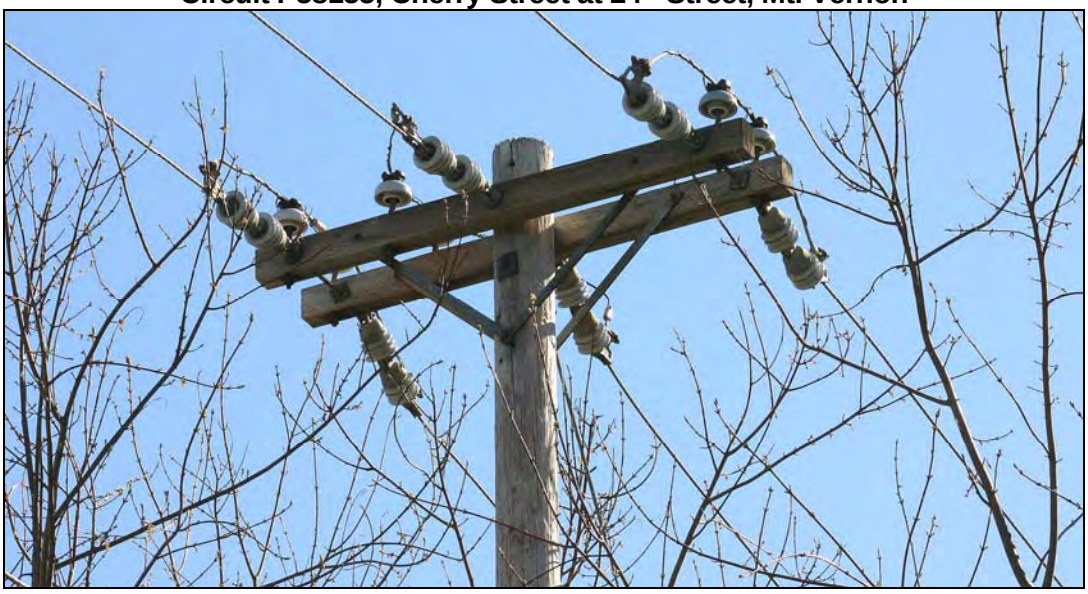
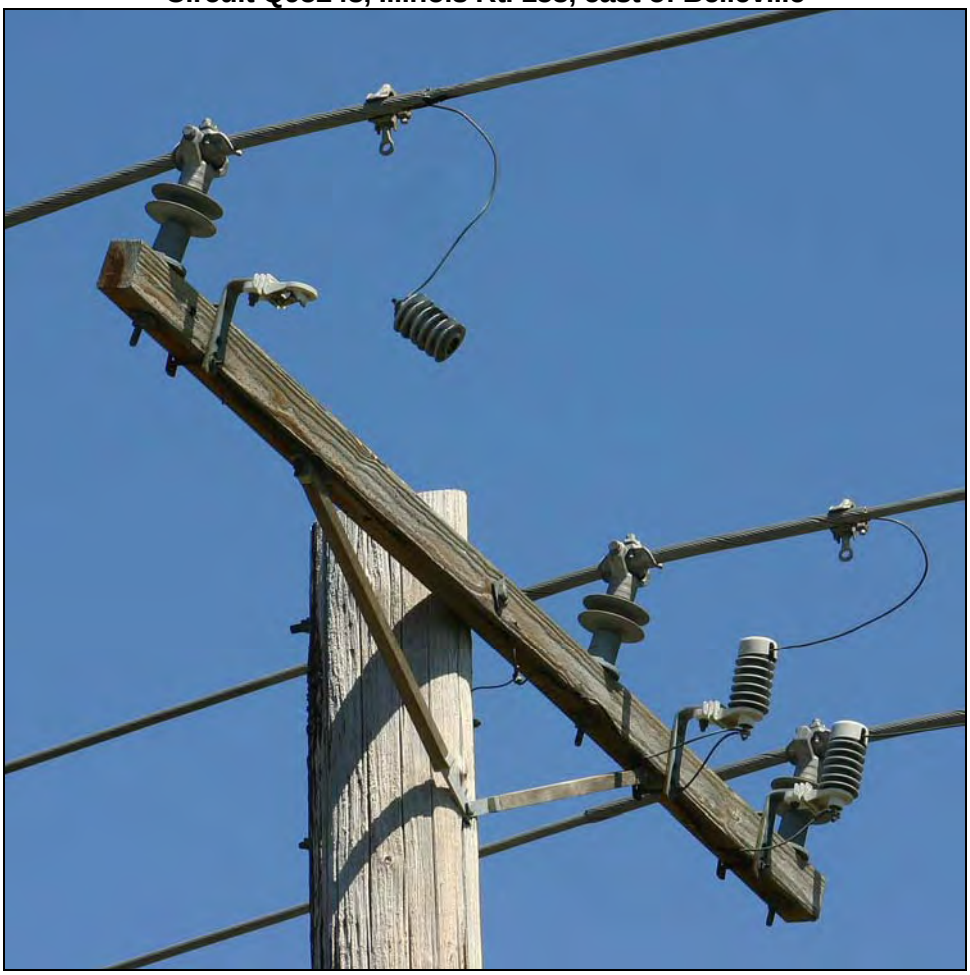


Figure 17 (Photo 06-IP874)
Trees into primary,
Circuit P58155, 28th Street, Mt. Vernon

Shiloh Valley Circuit Q95248 was one of AmerenIP's next-worst SAIFI circuits in 2005, with a SAIFI of 2.76. This 12 kV circuit serves a small eastern portion of Belleville and Scott Air Force Base, east of Belleville. Staff inspected this circuit on April 4, 2006, finding portions of the circuit to be inaccessible, and that virtually all of the circuit on Scott Air Force Base is underground. There were no apparent problems except for one blown apart lightning arrester, as noted on Attachment "E" and shown in Figure 18. Several blown lightning arresters have been replaced.

Figure 18 (Photo 06-IP875)
Lightning arrester blown apart,
Circuit Q95248, Illinois Rt. 158, east of Belleville



O'Fallon Seven Hills Road Circuit Q23256 is a 12 kV circuit serving an eastern portion of the City of O'Fallon and was an AmerenIP worst performing SAIFI circuit in 2005. Much of the circuit is either underground or in rear easements. Staff found some tree conflicts but few other problems when inspecting this circuit on April 4, 2006, as indicated in Attachment "F". AmerenIP reported that weather (47%) and broken trees (22%) caused most of the interruptions on this circuit in 2005, with a single thunderstorm having the biggest impact on customers.

Belleville 65th Street Circuit J84124 is a 12 kV circuit serving a western portion of Belleville. It was one of AmerenIP's worst performing SAIFI circuits in 2005, repeating in that category from 2004 and 2002. At 5.30, this circuit had the highest SAIFI of all AmerenIP circuits in 2005. Weather (82%) and broken trees (18%) were listed as the causes of customer interruptions in 2005. Most of the circuit is either underground or in easements. Staff inspected the overhead feeder portions of this circuit on April 4, 2006, and found no problems (see Attachment "G"). Animal guards were well done in those portions of the circuit inspected.

Cooksville 12 kV Circuit K65221 was an AmerenIP next-worst SAFI circuit in 2005, with a SAIFI of 2.85. It serves Colfax, Ellsworth, Cooksville, and rural areas around those communities. During its inspection of this circuit on April 17, 2006, Staff found several new poles and crossarms scattered throughout the circuit and that trees were well trimmed, with only three exceptions noted. A multitude of circuit problems were also noted, however, as summarized on Attachment "H". Staff noted 38 missing guy markers, which is far more than normal for AmerenIP circuits. Among the many other circuit problems, Staff noted eighteen missing, broken, or slack downguys; thirteen shell rotted or badly shell rotted poles; eighteen split, lightning damaged, or deteriorated pole tops; thirteen crossarm or crossarm brace problems; and six broken ground wires. Staff noted NESC violations at four locations, three involving the lack of strain insulators as required in ungrounded downguys or overhead guys, and one involving a single wood crossarm where double arms are required at a railroad crossing. *It is notable that Staff noted more problems on this circuit than any other circuit inspected in 2006 and it was neither a worst performing circuit in 2005 nor the largest circuit inspected.* Figures 19 through 26 show some of the problems noted on this circuit

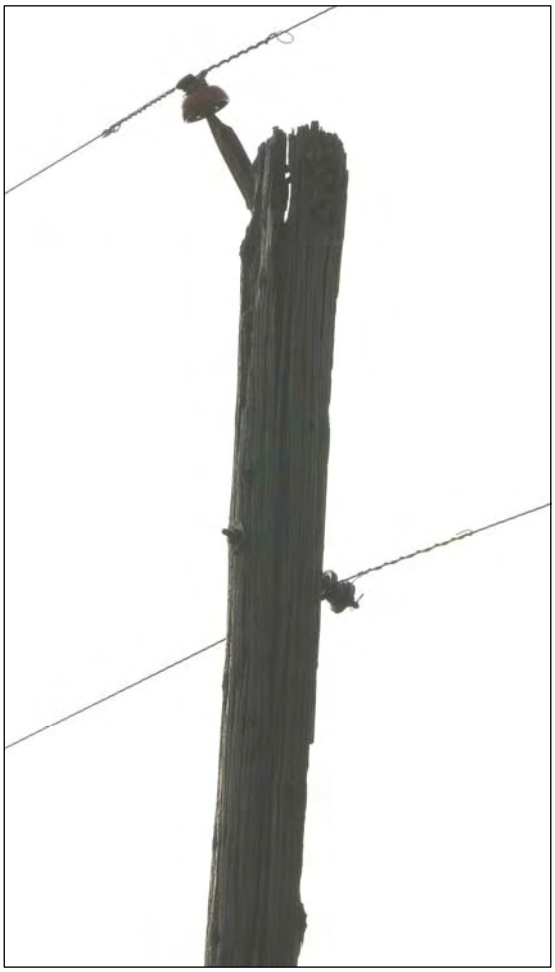


Figure 19 (Photo 06-IP900)
Shell rotted pole with badly split top,
Circuit K65221, Rd. 1700N, SW of Cooksville

Figure 20 (Photo 06-IP902)
Badly split (lightning damaged) crossarm & wood brace,
Circuit K65221, Illinois Rt. 165, west of Cooksville

Figure 21 (Photo 06-IP907)
Single wood crossarm supporting a 3-phase crossing of a railroad,
(NESC Structural Strength Violation)
Circuit K65221, Grove Street, Colfax

Note: AmerenIP corrected this code violation on 5/17/06.

Figure 22 (Photo 06-IP909)
Badly deteriorated crossarm,
Circuit K65221, alley east of Center Street, Colfax

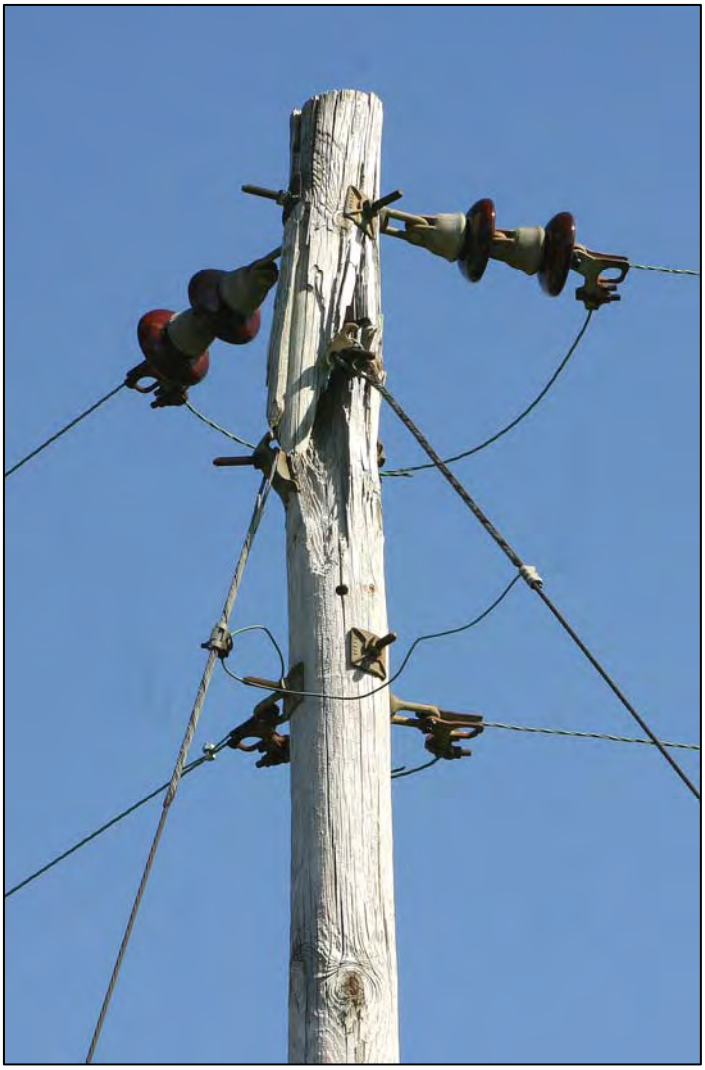


Figure 23 (Photo 06-IP924)
Split (lightning damaged) pole top,
Circuit K65221,
Rd. 1500N, south of Cooksville

Figure 24 (Photo 06-IP923)
Center phase lightning arrester disconnected from primary,
Circuit K65221, County Highway 17, north of Ellsworth

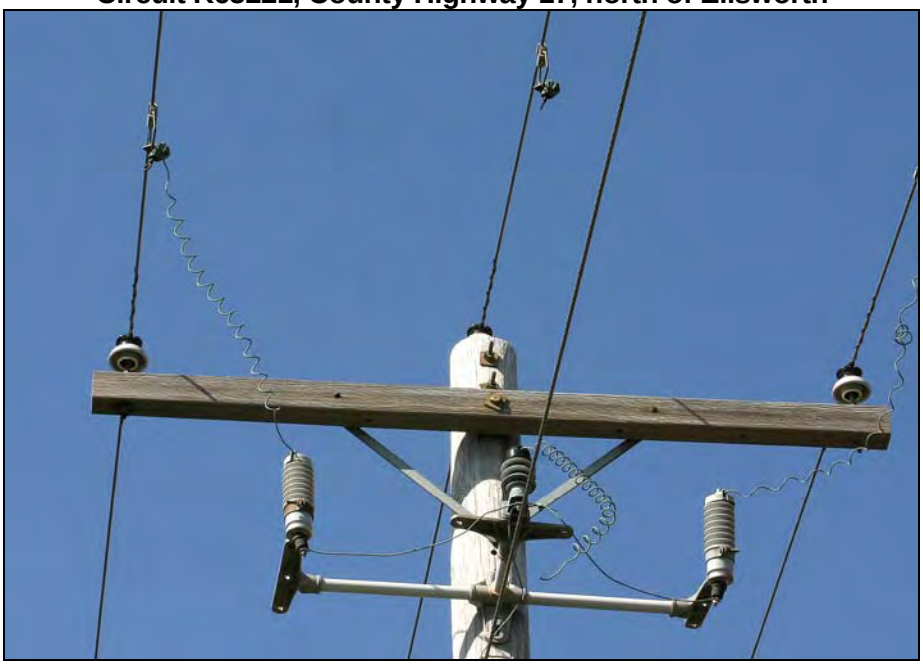


Figure 25 (Photo 06-IP917)
Lightning damaged pole top,
Circuit K65221, Rd. 1300N, E of Ellsworth

Figure 26 (Photo 06-IP918)
Split pole top,
Circuit K65221, Rd. 1300N, E of Ellsworth

AmerenIP's Weedman 12 kV Circuit R99180 serves rural Farmer City, Weedman, and a rural area on all sides of Weedman. This was a worst performing circuit in 2005, with 100% of the customer interruptions attributed to weather (a mid-January ice storm and six lightning-related outages). Staff inspected this circuit on April 18, 2006, noting several new poles and crossarms scattered throughout the circuit and no tree trimming issues (there are few trees on the circuit). Several "extra" lightning arresters were noted, but more may be needed. Animal guarding was well done at most locations. Among the circuit problems noted were 12 shell rotted or badly shell rotted poles. Staff noted NESC violations at three locations, all involving the lack of strain insulators below energized conductors in ungrounded downguys. Attachment "I" is a summary of Staff's field notes for this circuit. Figures 27 through 30 show example problems noted on this circuit.

Figure 27 (Photo 06-IP935)
Badly damaged crossarm & pole top,
Circuit R99180, Road 950E, east of Weedman

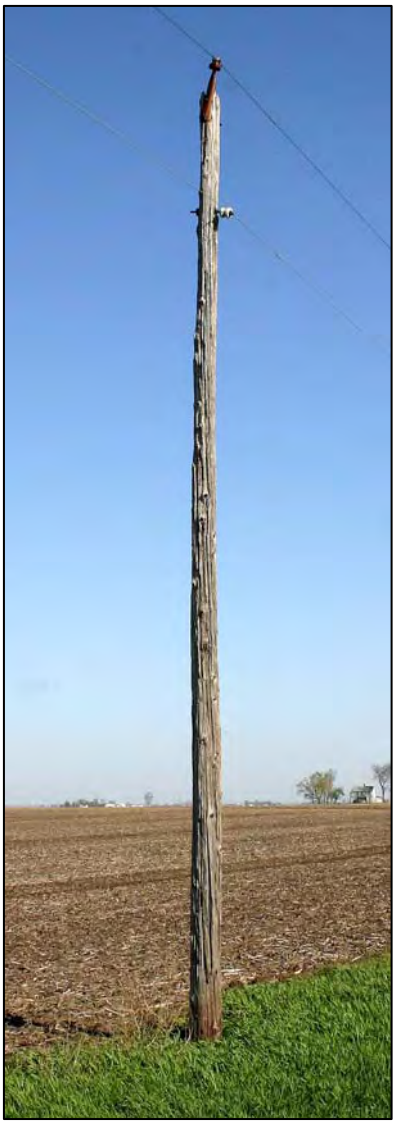
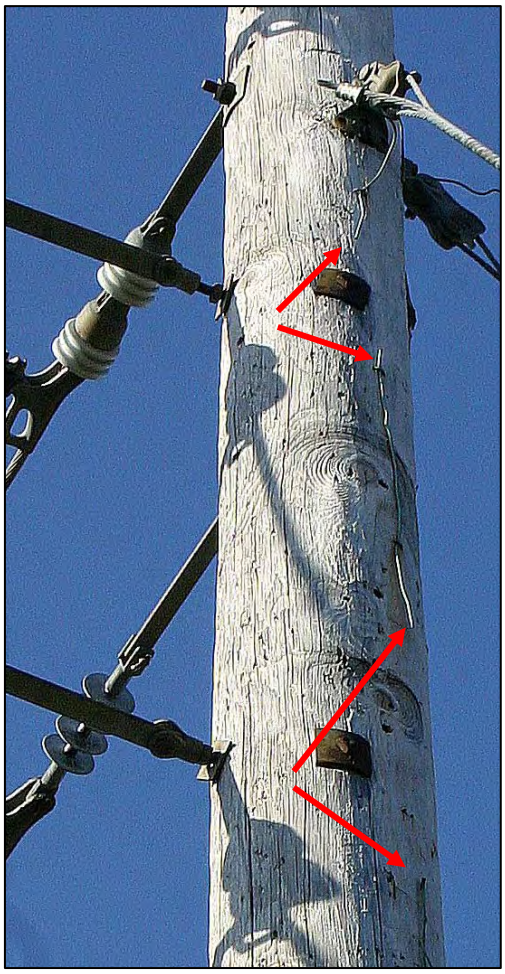


Figure 28 (Photo 06-IP933)
Badly shell rotted pole,
Circuit R99180, Road 900E, SE of Weedman

Figures 29 & 30 (Photos 06-IP931 & 06-IP932)
No strain insulator in top downguy & ground wire on pole broken in 2 places,
(NESC Violation)
Circuit R99180, Road 1600N, west of Weedman

Broken ground wire details:



Note: AmerenIP reported that it corrected this violation on 4/26/06.

Weather was also reported as the cause for 87% of the customer interruptions on Waterloo 12 kV Circuit R94271, an AmerenIP worst performing circuit in 2005. Staff inspected this circuit, which serves a rural area west and south of Waterloo, on April 27, 2006. Staff noted several new poles, but also noted ten poles with woodpecker damage (there are probably several others) and some other structural problems, summarized in Attachment "J". There were no tree trimming problems. NESC violations involving the lack of strain insulators as required were noted at one location. See Figures 31 through 33 for examples of some of the problems noted on this circuit.

Figure 31 (Photo 06-IP936)
Ungrounded downguys & overhead guys without required strain insulators,
(NESC Violation)
Circuit R94271, at 34 kV Structure 161, north of Waterloo Substation

Figure 32 (Photo 06-IP939)
5(+) woodpecker holes in pole & bad top, Circuit R94271, Andy Rd., W of Waterloo

Figure 33 (Photo 06-IP941)
Split (lightning damaged) pole top, Circuit R94271, west of Waterloo

Marseilles Circuit P26281 was an AmerenIP next-worst SAIFI circuit in 2005, with a SAIFI of 3.20. This 12 kV circuit serves a western part of Marseilles and a small rural area west of Marseilles. When inspecting this circuit on July 12, 2006, Staff noted several tree trimming and structural problems, as summarized on Attachment "K". Animal guards were noted at many transformers, but were missing at many others. There were several mapping errors. Staff noted NESC violations at two locations, both involving single crossarms where two are required at railroad crossings. Figures 34 through 38 show example problems noted on this circuit.

Figure 34 (Photo 06-IP1066)
Walnut tree into primary,
Circuit P26281, Bluff St., Marseilles

Figure 35 (Photo 06-IP1062)
Badly deteriorated crossarms,
Circuit P26281, Oakdale Ave., Marseilles

Figure 36 (Photo 06-IP1058)
Badly deteriorated crossarms & pole top,
Circuit P26281,
easement south of Bluff St., Marseilles

Figure 37 (Photo 06-IP1063)
Soft maple tree into primary (with burning),
Circuit P26281, Clark Street, Marseilles

Figure 38 (Photo 06-IP1073)
Single wood crossarms supporting a 3-phase crossing of a railroad,
(NESC Structural Strength Violation)
Circuit P26281, County Highway 51, west of Marseilles

Note: AmerenIP installed double crossarms on both sides of the crossing 10/12/06.

Staff inspected AmerenIP 2005 worst performing Circuit L17101, which serves a northwestern part of Decatur, on July 19, 2006. Very few problems were noted, as shown on Attachment "L". Tree trimming looked good, overall, with a few close places (tree trimming was in progress during the inspection). Animal guarding was well done. AmerenIP listed public accidents (49%), weather (26%), and overhead equipment malfunctions (22%) as the predominant causes of the customer interruptions in 2005.

DeLand 12 kV Circuit L42158 was on AmerenIP's list of next-worst SAIFI circuits in 2005, with a SAIFI of 2.71. This circuit serves DeLand, Weldon, DeWitt, and rural areas mostly between those communities. Staff inspected this circuit on July 31, 2006, noting that many poles and crossarms had been replaced recently. Tree trimming was well done except in some locations noted, shown with the rest of Staff's field notes on Attachment "M". More lightning arresters are needed in some of the rural areas. None of the cities were noted on the circuit maps AmerenIP provided. See Figures 39 through 41 for examples of problems noted on this circuit.

Figure 39 (Photo 06-IP1143)
Cutout blown apart (field side) & road-side fused cutout disconnected from primary, Circuit L42158, Road 425E, west of DeLand

Figure 40 (Photo 06-IP1140)
Badly deteriorated crossarms,
Circuit L42158, corner of 6th & Short Streets, DeLand

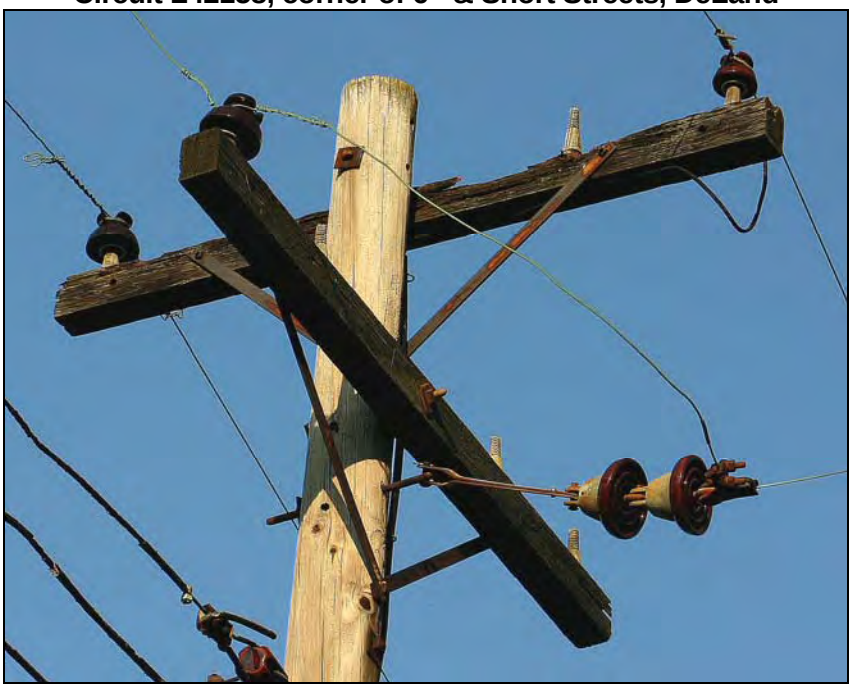


Figure 41 (Photo 06-IP1148)
Tree into primary, with burning,
Circuit L42158, Road 2000E, NE of DeWitt

Monticello Circuit P52306 was an AmerenIP worst performing 12 kV circuit in 2005, serving Monticello and a rural area to the southwest of Monticello and south to the north edge of Bement. Public accidents (49%) and overhead equipment problems (48%) were listed as the predominant causes of customer interruptions. AmerenIP reconfigured this circuit late in 2005, transferring a large portion of the circuit to another existing circuit, P53341. Staff inspected Circuit P52306 (as it existed for most of 2005) on August 15, 2006, and noted that several poles have been replaced and that the line has been re-spanned in places. Tree trimming and animal guarding were generally well done. More lightning arresters are needed in some of the rural areas. Staff noted NESC violations at two locations, both involving inadequate primary neutral clearance above ground. See Attachment "N" for a summary of the problems Staff noted for this circuit. Figures 42 through 45 are example photographs of some of the problems noted.

Figure 42 (Photo 06-IP1214)
Silver maple tree growing into primary,
Circuit P52306, Kratz Road just west of Van Buren, Monticello

Figure 43 (Photo 06-IP1215)
Inadequate neutral clearance above ground,
(NESC Clearance Violation)
Circuit P52306, Road 1500N, southeast of Monticello

Figure 44 (Photo 06-IP1211)
Trumpet vine up pole,
Circuit P52306, just east of IL Rt. 105, south of Monticello

Figure 45 (Photo 06-IP1206)
Split (lightning damaged) pole top,
Circuit P52306, Road 800E, northwest of Bement

Champaign Mattis Avenue 12 kV Circuit K74162 was an AmerenIP next-worst SAIFI circuit in 2005, with a SAIFI of 3.08, and was a worst performing circuit in 2001. It serves a small northern part of Champaign and a rural area north of Champaign. Staff inspected this circuit on August 15, 2006, finding that the circuit looked very good, overall, with only a few problems noted (see Attachment "O"). Figure 46 is a photograph of a badly deteriorated pole Staff observed in this circuit.

Figure 46 (Photo 06-IP1217)
Shell rotted pole & split (lightning damaged) pole top,
Circuit K74162, just north of CH 33, north of Champaign

Staff also performed spot checks of fifteen AmerenIP distribution circuits and two 34 kV substation taps during 2006, consisting of follow-ups on problems noted on nine circuits during prior-year inspections and new problems discovered on six AmerenIP circuits and the two 34 kV substation taps that are not associated with other circuit inspections performed by ICC Staff. These circuit spot checks are summarized on Attachment "P". Results were mixed on the follow-ups of prior year problems, with some of the needed corrections made and others not, as indicated on Attachment "P". Among the new problems Staff discovered on the AmerenIP distribution circuits spot-checked were additional NESC violations at three locations, involving the lack of double crossarms at railroad crossings. Additional NESC violations were also discovered at the two 34 kV substation taps, involving the lack of strain insulators as required in ungrounded downguys. Photos of two of the new AmerenIP circuit problems discovered are shown in Figures 47 and 48.

Figure 47 (Photo 06-IP793)
Primary neutral down (on the ground for two spans), Circuit L17101, Mound Road east of Westlawn, Decatur

Note: This downed neutral has since been repaired (twice) by AmerenIP.

Figure 48 (Photo 06-IP1086)
Single wood crossarm supporting a 3-phase crossing of a railroad,
(NESC Structural Strength Violation)
Circuit L23145, Mt. Auburn Road at Rt. 48 south, Decatur

In summary, Staff's field inspections this year revealed recent improvements on about half of the AmerenIP circuits inspected, evidenced by a scattering of new poles and crossarms in the circuits. The actions AmerenIP has taken or reported that it plans to take on its worst performing circuits, including adding sectionalizing fuses on some circuits, seem to address the reliability issues reasonably well. Tree trimming was well done, overall, on most of the circuits inspected, but Staff noted significant exceptions on three of the circuits. Animal guarding was generally well done on most of the circuits inspected, with three exceptions noted where more animal guards are needed. More lightning arresters are needed on several of the circuits, especially in rural areas.

Staff noted violations of the National Electrical Safety Code at twenty-eight locations on AmerenIP electric circuits this year, which is far more than it found at any other utility in 2006 and far more than noted at any utility in Illinois during each of the preceding six years. All of these safety code violations pose a risk to service reliability and public safety. Code violations at seventeen of the noted locations involve the lack of guy strain insulators in ungrounded downguys or overhead guys, four locations involve inadequate clearances, and seven locations involve single wood crossarms supporting AmerenIP's primary circuit crossings over railroads. *(Double crossarms have been required for all railroad crossings in Illinois where wooden crossarms and pin-type insulators are used since General Order 30 was adopted on October 12, 1916.)*

The many NESC violations Staff noted in AmerenIP's service territory in 2006 are summarized in Table 6 beginning on the following page. Staff recognizes, however, that these are not the only NESC violations on the AmerenIP circuits it inspected this year. Some of the deteriorated structures, for example, would not meet the strength requirements of 2002 NESC Table 253-2, footnote 3. As another example, many of the missing guy markers Staff notes are violations of 2002 NESC Rule 264.E and can have a detrimental effect on reliability as well as public safety. AmerenIP has resolved the NESC violations at 25 of the 28 locations listed in Table 6, and needs to resolve the others within a reasonable time. AmerenIP should also assure that watching for and noting NESC violations of these and other types are included in its circuit inspection program and that all violations found are resolved in a timely manner.

Table 6

Summary of 2006 NESC Violations Noted by ICC Staff -- AmerenIP

Circuit-- Date Inspected	*Item Description*	*Photo(s)*	*Location*	*Date Utility Notified*	*Date Violation Resolved*
H10843-- 3/7/06	**Code clearance violation (NESC 232.B.1):** Inadequate neutral clearance above ground ("pasture" area). *Neutral clearance field checked by AmerenIP in April 2006 and found to be 11' 5" above ground (15.5 ft. required). Corrected by AmerenIP on 5/19/06.*	108-0813, 814	North of Hillside Ave. in last span of tap to Sta. 14545, northeast of Witt. (Map 67--Witt, Irving, & rural).	3/7/06 8/9/06	5/19/06
J80806-- 3/8/06	**Code violations (NESC 279.A.2):** Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	108-0828	34 kV Str. 298 (Str. 132 on map) on Miles Station Rd. (2nd pole east of Sta. 12755). (Map 6--Wilsonville, Dorchester, & rural).	3/8/06 8/10/06	5/10/06
	Code violations (NESC 279.A.2): Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	829, 830	34 kV Str. 299 (Str. 133 on map) on Miles Station Rd. (1st pole east of Sta. 12755). (Map 6--Wilsonville, Dorchester, & rural).	3/8/06 8/10/06	5/10/06
	Code violations (NESC 279.A.2): Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	836	34 kV Str. 345 (Str. 179 on map) 1 span west of Schoeneman Rd. on Miles Station Rd. (Map 13-- Wilsonville, Dorchester, & rural).	3/8/06 8/10/06	5/10/06
	Code violations (NESC 279.A.2): Ungrounded 34 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	835	35 kV Str. 344 (Str. 178 on map) at corner of Schoeneman Rd. & Miles Station Rd. (Map 13-- Wilsonville, Dorchester, & rural).	3/8/06 8/10/06	5/10/06
Q27186-- 3/8/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a single phase crossing of a railroad, on the south side of the railroad crossing. (Double crossarms required). *AmerenIP installed double crossarms on the south side of the crossing 8/16/06.*	108-0837	1st pole north of Rt. 160 in the tap to Sta. 11725. (Map 8--Addieville & rural).	3/8/06 9/7/06	8/16/06
	Code violations (NESC 279.A.2): Ungrounded 12 kV downguys without strain insulators below energized conductors (2 downguys going south and 1 downguy going east). *AmerenIP installed guy strain insulators 8/16/06.*	838	Corner pole on the south side of CH 6 where the circuit goes cross-country to the north. (Map 9-- Addieville & rural).	3/8/06 9/7/06	8/16/06
	Broken primary (top) downguy, and: **Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (3 downguys going west). *AmerenIP installed guy strain insulators 8/16/06.*	839, 840	3-way corner pole on the north side of CH 6 where the circuit goes cross-country to the north. (Map 9-- Addieville & rural).	3/8/06 9/7/06	8/16/06
	Code violations (NESC 279.A.2): Ungrounded downguys without strain insulators below energized conductors (downguys going west and going southeast). *AmerenIP installed guy strain insulators 8/16/06.*		Corner pole on the south side of CH 6 where the circuit goes northwest to Sta. 11726. (Map 9-- Addieville & rural).	3/8/06 9/7/06	8/16/06
	Code violations (NESC 279.A.2): Ungrounded downguys without strain insulators below energized conductors (downguys going north). *AmerenIP installed guy strain insulators 8/16/06.*		Northwest corner of N. Gaebe & Center Sts., Addieville. (Map 10--Addieville & rural).	3/8/06 9/7/06	8/16/06
	Code violations (NESC 279.A.2): Ungrounded downguys without strain insulators below energized conductors (downguys going south). *AmerenIP installed guy strain insulators 8/16/06.*		Southeast corner of N. Gaebe & Center Sts., Addieville. (Map 10--Addieville & rural).	3/8/06 9/7/06	8/16/06

Table 6 (continued)

Summary of 2006 NESC Violations Noted by ICC Staff -- AmerenIP

Circuit--Date Inspected	Item Description	Photo(s)	Location	Date Utility Notified	Date Violation Resolved
P58155--4/4/06	**Code clearance violation (NESC 234.B.2):** 12 kV spacer cable primary crossing over a skip-span pole with approximately 12" vertical and 12" horizontal clearance. (At least 2.5 ft. vertical or 5 ft. horizontal clearance is required.) *AmerenIP resolved clearance problem 5/30/06 by cutting top off of skip-span pole.*	108-0868	Just west of 25th St. on Casey Ave., Mt. Vernon. (Map 1--Mt. Vernon).	4/4/06	5/30/06
K65221--4/17/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the north side of the railroad crossing. (Double crossarms required). *Corrected by AmerenIP 5/17/06.*	109-0906, 907	On Grove St. at the crossing of the Bloomer Shippers Connecting RR, Colfax. (Map 25--Colfax, Ellsworth, Cooksville, & rural).	4/17/06	5/17/06
	Code violation (NESC 279.A.2): Ungrounded downguy without strain insulator below energized conductors (top downguy going north). *Corrected by AmerenIP 5/17/06.*	925	1st pole east of Sta. 15126 on Rd. 1700N. (Map 33--Colfax, Ellsworth, Cooksville, & rural).	4/17/06	5/17/06
	Code violations (NESC 279.A.2): Ungrounded downguys without strain insulator below energized conductors (downguys going west & south). Grounding wire on pole is disconnected from neutral. *Corrected by AmerenIP 5/17/06.*	921	On Eubank St. at the alley west of Main St., Ellsworth. (Map 44--Colfax, Ellsworth, Cooksville, & rural).	4/17/06	5/17/06
	Code violation (NESC 279.A.2): Ungrounded overhead guy without strain insulator (top overhead guy going north). *Corrected by AmerenIP 5/17/06.*	922	At NE corner of Main St. (CH 17) & Eubank St., Ellsworth. (Map 44--Colfax, Ellsworth, Cooksville, & rural).	4/17/06	5/17/06
R99180--4/18/06	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (both downguys going east). *Corrected by AmerenIP 4/26/06.*	109-0928	On Rd. 1600N at Rd. 2750E (NE corner). (Map 20--Rural Farmer City, Weedman, & rural).	4/18/06	4/26/06
	Code violation (NESC 279.A.2): No strain insulator in top downguy & grounding wire broken (top downguy going west). *Corrected by AmerenIP 4/26/06.*	929, 930	On Rd. 1600N at Rd. 2750E (SE corner). (Map 20--Rural Farmer City, Weedman, & rural).	4/18/06	4/26/06
	Code violation (NESC 279.A.2): No strain insulator in top downguy & grounding wire broken in 2 places on pole (top downguy going north). *Corrected by AmerenIP 4/26/06.*	931, 932	On Rd. 1600N at CH 22 (2625E). (Map 24--Rural Farmer City, Weedman, & rural).	4/18/06	4/26/06
R94271--4/27/06	**Code violations (NESC 279.A.2):** No strain insulators (except at the pole attachment) in the downguys to the north, nor in overhead guys to the west. Broken overhead guy (34 kV line--2nd OHG from top) & 4 woodpecker holes in pole top.	109-0936, 937, 938	At 34 kV Str. # 161, 1 span north of Sta. 12598. (Map 2--Rural Waterloo).	4/27/06 9/7/06	
P26281--7/12/06	**Code structural strength violations (NESC 261.D.4.c):** Single wood crossarms supporting a 3-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required). *AmerenIP installed double crossarms on both sides of the crossing 10/12/06.*	110-1068, 1069, 1070	On CH 51 at the railroad crossing just east of Sta. 75971 (railroad not shown on map). (Map 7--Marseilles).	9/7/06	10/12/06
	Code structural strength violations (NESC 261.D.4.c): Single wood crossarms supporting a 1-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required). *AmerenIP installed double crossarms on both sides of the crossing 10/12/06.*	1071, 1072, 1073	On CH 51 at the railroad crossing just west of Sta. 76052 (railroad not shown on map). (Map 9--Marseilles).	9/7/06	10/12/06
Q34360--7/12/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the west side of the railroad crossing. (Double crossarms required). *AmerenIP installed double crossarms on the west side of the crossing 10/12/06.*		At the railroad crossing along Rt. 6 west of Ottawa at Rd. E15.	7/14/06 9/7/06	10/12/06
L23145--7/19/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the east side of the railroad crossing. (Double crossarms or equivalent required). *AmerenIP installed double crossarms on the east side of the crossing 9/6/06.*	110-1086, 1087	At the railroad crossing along Mt. Auburn Rd. at Rt. 48 south (south of Rt. 51 bypass), Decatur.	7/19/06 9/7/06	9/6/06

Table 6 (continued)

Summary of 2006 NESC Violations Noted by ICC Staff -- AmerenIP					
Circuit--Date Inspected	***Item Description***	***Photo(s)***	***Location***	***Date Utility Notified***	***Date Violation Resolved***
K89143--7/19/06	**Code structural strength violations (NESC 261.D.4.c):** Single wood crossarms supporting a 3-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required). *Okay 7/19/06--2nd crossarm added on both sides of railroad crossing by AmerenIP on 6/8/06 (following telephone notification of 5/3/06).*	110-1088, 1089	At the railroad crossing along 44th St. at Rt. 36 east, Decatur.	5/3/06	6/8/06
2- 34 kV taps--7/19/06	**Code violations (NESC 279.A.2):** Ungrounded 34 kV downguys without strain insulators below energized conductors. *Corrected by AmerenIP 8/16/06.*	110-1091, 1092	On Baltimore Ave. at two 34 kV taps into Baltimore Ave. Substation, Decatur.	7/19/06	8/16/06
P52306--8/15/06	**Code clearance violation (NESC 232.B.1):** Inadequate neutral clearance above ground (along a fence adjacent to a cultivated field). Neutral approximately 10.5 ft. high at mid-span (15.5 ft. required).	112-1215, 1216	On Rd. 1500N in the 4th span from the east end of the circuit (4th span west of Sta. 12730). (Map 6--Monticello & rural).	8/15/06 9/7/06	
	Code clearance violation (NESC 232.B.1): Inadequate neutral clearance above a cultivated field.		4th span north of Rd. 1300N in tap to Sta. 12714. (Map 32--Monticello & rural).	8/15/06 9/7/06	

There should not continue to be so many NESC violations in AmerenIP's electric system. While AmerenIP has been responsive to the code violations discovered by Staff's inspections, it needs to take a more proactive role in finding and addressing these problems throughout its electric system and in preventing the occurrence of them in the first place.

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

AmerenIP stated in its reliability report that it is committed to maintaining a four-year tree trimming cycle and that it will continue to focus on the changes implemented as a result of being incorporated into Ameren's Vegetation Management Program in 2005. Reported enhancements include a "cycle-buster" program, integration of a tree-manager program, and institution of a tree-audit program. Staff did not perform any random inspections of tree conditions in AmerenIP service territory in 2006, but did note that tree trimming was well done, overall, on most of the distribution circuits it inspected. Staff noted significant exceptions on three of the circuits it inspected this year, as has been noted previously and in the summaries of Staff's circuit inspection notes. It should be mentioned, however, that Staff's inspections of tree conditions in AmerenIP service territory during 2006 have been very limited and have covered a very small portion of AmerenIP's service territory.

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 addition to maintaining a four-year trim cycle, as AmerenIP has committed to do, it also needs to assure compliance with 2002 NESC Rule 218. To be in compliance with 2002 NESC Rule 218, AmerenIP needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

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 "R" 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 each of the Ameren companies is maintaining an adequate number of electric operating employees to avoid deterioration in the reliability of its electric system and a degrading of 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 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 AmerenIP's Reliability Performance

Figure 49 shows a comparison of the company-wide SAIFI values reported by the Illinois utilities for years 2001 through 2005. AmerenIP's company-wide SAIFI performance in 2005 improved from 2004, but it was tied with AmerenCIPS for fifth place in the eight utility group, with only MidAmerican Energy Company and Mt. Carmel Public Utility Company posting higher (worse) system-wide SAIFI values in 2005.

Figure 49

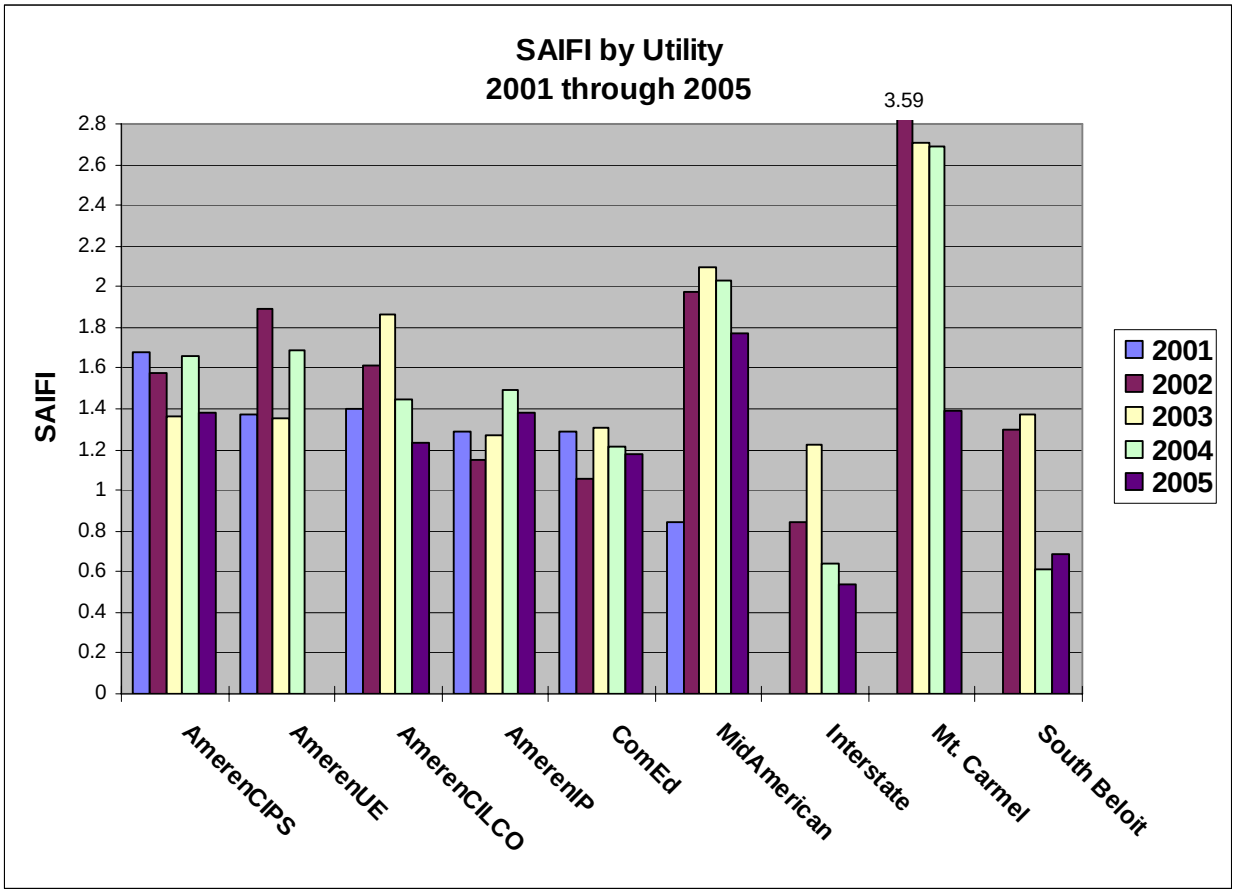


Figure 50 shows AmerenIP's company-wide SAIFI indices over the past ten years. Though somewhat erratic over the ten-year period, AmerenIP's reported overall SAIFI has been significantly better since the value of 2.44 recorded in 1998, and has fluctuated annually on both sides of its present value of 1.38 since then. AmerenIP's reported 2005 company-wide SAIFI performance improved 7% from year 2004, but is 7% worse than in 2003.

Figure 50

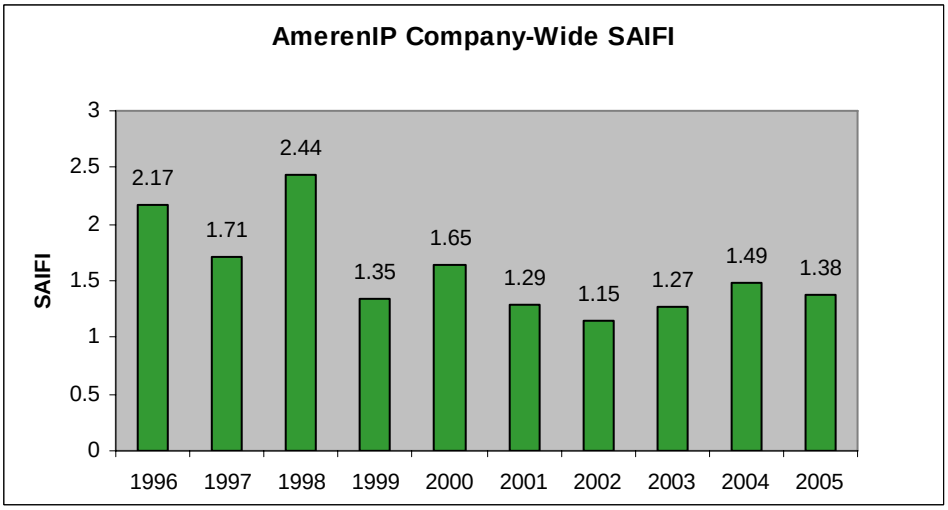


Figure 51 shows a comparison of SAIFI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2001 through 2005. AmerenIP's reported worst-circuit SAIFI for 2005 improved very slightly from the value it reported for 2004, with four utilities performing better and three utilities performing worse than AmerenIP in this category in 2005.

Figure 51

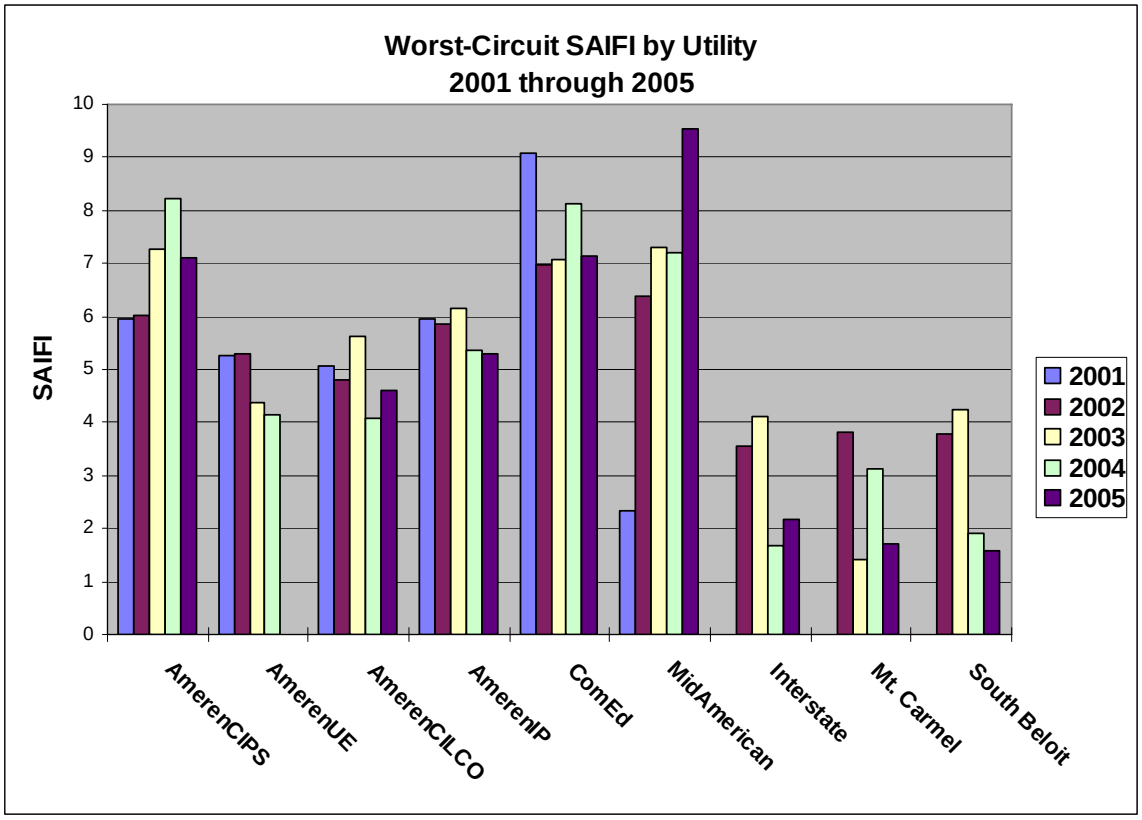


Figure 52

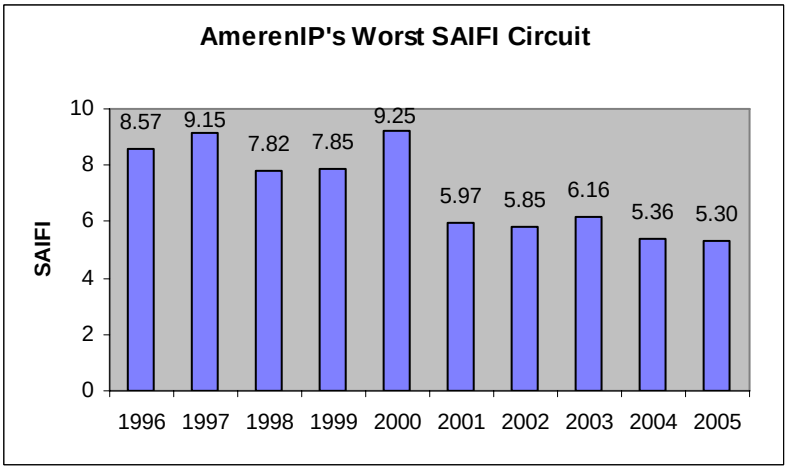


Figure 52 shows the SAIFI index of AmerenIP's single worst performing circuit as reported in each of the last ten years. For this statistic, each of the most recent five years has been significantly better than any of the five preceding years. The most recent five year period has shown a very slightly improving trend. AmerenIP's SAIFI for its worst circuit in 2005 was nearly equal to its worst SAIFI circuit in 2004 and 14% better than in 2003.

Figure 53 shows a comparison of company-wide CAIDI values reported by the Illinois utilities for years 2001 through 2005. At 196 minutes, AmerenIP's reported 2005 company-wide CAIDI performance improved significantly from year 2004, but it fell to last place in the eight utility group in this category with all other utilities reporting lower overall CAIDI values than AmerenIP in 2005.

Figure 53

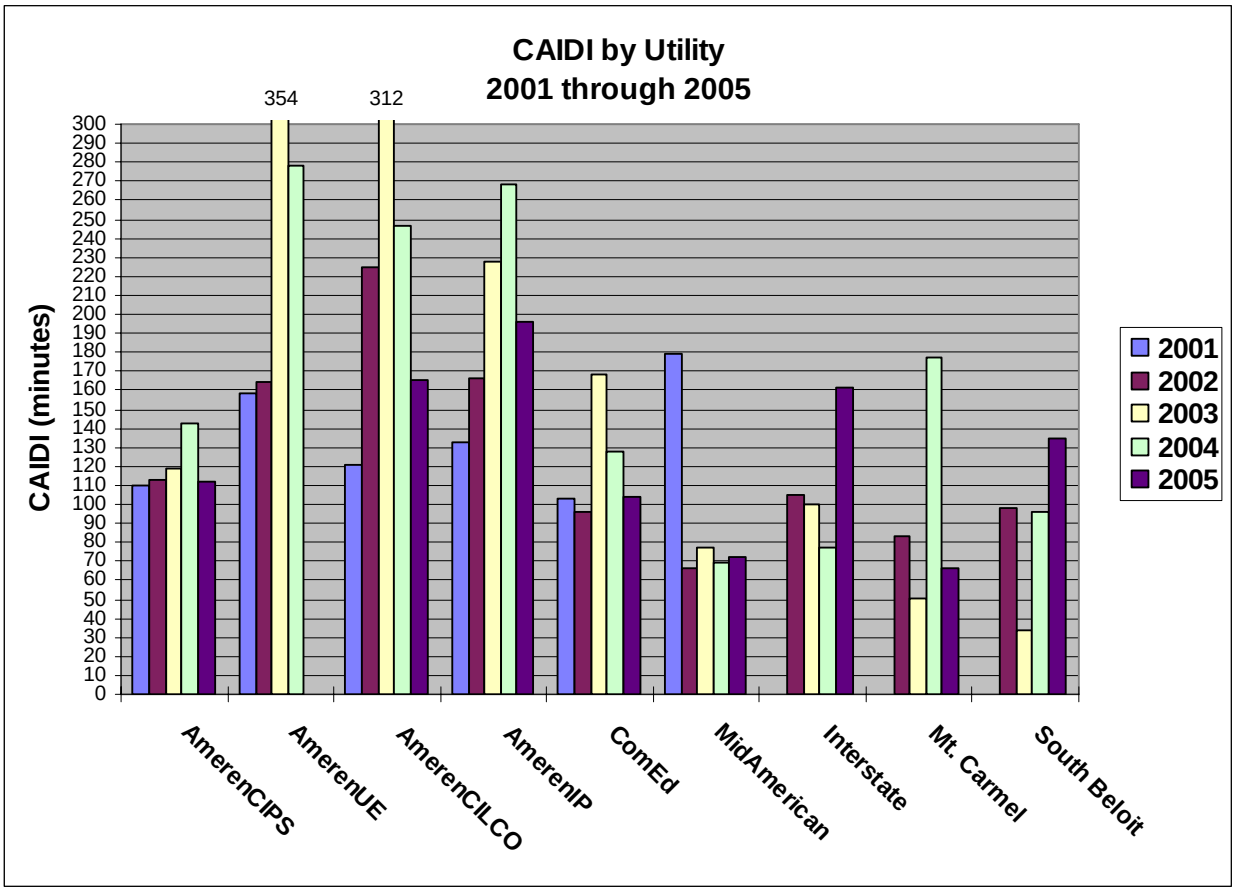


Figure 54

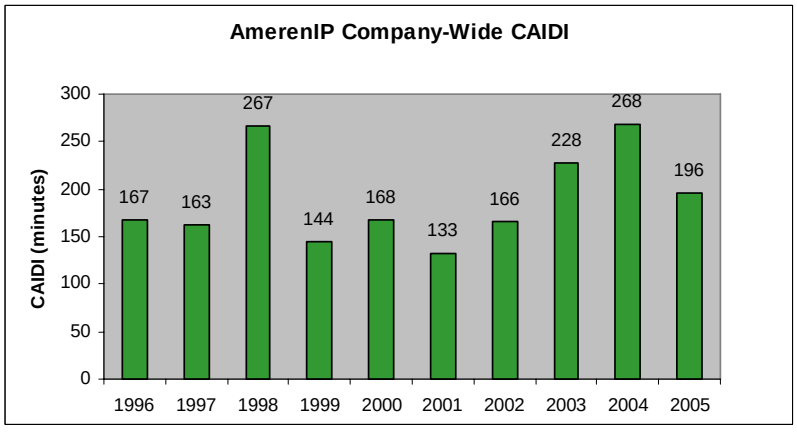


Figure 54 shows AmerenIP's company-wide CAIDI statistics over the past ten years. AmerenIP's reported overall CAIDI showed a generally worsening trend from 1999 to 2004 before improving in 2005. AmerenIP's reported overall CAIDI for 2005 is nearly 27% better than it reported for year 2004 and 14% better than it reported for year 2003, though still significantly worse than it reported in any of years 1999-2002.

Figure 55 shows a comparison of CAIDI values for each company's single worst performing circuit as reported by the Illinois utilities for years 2001 through 2005. AmerenIP's reported worst-circuit CAIDI performance for 2005 (1968 minutes) is the highest (worst) of all utilities in the eight-utility group, though greatly improved from the worst circuit CAIDI of 3011 minutes AmerenIP reported in 2004.

Figure 55

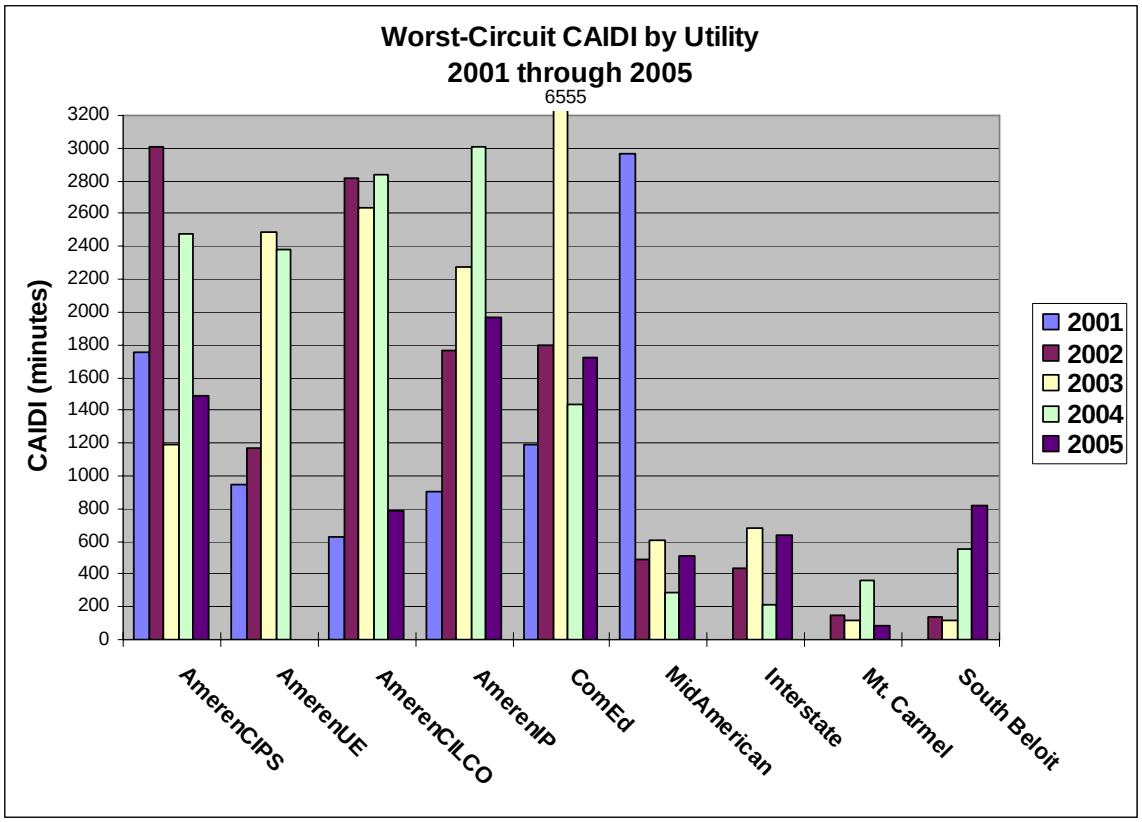


Figure 56

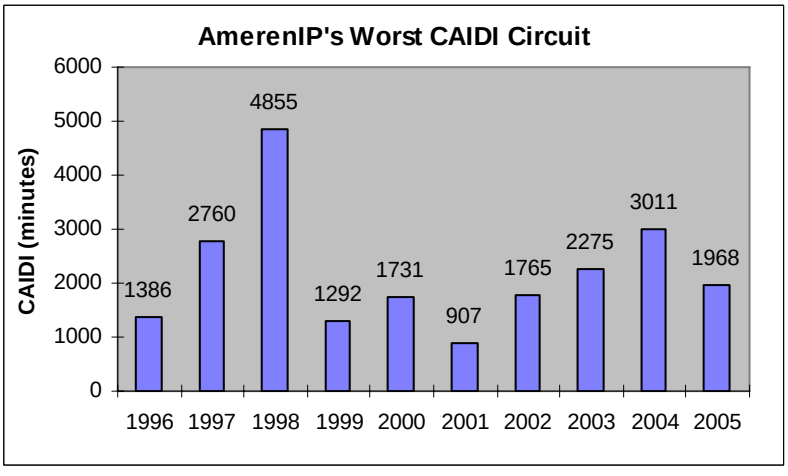


Figure 56 shows the CAIDI index of AmerenIP's single worst performing circuit in each of the last ten years. Similar to the trend for its overall CAIDI , AmerenIP's reported worst-circuit CAIDI showed a generally worsening trend from 1999 to 2004 before improving in 2005. Though high compared to other utilities, AmerenIP's reported worst-circuit CAIDI for 2005 is 34.6% better than it reported for year 2004 and 13.5% better than it reported for year 2003.

Table 7 shows the number and percentage of AmerenIP customers who experienced no service interruptions or less than four service interruptions for each of years 2000 through 2005. This information is also presented graphically in Figure 57. Note that the percentage of AmerenIP customers with no service interruptions fell below 25% in 2005, the first time that has happened in the 2000-2005 period. The percentage of AmerenIP customers with less than four interruptions remained about the same in 2005 as in the prior year.

Table 7

AmerenIP Customers with No Interruptions or Less Than Four Interruptions

Year	Total Customers	Customers with No interruptions		Customers with < 4 interruptions	
2000	588,288	196,680	33.43%	505,194	85.88%
2001	589,568	228,055	38.68%	540,960	91.76%
2002	592,741	245,633	41.44%	552,333	93.18%
2003	596,892	234,320	39.26%	544,887	91.29%
2004	600,585	204,181	34.00%	532,373	88.64%
2005	615,272	148,920	24.20%	542,262	88.13%

Figure 57

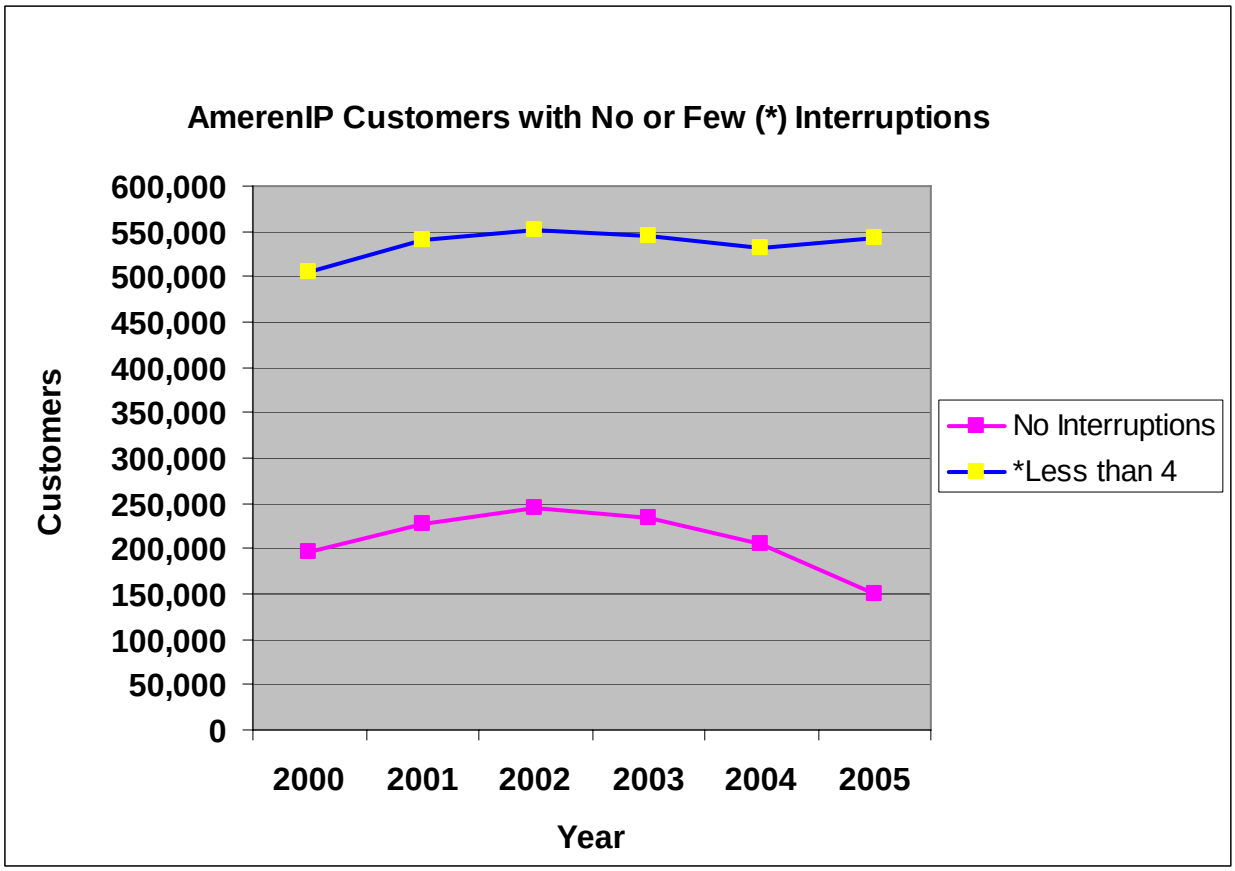


Table 8 shows the number and percentage of AmerenIP customers who experienced more than six and more than ten service interruptions for each of years 2000 through 2005. This information is also presented graphically in Figures 58 and 59. Note that the numbers of AmerenIP customers in both of these categories improved dramatically in 2001 from the prior year, and 2002 was even better. The trend for both categories reversed after 2002, however, until improving again in 2005. A total of 7,111 AmerenIP customers (1.16% of AmerenIP's customers) experienced more than six service interruptions in 2005, down from 7,713 customers in 2004. A total of 94 AmerenIP customers experienced more than ten service interruptions in 2005, down from 110 customers in 2004. The general direction of these trends is consistent with AmerenIP's trend for company-wide SAIFI discussed earlier.

Table 8

AmerenIP Customers with More Than Six and More Than Ten Interruptions

Year	Total Customers	Customers with > 6 interruptions		Customers with > 10 interruptions	
2000	588,288	12,093	2.06%	1,391	0.24%
2001	589,568	3,632	0.62%	65	0.01%
2002	592,741	2,731	0.46%	41	0.01%
2003	596,892	4,473	0.75%	99	0.02%
2004	600,585	7,713	1.28%	110	0.02%
2005	615,272	7,111	1.16%	94	0.02%

Figure 58

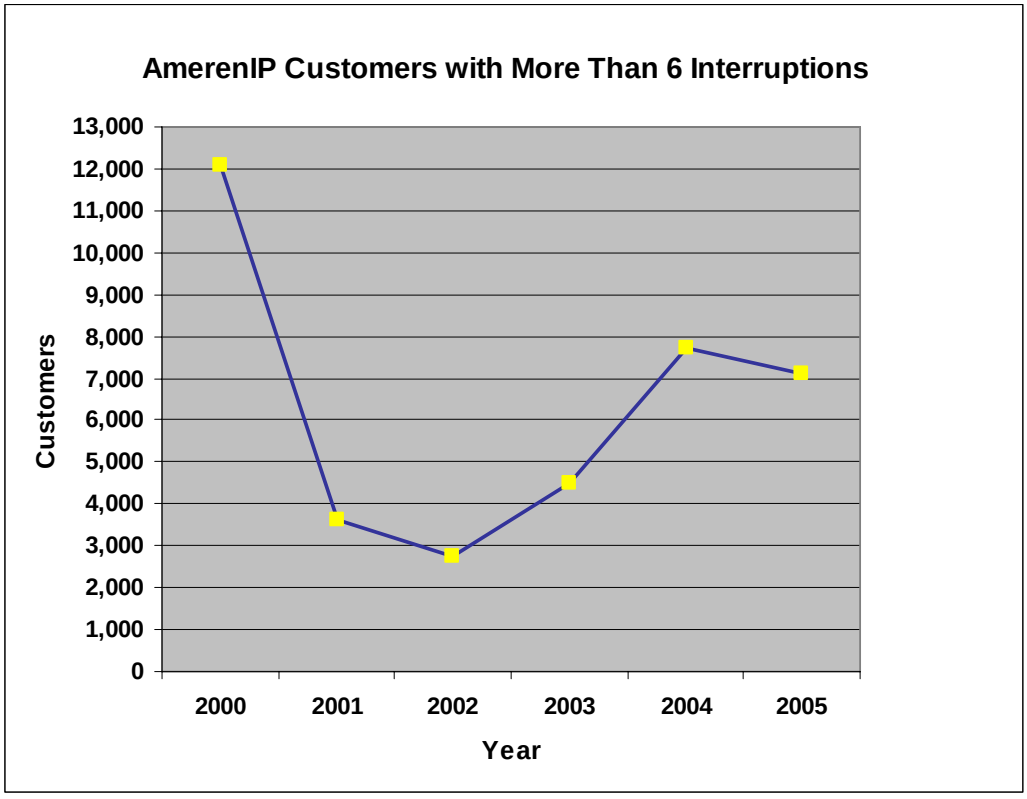
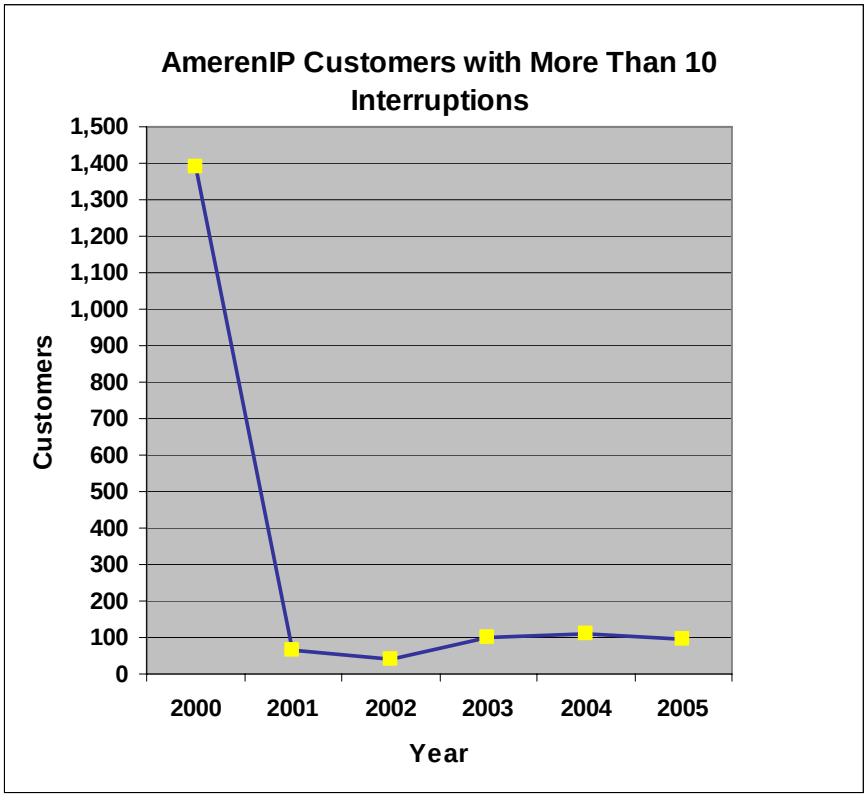


Figure 59



Overall, the statistics provided in AmerenIP's 2005 reliability report indicate an improvement of the company-wide frequency of interruptions compared to similar data reported for 2004, but a worsening from that reported for 2003. Even with these improvements from 2004, however, the AmerenIP overall SAIFI performance in 2005 was worse than average when compared to other utilities. AmerenIP's reported duration of interruptions for 2005 was better than its similar data provided for the past two years, but both its company-wide and worst-circuit CAIDI for 2005 were the worst of all the reporting utilities.

9. AmerenIP's Plan to Maintain or Improve Reliability

Specific plans described in AmerenIP's 2005 annual reliability report to maintain or improve reliability include the following:

- AmerenIP reported that it will continue to install additional tap fuses in 2006, prioritizing circuits based on the total number of customer interruptions associated with total feeder outages.

- AmerenIP will complete routine and corrective substation maintenance projects in 2006 that are identified through the practices and processes currently in place.

- Several projects stemming from capacity planning will be implemented in 2006 to reduce the risk of equipment failure due to overload, to improve reserve capability and thereby reduce outage duration, and to upgrade facilities to address condition issues.

- One SCADA controlled switch installation on the subtransmission system is presently scheduled for 2006. The SCADA controlled switches provide remote monitoring and facilitate sectionalizing the system to isolate a problem and minimize service restoration time.

- AmerenIP will continue the Pole Inspection and Treatment Program in 2006, focused on transmission and subtransmission circuits (with only occasional inclusion of a 12 kV or lower voltage primary backbone feeder). In 2006, AmerenIP plans to inspect approximately 5,000 poles, C-truss nearly 140 poles, and replace another 100 poles. This program is on a 12-year cycle.

  Staff believes that all 12 kV and lower voltage primary distribution circuits should be included in the focus of this program. Without a distribution circuit focus, the effects of this program on customer service reliability improvement will be very limited.

- AmerenIP reported that it is committed to maintaining a four-year tree trimming cycle and will continue to focus on the changes implemented as a result of being incorporated into Ameren's Vegetation Management Program in 2005. Enhancements include a "cycle-buster" program, integration of a tree-manager program, and institution of a tree-audit program. Complete trimming is scheduled on 270 circuits in 2006.

  Staff noticed that tree trimming was well done, overall, on most of the AmerenIP circuits it inspected in 2006. Staff noted significant exceptions on three of the circuits it inspected this year, as has been noted previously and in the summaries of Staff's circuit inspection notes. In addition to maintaining a four-year trim cycle, as AmerenIP has committed to do, it also needs to assure compliance with 2002 NESC Rule 218 by assuring that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

- AmerenIP will continue to retrofit animal protection on circuits, portions of circuits, or substations identified as affected by or susceptible to animal intrusion. Additionally, animal protection will continue to be installed on all newly installed transformers.

  Except for new transformers, AmerenIP's stated policy is "to install animal protection at the time an animal outage occurs." Staff noted that additional animal guards are needed on several of the circuits it inspected this year. AmerenIP needs to take a more proactive approach to animal protection in its existing electric system, rather

than waiting for animal-caused interruptions to occur before installing the needed animal guards.

- AmerenIP patrols distribution circuits and addresses problems as they are identified. Currently, distribution circuits are inspected on a four-year rotation. In addition to routine maintenance inspections, tree trimming personnel report deficiencies and other concerns identified on the circuit during their trimming cycles. Circuits which are identified as worst performing are reviewed with additional scrutiny.

  Note: In its 2004 reliability report, AmerenIP reported that "a Circuit Patrol Team has been formed to develop and implement a standard schedule to patrol sub-transmission and distribution circuits to improve and maintain circuit performance. This team will provide a policy and schedule for regular circuit inspections that will be implemented Ameren-wide when it completes its work in 2005." ***Ameren has advised Staff that it does not plan to complete the necessary training and rollout of its new circuit inspection program until the end of January 2007.***

- Some AmerenIP engineering systems and the mobile map viewing software will be converted to Ameren's systems during 2006. Consistent engineering programs aid in the planning process. Outage response during significant events may be enhanced through better sharing of Ameren resources.

- AmerenIP will begin implementation of the Automated Meter Reading (AMR) process in 2006, with completion projected for 2009. This metering technology works with Ameren's OAS system to recognize and report an interruption of electrical service at the customer's premise. With this information, OAS does not rely solely on customers calling in, but begins to assess the scenario to predict the most likely location of the highest protective device. Response personnel will be able to more quickly locate the problem and take appropriate actions.

AmerenIP's reported annual expenditures for its distribution system, distribution tree trimming, and transmission system for years 2000 through 2005, and the 2006 through 2008 budgets for these categories, are provided in Table 9. This information for the distribution system and for distribution tree trimming is also represented graphically in Figures 60 and 61, respectively. *Note that beginning with the 2005 data (except tree trimming) in Table 9 and in Figure 60, Ameren included certain loadings not previously included in data reported by Illinois Power Company. The data for 2005 and later years are not comparable, therefore, to the data for earlier years.* ***Staff requested that AmerenIP provide actual expenditures data for years 2000-2005 that were comparable to its budget estimates going forward. AmerenIP's response was that "it would take a tremendous effort to attempt to assimilate this historical information into a format comparable to CBS [AmerenIP's new accounting system]. Even then the results are uncertain, as would be the comparability of the data." Because AmerenIP's historical data and its on-going data are not compatible, it is impossible for Staff to develop meaningful trends of its expenditures and budget information at***

this time. Staff is also concerned about the likelihood of this situation improving in the near term, since AmerenIP also said "We will continue to see some variability in year-to-year budget comparisons due to our process for removing A&G from the overall expenditures."

Table 9

Year	Distribution (x1,000)			Dist. Tree Trimming (x1,000)	Transmission (x1,000)		
	Capital	O & M	Total		Capital	O & M	Total
2000	$81,747	$50,311	$132,058	$10,441	$6,095	$18,077	$24,172
2001	$89,952	$54,549	$144,501	$11,757	$11,585	$17,155	$28,740
2002	$89,083	$51,542	$140,625	$13,371	$8,687	$16,235	$24,922
2003	$94,100	$58,656	$152,756	$13,151	$5,399	$10,190	$15,589
2004	$84,816	$57,613	$142,429	$12,030	$4,655	$4,644	$9,299
2005	$101,962	$69,535	$171,497	$14,574	$8,723	$11,642	$20,365
2006 Budget	$105,004	$104,899	$209,903	$13,835	$12,658	$21,840	$34,498
2007 Budget	$108,552	$106,996	$215,548	$14,250	$82,263	$22,278	$104,541
2008 Budget	$103,656	$109,136	$212,792	$14,677	$35,227	$22,723	$57,950

Figure 60

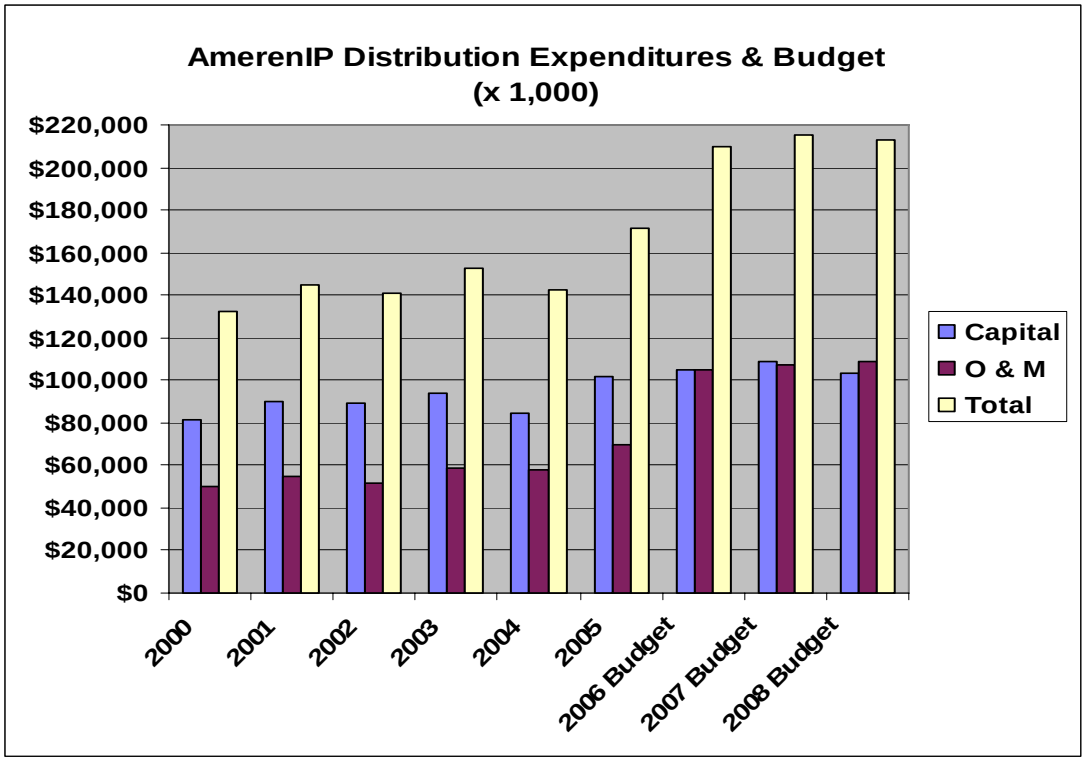
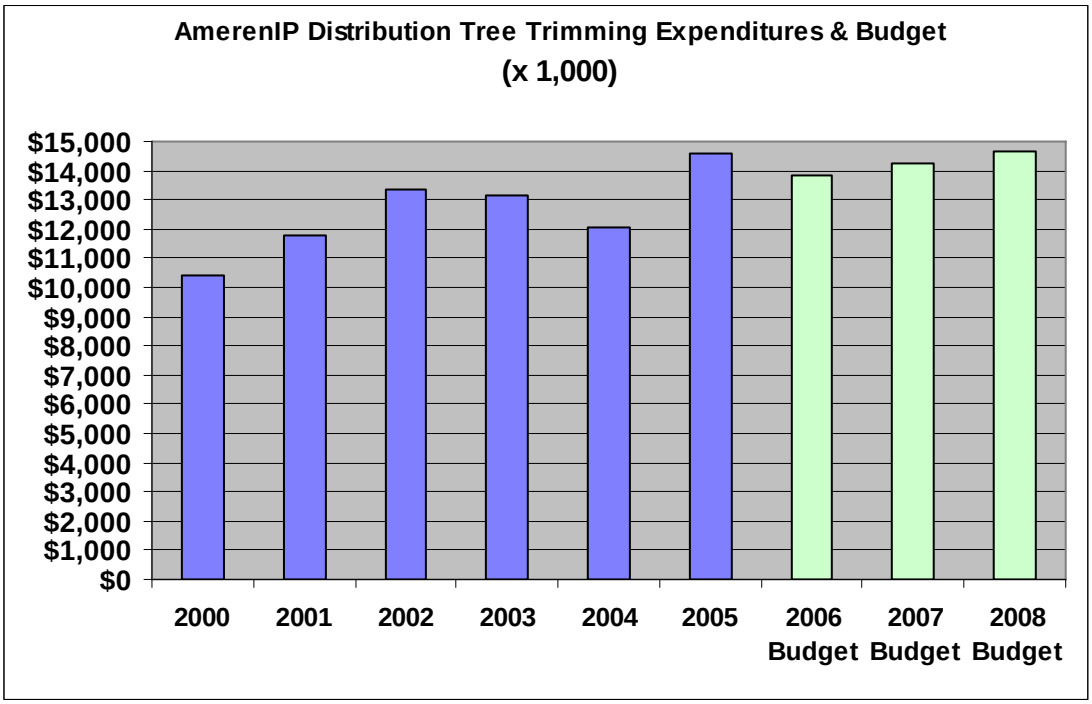


Figure 61



AmerenIP provided a description of actions taken or planned for each of the worst performing circuits listed in its 2005 reliability report. Each of the problems described in the outage history for each circuit was addressed in some way by the described actions taken or planned. AmerenIP's reported actions taken or planned for each circuit seemed reasonable, but it should also address any additional problems revealed on each of the circuits during Staff's circuit inspections.

10. Potential Reliability Problems and Risks

One of the more common problems Staff noted during its inspections of AmerenIP circuits again this year was the need for more lightning arresters in the rural areas of several of the circuits. In many cases, structural lightning damage is evident in the areas of long rural exposure which have infrequent lightning arrester placement. The lack of adequate lightning protection on rural circuits will cause many of the interruptions attributed to weather. AmerenIP should take a more active role in determining circuits or portions of circuits that are deficient in lightning protection and in correcting those deficiencies.

Animal guarding was well done on most of the AmerenIP circuits Staff inspected this year, but more animal guards are needed on three of the circuits Staff inspected. Animals were listed as the cause for 13.79% of AmerenIP's total service interruptions (events) in 2005. AmerenIP needs to take a more proactive approach to animal protection in its electric system, rather than waiting for animal-caused interruptions to occur before installing the needed animal guards.

AmerenIP listed trees as the cause for only 6.77% of the events and 5.73% of the customer interruptions in 2005. Staff did not perform any random inspections of tree conditions in AmerenIP service territory in 2006, but did note that tree trimming was well done, overall, on most of the distribution circuits it inspected. Staff noted significant exceptions on three of the circuits it inspected this year, as has been noted previously and in the summaries of Staff's circuit inspection notes. Many of the interruptions AmerenIP attributed to weather in 2005 may have also been tree related. AmerenIP reported that it is committed to stay on a four-year tree trimming cycle, but it also needs to assure compliance with 2002 NESC Rule 218. To be in compliance with 2002 NESC Rule 218 and to minimize the risk of tree-related interruptions, AmerenIP needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

Staff noted violations of the National Electrical Safety Code at <u>twenty-eight</u> locations on AmerenIP electric circuits this year, which is far more than it found at any other utility in 2006 and far more than noted at any utility in Illinois during each of the preceding six years. All of these safety code violations pose a risk to service reliability and public safety. Code violations at seventeen of the noted locations involve the lack of guy strain insulators in ungrounded downguys or overhead guys, four locations involve inadequate clearances, and seven locations involve single wood crossarms supporting AmerenIP's primary circuit crossings over railroads. **There should not continue to be so many NESC violations in AmerenIP's electric system.** While AmerenIP has been responsive to the code violations discovered by Staff's inspections, it needs to take a more proactive role in finding and addressing these problems throughout its electric system and in preventing the occurrence of them in the first place.

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

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

AmerenIP reported that the remedial actions to be done in 2005 for each of its year 2004 worst performing circuits, as described in its 2004 reliability report, were accomplished. Upon reviewing the status of these planned actions for each circuit, Staff finds the corrective actions taken to be reasonable.

12. Summary of Recommendations

- First, AmerenIP should take a more proactive role in finding and addressing National Electric Safety Code (NESC) violations throughout its electric system and in preventing such occurrences in the first place. Staff discovered NESC violations on AmerenIP circuits at twenty-eight locations this year. All of these safety code violations pose a risk to service reliability and public safety. While AmerenIP has been responsive in resolving these issues when discovered by Staff, it should not rely on Staff to cause the code violations to be addressed. AmerenIP should assure that watching for and noting NESC violations of these and other types are included in its circuit inspection program and that all violations found are resolved in a timely manner.

- Second, AmerenIP should do whatever is necessary to maintain a four-year (minimum) tree trimming cycle that is also in compliance with 2002 NESC Rule 218 throughout its service territory. Staff noted that tree trimming was well done, overall, on most of the AmerenIP distribution circuits it inspected this year, but there were many tree trimming problems on three of the circuits inspected. AmerenIP needs to assure that all trees near its lines throughout its service territory are trimmed such that there are no tree contacts with its energized primary conductors before it returns to trim them again.

- Third, AmerenIP should take a more active role in determining circuits or portions of circuits that are deficient in lightning protection and animal protection, and in correcting those deficiencies.

- Fourth, AmerenIP should investigate all of the problems noted during Staff's inspections of worst performing and other circuits (see Attachments "A" through "P") and take appropriate remedial actions addressing any problems on those circuits, whether or not noted by Staff, which can significantly affect service reliability or public safety.

- Fifth, AmerenIP should follow through with its action plans listed in its Supplemental Report (as a minimum) in an effort to prevent those customers who experienced interruptions in excess of the service reliability targets in each of the last three or more years from exceeding the targets again.

- Sixth, AmerenIP should perform field inspections of all circuits on a regular basis and correct the problems found which can significantly affect reliability or public safety.

Attachment “A”

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/6-7/06**
Circuit:	**H10843 (Witt, Irving, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving Witt, Irving, and a large rural area mostly west & northwest of those communities. Tree trimming looked good, and animal guarding in Witt, Irving, and most of the rural areas was well done. There were several areas of the circuit with new poles and crossarms. Some lightning arresters have been added in rural areas, but more are needed. Some portions of the circuit were inaccessible. There were several mapping errors. ***Neither Witt nor Irving were labeled on the circuit maps provided.*** ***One NESC violation was noted.***		

Map No.	*Item Description*	*Photo(s)*	*Location*
1 of 115	Blown lightning arrester		At Sta. 14651 on Oil Field Ave, west of Witt Substation.
2	Missing guy marker		2 spans from east end of circuit on N. 20th Ave. (at Sta. 14395)
5	Blown lightning arrester (on road side)		At Sta. 14400 on N 21st Ave.
5	Blown lightning arrester (on road side) & missing guy marker		At Sta. 18209 on N 21st Ave.
6	Missing guy marker		On N. 21st Ave. at tap to Sta. 15836.
7	Broken neutral spool		5 spans west of Sta. 14408 on N. 22nd Ave.
10	Shell rotted pole		2 spans east of E. 10th Rd. on Oil Field Ave.
12	Badly shell rotted pole		2 spans west of Hamel Rd. on Oil Field Ave.
12	Badly shell rotted pole & broken ground wire		On Oil Field Ave. at the 1st pole west of the tap to Sta. 14655.
13	Many splices in primary conductors		Along Oil Field Ave. east of New Bridge Rd. & along New Bridge Rd. south of Oil Field Ave.
13	Missing guy marker		On Oil Field Ave. at tap to Sta. 14657.
14	Many splices in primary conductors		Along New Bridge Rd.
14	Badly shell rotted pole	107-0795	3rd pole east of Rt. 127 on McKay Ave.
14	Missing guy marker		Stub pole at NE corner of New Bridge Rd. & McKay Ln.
15	Badly shell rotted pole with large woodpecker hole	796, 797	2 spans east of Held Rd. on McKay Ave.
16	Blown lightning arrester (on field side)		6 spans north of N. 18th Ave. on Held Rd.
18	Missing guy marker		At Sta. 23303 on Rendering Rd.
18	Missing guy marker		At 1st pole immediately north of N. 17th Ave. on Rendering Rd.
18	1 large & 6 small woodpecker holes in pole	798	2nd pole west of Sta. 24691 on N. 17th Ave.
19	Badly shell rotted pole		1st pole south of Sta. 18926 on E. 7th Rd.
20	Lightning damaged pole top & large woodpecker hole in pole	799	2nd pole north of Wares Grove Ave. on E. 7th Rd.
21	Tree about 1 foot from primary (conductor spliced on both sides of tree)		In 1st span going south to Sta. 21460 from Doctors Ln. (not labeled on map)
21	Large woodpecker hole in pole		1st pole east of Rainmaker Tr. on Wares Grove Ave.
21	3 woodpecker holes in pole top		1st pole east of Lemon Ln. on Wares Grove Ave.
22	Woodpecker hole in pole above neutral		On Rainmaker Tr. at the 2nd pole east of tap to Sta. 24178
22	Split pole top & woodpecker hole in pole	108-0801	2 spans west of Rainmaker Tr. on Rainmaker Tr.
22	Split (lightning damaged) pole top	107-0800	1 span north of Rainmaker Tr. on Rainmaker Tr.
22	Broken neutral spool		2 spans north of Rainmaker Tr. on Rainmaker Tr.
31	Split pole top	108-0812	1st pole west of Sta. 14421on N. 19th Ave. (incorrectly labeled N. 21st Ave. on map)
37	Missing guy marker		At east end of circuit on Lake Glenn Shoals.
42	Woodpecker hole in pole top		1st pole south of Sta. 14445 on E. 14th Rd.
45	Woodpecker hole in pole		On Witt Ave. at the 1st pole west of tap to Sta. 19815.
47	Split (lightning damaged) crossarm	824	1st pole south of N. 19th Ave. on E. 15th Rd.
50	Broken neutral downguy		On Janssen Tr. at Sta. 14458.
52	Broken downguy		On N. 21st Ave. at tap to Sta. 15906.
55	Missing guy marker		At south end of circuit on Hoglake Rd.
56	Missing guy marker		1 span north of Sta. 14471 on Hoglake Rd.
57	Missing guy marker		At corner of N. 22nd Ave. & Hoglake Rd.
63	Lightning damaged pole top		2 spans south of Witt Ave. on E. 17th Rd.
63	Split (lightning damaged) crossarm & bolt coming out of poletop pin	823	On Witt Ave. 1 span west of E. 17th Rd.
63	Blown lightning arrester (road side)		1st pole east of E. 17th Rd. on Witt Ave.
64	Lightning damaged pole top		On Witt Ave. at 3rd pole west of tap to Sta. 14537.

Attachment “A” (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/6-7/06**
Circuit:	**H10843 (Witt, Irving, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
66	Shell rotted pole		1st pole SE of Talmage St. in tap to Sta. 18050, Witt (not labeled on map).
67	**Code clearance violation (NESC 232.B.1):** Inadequate neutral clearance above ground ("pasture" area). *Neutral clearance field checked by AmerenIP in April 2006 and found to be 11' 5" above ground (15.5 ft. required). Corrected by AmerenIP on 5/19/06.*	813, 814	North of Hillside Ave. in last span of tap to Sta. 14545, northeast of Witt.
67	Missing guy marker		At Sta. 14544 in tap going south from Hillside Ave.
68	Tree close to primary		On Messimore St. just south of Vermillion St., Witt (Witt not labeled on map).
71	Broken lightning arrester on CSP transformer	820	Transformer station 14548 on N. 17th Ave. 5 spans east of Witt Tr.
71	Badly split (lightning damaged) pole top	821, 822	1st pole east of Sta. 14548 on N. 17th Ave.
72	Broken spool		1st pole west of Sta. 14549 on N. 17th Ave.
72	Missing guy marker		At Sta. 14549 on N. 17th Ave.
72	Large woodpecker hole in pole top		2nd pole east of Sta. 22608 on N. 17th Ave.
72	Missing guy marker		3rd pole east of Sta. 22608 on N. 17th Ave.
73	Bad pole top	815	1st pole south of Sta. 17010 on Witt Tr.
73	Lightning damaged pole top (minor)		2nd pole north of Sta. 17007 in tap going south from N. 17th Ave.
73	Broken spool		1st pole north of Sta. 17007 in tap going south from N. 17th Ave.
74	Poletop pin coming off pole & lightning damaged pole top	819	3rd pole east of Sta. 14558 on N. 16th Ave.
74	Missing guy marker		6th pole east of Sta. 14558 on N. 16th Ave.
75	Lightning damaged pole		3rd pole south of the tap to Sta. 14555, on Witt Tr.
75	Minor lightning damage to 4 poles		2nd, 3rd, 4th, & 5th poles north of the tap to Sta. 14555, on Witt Tr.
76	Lightning damaged pole		5 spans north of E. 15th Ave. on Witt Tr.
76	Missing guy marker		4th pole west of Sta. 14556 on E. 15th Ave.
76	Missing guy marker		3rd pole west of Sta. 14556 on E. 15th Ave.
77	Deteriorated pole top		2 spans south of N. 16th Ave. on E. 20th Rd.
78	Bad pole top	817	2nd pole south of Elbow Tr. on E. 20th Rd.
78	Missing guy marker		1st pole south of Elbow Tr. on E. 20th Rd.
78	Split pole top		1st pole east of E. 20th Rd. on Elbow Tr.
78	Lightning damaged pole top		3rd pole east of E. 20th Rd. on Elbow Tr.
78	Split pole top	816	On Elbow Tr. at the 1st pole northwest of Sta. 14563.
79	Lightning damaged pole top		3rd pole north of Sta. 14565 on E. 20th Rd.
79	Deteriorated pole top & missing guy marker		4th pole east of E. 20th Rd. on Carriker Tr. (corner pole).
79	Badly split pole top	818	1st pole west of tap to Sta. 14566 on Carriker Tr. (corner pole).
79	Broken spool		2nd pole east of tap to Sta. 14566 on Carriker Tr.
80	Woodpecker hole in pole		3 spans from east end of circuit on Carriker Tr.
80	Broken spool		1 span from east end of circuit on Carriker Tr.
83	Woodpecker hole in pole top		At Sta. 18320 in tap going west from Oak Grove Rd.
83	Woodpecker hole in pole		1st pole north of Sta. 12519 on Oak Grove Rd.
83	Missing guy marker		1st pole south of N. 17th Ave. in tap going south to Sta. 23360.
84	9(+) large woodpecker holes in pole	809, 810, 811	1st pole south of Sta. 14489 on Oak Grove Rd.
86	Missing guy marker		1st pole east of Irving Rd. in tap going east to Sta. 14496.
87	Lightning damaged crossarm		4th pole north of Sta. 14497 on Irving Rd.
89	Broken downguy		At Sta. 11125 on 14th St. (not labeled on map) west of Bell St., Irving.
92	Missing guy marker		At Sta. 14522 on N. 14th St., west of Irving (not labeled on map)

Attachment "A" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/6-7/06**
Circuit:	**H10843 (Witt, Irving, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
97	Lightning damaged pole top		2nd pole north of Sta. 14507 on Tuetken St.
102	Split pole top	802	1st pole south of Sta. 20314 in tap going south from Meisenheimer Ave.
104	2 woodpecker holes in pole		1st pole south of White Ave. on E. 14th Rd.
104	Downguy (covered with line hose or guy marker material) very close to 7.2 kV jumper to transformer and rubbing on neutral conductor. No strain insulator in downguy--not cited as an NESC violation because guy is grounded at the top.	808	At Sta. 16054 on White Ave., west of Irving.
105	Woodpecker hole in pole top		4th pole north of Sta. 22609 on E. 14th Rd.
105	Large woodpecker hole near top of pole		3rd pole north of Sta. 22609 on E. 14th Rd.
105	16(+) woodpecker holes in pole	806, 807	1st pole north of Sta. 22609 on E. 14th Rd.
110	Lightning damaged pole top & woodpecker hole near top of pole		6th pole south of tap to Sta. 23809 on Dons Rd.
113	Missing guy marker		1st pole west of Raven Ln. on Buck Dr.
113	Split pole top		4th pole west of Raven Ln. on Buck Dr. (near NE corner of Buck Dr. & Spike Rd.)
113	12(+) large woodpecker holes in pole	803	1st pole north of Buck Dr. on Spike Rd.
113	Large woodpecker hole in pole top (back side)		1st pole west of Spike Rd. on Doe Run Dr.
113	2 large joining woodpecker holes in top of pole (pole top hollow)	804, 805	1 span east of Fawn Ct. on Doe Run Dr.
113	Large woodpecker hole near pole top		1 span west of Fawn Ct. on Doe Run Dr. (at Sta. 22650).
113	Woodpecker holes in pole top		At Sta. 23461 on Doe Run Dr.
114	Pine trees close to primary		In 1st span south of Meisenheimer Ave. on Greggs Ln. (not labeled on map)

Attachment "B"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/8/06**
Circuit:	**J80806 (Wilsonville, Dorchester, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, serving Wilsonville, Dorchester, and a rural area mostly west of those communities. Tree trimming looked good. Animal guarding was sporadic in Wilsonville, Dorchester, and in the rural areas. Several new poles were noted. ***Neither Wilsonville nor Dorchester were labeled on the circuit maps provided, and several of the roads were not labeled or incorrectly labeled.*** There were also some other mapping errors. Several portions of the circuit were inaccessible. ***NESC violations were noted at four locations.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
2 of 34	Broken strand in neutral conductor	108-0827	In 4th span north of Fahrenkrog Ln. in tap to Sta. 12607.
6	**Code violations (NESC 279.A.2):** Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	828	34 kV Str. 298 (Str. 132 on map) on Miles Station Rd. (2nd pole east of Sta. 12755).
6	**Code violations (NESC 279.A.2):** Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	829, 830	34 kV Str. 299 (Str. 133 on map) on Miles Station Rd. (1st pole east of Sta. 12755).
8	Missing guy marker		1st pole north of Sta. 12760 on Shaw Rd.
9	Shell rotted pole		On Shaw Rd., 1 span north of junction with Kent Ln.
9	2 missing guy markers		1st pole south of Sta. 11962 at the corner of Kent Ln. & Kent Rd.
13	**Code violations (NESC 279.A.2):** Ungrounded 34 kV & 12 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	836	34 kV Str. 345 (Str. 179 on map) 1 span west of Schoeneman Rd. on Miles Station Rd.

Attachment "B" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/8/06**
Circuit:	**J80806 (Wilsonville, Dorchester, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
13	**Code violations (NESC 279.A.2):** Ungrounded 34 kV downguys without strain insulators below energized conductors. *AmerenIP installed guy strain insulators in the downguys 5/10/06.*	835	35 kV Str. 344 (Str. 178 on map) at corner of Schoeneman Rd. & Miles Station Rd.
15	Split pole top	831	1st pole north of Sta. 12775 on Stevenson Rd.
15	Broken spool		3rd pole south of Sta. 12775 on Stevenson Rd.
16	Woodpecker hole through pole	832	2 spans south of Baker Rd. in tap going south to Sta. 25076.
22	Missing guy marker		At Sta. 15797 in the easement between Hayden & Dewhirst Sts. (south of Jermain St.), Dorchester (not labeled on map).
23	Shell rotted pole		1 span south of Rt. 138 on Krieger Ln.
24	Broken spool		1 span east of corner of Krieger Ln. & east-west road not labeled on map.
26	Woodpecker hole in pole		1st pole west of Sta. 19491 on Pike Rd. (incorrectly labeled as Mansholt Rd. on the map provided).
29	Missing guy marker		At Sta. 18690 on Stamme St., north of Center St., Wilsonville.
29	Missing guy marker		Corner of Stamme & Callie Sts., Wilsonville.
29	Missing guy marker		Corner of Stamme & Washington Sts., Wilsonville.
30	Missing guy marker		Fishers St. at Schmidt St., Wilsonville.
30	Missing guy marker		At Sta. 21384 on Schmidt St. south of Callie St., Wilsonville.
30	Missing guy marker		At Sta. 12437 on Wilson St. south of Fishers St., Wilsonville.
30	Split pole top		Corner of School & Fishers Sts., Wilsonville.
30	Missing guy marker		On guy stub pole on the south side of Dean St., at Gillespie St., Wilsonville.
30	Broken downguy & missing guy marker		On guy stub pole at the northeast corner of Dean & Gillespie Sts., Wilsonville.
30	Missing guy marker		At Sta. 12427 on Simmons St., east of Mathis St., Wilsonville.
31	2 missing guy markers		Corner of Wilson & S. Sawyer Sts., Wilsonville.
31	Missing guy marker		At Sta. 22088 on Wilsonville Rd., Wilsonville.
31	Missing guy marker		On Wilsonville Rd. at tap to Sta. 22053, Wilsonville.

Attachment "C"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/8/06**
Circuit:	**Q27186 (Addieville & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving Addieville and a small rural area mostly between Addieville & Okawville. The circuit looked very good overall except for the NESC violations involving guy strain insulator problems as noted below. Animal guarding and tree trimming were very well done. ***NESC violations were noted at six locations.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
1 of 13	Missing guy marker		At Sta. 11692 at end of tap going north from Rt. 160.
2	2 split pole tops		Along Rt. 160, 5 & 7 spans northwest of intersection with Mallard Rd.
8	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a single phase crossing of a railroad, on the south side of the railroad crossing. (Double crossarms required). *AmerenIP installed double crossarms on the south side of the crossing 816/06.*	108-0837	1st pole north of Rt. 160 in the tap to Sta. 11725.

Attachment "C" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**3/8/06**
Circuit:	**Q27186 (Addieville & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
9	**Code violations (NESC 279.A.2):** Ungrounded 12 kV downguys without strain insulators below energized conductors (2 downguys going south and 1 downguy going east). *AmerenIP installed guy strain insulators 8/16/06.*	838	Corner pole on the south side of CH 6 where the circuit goes cross-country to the north.
9	Broken primary (top) downguy, and: **Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (3 downguys going west). *AmerenIP installed guy strain insulators 8/16/06.*	839, 840	3-way corner pole on the north side of CH 6 where the circuit goes cross-country to the north.
9	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (downguys going west and going southeast). *AmerenIP installed guy strain insulators 8/16/06.*		Corner pole on the south side of CH 6 where the circuit goes northwest to Sta. 11726.
10	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (downguys going north). *AmerenIP installed guy strain insulators 8/16/06.*		Northwest corner of N. Gaebe & Center Sts., Addieville.
10	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (downguys going south). *AmerenIP installed guy strain insulators 8/16/06.*		Southeast corner of N. Gaebe & Center Sts., Addieville.

Attachment "D"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/4/06**
Circuit:	**P58155 (Mt. Vernon)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving a southwestern portion of the City of Mt. Vernon. Several new poles are scattered throughout the circuit, and only one structural problem was noted. Animal guarding was well done. There were several tree trimming problems. ***One NESC clearance violation was noted.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
1 of 6	**Code clearance violation (NESC 234.B.2):** 12 kV spacer cable primary crossing over a skip-span pole with approximately 12" vertical and 12" horizontal clearance. (At least 2.5 ft. vertical or 5 ft. horizontal clearance is required.) *AmerenIP resolved clearance problem 5/30/06 by cutting top off of skip-span pole.*	108-0868	Just west of 25th St. on Casey Ave., Mt. Vernon.
1	Soft maple tree into primary	869, 870	Cherry St. at 24th St., Mt. Vernon.
1	Soft maple tree into primary	871	24th St. south of Cherry St., Mt. Vernon.
1	Soft maple tree into primary	872, 873	24th St. just north of Logan St., Mt. Vernon
1	Trees into primary		South of Logan St. in the alley between 24th & 25th Sts., Mt. Vernon.
2	Wood crossarm brace disconnected from pole		Between Stas. 21999 & 16215 in tap going west from S. 34th St., Mt. Vernon.
5	Trees into primary		On 28th St. just south of E-W street not labeled on map (street that Sta. 22047 is on), Mt. Vernon.
5	Trees into primary	874	In 1st span north of Sta. 10647 on 28th St., Mt. Vernon.
5	Trees into primary		On Jones St. just west of 28th St., Mt. Vernon.
5	Trees very close to primary		In the alley between S. 25th & S. 26th Sts., on both sides of Sta. 10655 (north of Ferguson St.), Mt. Vernon.
5	Trees close to primary		Just south of Forest St. in the alley between 22nd & 23rd Sts., Mt. Vernon.
6	Soft maple trees into primary		Just east of S. 34th St. in the easement south of Lime Ave., Mt. Vernon.

Attachment "E"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/4/06**
Circuit:	**Q95248 (Scott Air Force Base, Belleville)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, serving a small eastern portion of Belleville and Scott Air Force Base, east of Belleville. Portions of the circuit are inaccessible, and virtually all of the circuit on Scott Air Force Base is underground. There were no apparent problems except for one blown apart lightning arrester. Several blown lightning arresters have been replaced.		
Map No.	***Item Description***	***Photo(s)***	***Location***
3 of 10	Lightning arrester blown apart (road side)	108-0875	2nd pole south of Sta. 13597 on Il Rt. 158

Attachment "F"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/4/06**
Circuit:	**Q23256 (O'Fallon)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving an eastern portion of O'Fallon. Much of the circuit is either underground or in rear easements. There were some tree conflicts, but few other problems were noted.		
Map No.	***Item Description***	***Photo(s)***	***Location***
1 of 4	Trees close to primary		Just north of Jefferson St. in the alley east of Smiley St.
1	Tree into primary	108-0877	Between Stas. 22626 & 22627 on Estate St.
1	Soft maple tree into primary	876	Between Stas. 22627 & 22628 on Estate St.
3	Tree close to primary		On Hilgard St. at 2nd St.
3	Cedar tree very close to primary		Just north of the intersection of 2nd St. & Edna Dr.
4	1 broken spacer cable spacer & 1 spacer with primary disconnected		In the spacer cable going north from US RT. 50, just north of tap to Sta. 28580.
4	White pine tree growing into primary		In the spacer cable going north from US RT. 50, just south of tap to Sta. 36450.

Attachment "G"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/4/06**
Circuit:	**J84124 (Belleville)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Gen. Notes:	This was a worst performing 12 kV circuit in 2005, repeating as a worst performer from 2004 and 2002. It serves a western portion of Belleville. Most of the circuit is either underground or in easements. In the overhead feeder portions of the circuit inspected, no problems were noted. Animal guards were well done in those portions of the circuit inspected.		
Map No.	***Item Description***	***Photo(s)***	***Location***

Attachment "H"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/17/06**
Circuit:	**K65221 (Colfax, Ellsworth, Cooksville, & rural)**	**Inspector:**	**J. D. Spencer, w/ Rick Welton (AmerenIP)**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, serving Colfax, Ellsworth, Cooksville, and rural areas around those communities. There are some cross-country sections. Several new poles and crossarms are scattered throughout the circuit. Trees were well trimmed, with only three exceptions noted. More lightning arresters are needed in the rural areas. 12 blown or disconnected lightning arresters were noted. Many more animal guards are needed (except in Ellsworth, where some are needed). Many structural problems were noted, including 18 missing, broken, or slack downguys. Some of the structural problems were already noted by AmerenIP. 38 missing guy markers were noted, a very high number for AmerenIP. ***Neither Cooksville, Colfax, nor Ellsworth were labeled on the circuit maps provided.*** ***NESC violations were noted at four locations.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
4 of 58	Shell rotted pole & deteriorated pole top, missing guy marker		At Sta. 12337 east of CH21 (Rd. 2600E).
6	Very slack primary downguy		2nd pole west of CH 21 on IL Rt. 165.
6	Missing guy marker		1st pole west of CH 21 on IL Rt. 165.
7	Lightning damaged pole top	108-0899	2nd pole south of IL Rt. 165 on Rd. 2500E.
7	Lightning damaged pole top		3rd pole south of IL Rt. 165 on Rd. 2500E.
7	2 missing guy markers		At Sta. 12339 on IL Rt. 165 (Rd. 1800N).
9	Shell rotted pole with badly split top	108-0900	3rd pole east of CH21 on Rd. 1700N.

Attachment "H" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/17/06**
Circuit:	**K65221 (Colfax, Ellsworth, Cooksville, & rural)**	**Inspector:**	**J. D. Spencer, w/ Rick Welton (AmerenIP)**
Map No.	***Item Description***	***Photo(s)***	***Location***
10	Missing guy marker		At Sta. 11675 south of Rd. 1700N.
11	Missing guy marker		1st secondary pole south of Sta. 12371, Rd. 1700N.
11	Missing guy marker		2nd secondary pole south of Sta. 12371, Rd. 1700N.
11	Missing guy marker		On Rd. 1700N at tap going north to Sta. 12349.
11	Missing guy marker		1 span from west end of circuit on Rd. 1700N.
13	Badly split (lightning damaged) crossarm & wood brace	109-0901, 902	1st pole east of Rd. 2700E on IL Rt. 165 (Rd. 1800N).
13	Shell rotted pole		1 span north of IL Rt. 165 on Rd. 2700E.
13	Badly shell rotted pole		3 spans north of IL Rt. 165 on Rd. 2700E.
13	Badly shell rotted pole		2 spans south of Sta. 10433 on Rd. 2700E.
13	Badly shell rotted pole & broken ground wire		1 span south of Sta. 10433 on Rd. 2700E.
13	Missing guy marker		At Sta. 10433 on Rd. 2700E.
15	Windshake pole & broken ground wire		3rd pole west of Sta. 12361 on IL Rt. 165.
15	Broken ground wire		1st pole west of Sta. 12361 on IL Rt. 165.
15	Split pole top		1st pole west of IL Rt. 165 in tap to Sta. 12353, north of Cooksville.
15	Missing primary downguy		At Sta. 12353 west of IL Rt. 165, north of Cooksville.
16	Missing guy marker		Rt. 165 at Weinland St., Cooksville.
16	Missing guy marker		On CH 17, 3 spans north of North Rd., Cooksville.
16	Deteriorated pole top		Corner of North Rd. & Walnut St., Cooksville.
16 & 17	Missing primary downguy		On North Rd. at tap to Sta. 13389, east of Cooksville.
16 & 17	Missing guy marker		At Sta. 13389, north of North Rd., Cooksville.
17	2 split (lightning damaged) wood braces	904, 905	1 span east of tap to Sta. 13389, just north of North Rd. (Rd. 1800N).
17	Broken ground wire		1 span west of Rd. 2950E.
17	Blown lightning arrester		At Sta. 13395 on Rd. 2950E.
17	3 badly shell rotted poles		First 3 poles south of Rd. 1800N on Rd. 2950E.
21	Missing guy marker		1st pole south of IL Rt. 165 on Rd. 3200E.
22	Missing guy marker		1st pole west of tap to Sta. 13393 (road not labeled on map).
23	Broken ground wire		2nd pole east of Sta. 13397 in spur going west from IL Rt. 165.
24	2 broken primary downguys		Corner of Harrison St. & Riverview Dr. (incorrectly labeled as Ridgeview on map), Colfax.
24	Blown lightning arrester		At Sta. 13297 at the corner of CH13 (Rd. 1900N) & Harrison St., Colfax.
25	Missing guy marker		On Oak St. just north of South St., Colfax.
25	Missing guy marker		On guy stub pole at NW corner of Wood & Oak Sts., Colfax.
25	Missing guy marker		SW corner of Wood & Grove Sts., Colfax.
25	Missing primary downguy		At end of spur on School St. south of Wood St.,
25	Missing primary downguy		NE corner of Fifer & Center Sts., Colfax.
25	Missing guy marker		At Sta. 21603 at end of spur going west along the railroad from Grove St., Colfax.
25	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the north side of the railroad crossing. (Double crossarms required). *Corrected by AmerenIP 5/17/06.*	906, 907	On Grove St. at the crossing of the Bloomer Shippers Connecting RR, Colfax.
25	Shell rotted pole		Between Center & Brook Sts. on the north side of the Bloomer Shippers Connecting RR, Colfax.
25	Bad pole top	908	1st pole west of Center St. in the alley north of Cooper St., Colfax.
25	Shell rotted pole		1st pole west of Sta. 11663 in alley going west from Center St., Colfax.
25	Badly deteriorated crossarm	909	At Sta. 18479 in alley east of Center St., Colfax.
25	Badly deteriorated crossarm	910, 911	Just south of Sta. 13260 at tap going west from alley east of Center St., Colfax.

Attachment "H" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/17/06**
Circuit:	**K65221 (Colfax, Ellsworth, Cooksville, & rural)**	**Inspector:**	**J. D. Spencer, w/ Rick Welton (AmerenIP)**
Map No.	***Item Description***	***Photo(s)***	***Location***
25	Missing guy marker		At Sta. 13254 west of Brook St. in the alley north of North St., Colfax.
25	Trees into primary		West of Brook St. in the alley north of North St.,
25	Shell rotted pole		1st pole south of Sta. 13256 on Harrison St., north of Cooper St., Colfax.
25	Broken secondary downguy		SW corner of North & Harrison Sts., Colfax.
25	Missing guy marker		On Main St. at 1st pole east of tap to Sta. 21828, east of Harrison St., Colfax.
25	Deteriorated pole top		1st pole east of Sta. 25118 on Fifer St. between Harrison St. & Euclid Ave., Colfax.
25	Missing guy marker		1 span east of East St. on Fifer St., Colfax.
25	Broken neutral spool		1st pole west of Clark St. on Fifer St., Colfax.
25	Missing primary downguy		On Wood St., 1 span east of Euclid Ave., Colfax.
25	Broken primary downguy		2nd pole east of East St. on Wood St., Colfax.
27	Blown lightning arrester		At Sta. 24785 on IL Rt. 165 at Winget Dr., Colfax.
27	Broken secondary downguy		At Sta. 13262 on IL Rt. 165 just west of Harrison St., Colfax.
27	2 missing guy markers		On IL Rt. 165 on both sides of Harrison St., Colfax.
27	Missing guy marker		On IL Rt. 165 east of Harrison St. at tap to Sta. 19113, Colfax.
27	Missing primary downguy		On Harrison St. at end of spur going south from IL Rt. 165, Colfax.
28	Lightning damaged pole top	912	4th pole east of Sta. 13298 on IL Rt. 165.
28	Lightning damaged pole	913, 914	3rd pole east of Sta. 13298 on IL Rt. 165.
28	Shell rotted pole, split & deteriorated pole top, & deteriorated crossarm	916	1st pole west of Sta. 12503 on Cooper St., Colfax.
29	Trees very close to primary		South of corner of Rds. 2000N & 3250E all along spur going south to Sta. 20014.
29	Broken ground wire		1st pole east of Rd. 3250E on Rd. 2000N.
29	Lightning damaged pole top	915	3rd pole east of Rd. 3250E on Rd. 2000N.
29	Broken neutral spool		1 span south of Rd. 2000N in spur going south to Sta. 13301.
29	Broken neutral spool		3 spans south of Rd. 2000N in spur going south to Sta. 13301.
29	Missing guy marker		At Sta. 13301 at south end of spur going south from Rd. 2000N.
30	Missing guy marker		In downguy going north from corner structure 5 spans south of recloser Sta. 221-3 on CH17 (Rd. 2850E).
30	Center phase lightning arrester disconnected from primary (at hot tap)		1 span north of Rd. 1700N on CH 17 (Rd. 2850E).
31	Broken primary downguy		NW corner of Rd. 1700N & CH 17 (Rd. 2850E).
31	Missing guy marker		On guy stub pole at SW corner of Rd 1700N & CH 17.
33	**Code violation (NESC 279.A.2):** Ungrounded downguy without strain insulator below energized conductors (top downguy going north). *Corrected by AmerenIP 5/17/06.*	925	1st pole east of Sta. 15126 on Rd. 1700N.
34	Hanging steel brace (field side)		4 spans north of Fort Jesse Rd. (1600N) on CH 17.
35	Missing primary downguy		At Sta 12478 at south end of tap going south from Fort Jesse Rd. (1600N).
37	Split pole top & missing guy marker	924	On Rd. 1500N at tap to Sta 12474.
37	Missing guy marker		At Sta. 12474 at south end of tap going south from Rd. 1500N.
38	Hanging steel brace (field side)		1 span south of voltage regulator Sta. 221-4 on CH
40	Center phase lightning arrester disconnected from primary	923	8th pole north of 600 amp disconnects (Sta. 221-9) on CH 17.
40	Blown lightning arrester (road side)		1st pole south of 600 amp disconnects (Sta. 221-9) on CH 17.
42	Hanging steel brace (road side)		1st pole south of CH 28 (1200N) on CH 28 (2850E).

Attachment "H" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/17/06**
Circuit:	**K65221 (Colfax, Ellsworth, Cooksville, & rural)**	**Inspector:**	**J. D. Spencer, w/ Rick Welton (AmerenIP)**
Map No.	***Item Description***	***Photo(s)***	***Location***
42	Blown lightning arrester (field side)		2nd pole south of CH 28 (1200N) on CH 28 (2850E).
43	Weeping willow tree close to primary		About halfway between North & School Sts. in the alley west of Main St., Ellsworth.
43	Missing primary downguy		At the east end of the circuit feeding along North St. (west of East St.), Ellsworth.
43	Missing primary downguy		At the west end of the circuit feeding along Center St. (west of High St.), Ellsworth.
43	Missing primary downguy		At the north end of the circuit feeding along East St. (north of Center St.), Ellsworth.
44	Missing primary downguy		At the north end of the circuit feeding along West St. (north of South St.), Ellsworth.
44	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulator below energized conductors (downguys going west & south). Grounding wire on pole is disconnected from neutral. *Corrected by AmerenIP 5/17/06.*	921	On Eubank St. at the alley west of Main St., Ellsworth.
44	**Code violation (NESC 279.A.2):** Ungrounded overhead guy without strain insulator (top overhead guy going north). *Corrected by AmerenIP 5/17/06.*	922	At NE corner of Main St. (CH 17) & Eubank St., Ellsworth.
45	Blown lightning arrester (field side)		3rd pole west of Sta. 10686 on CH 28 (1200N).
45	Broken neutral spool		2nd pole east of Sta. 10686 on CH 28 (1200N).
46	Badly split crossarm (saddle pinned)		1st pole east of Sta. 10689 on CH 28 (1200N).
47	Split (lightning damaged) crossarm		1 span north of CH 28 (1200N) in tap to Sta. 23189.
47	Missing guy marker		1 span east of Sta. 17495 in tap going south from CH 28 (1200N).
48	Blown lightning arrester (field side)		On CH 28 (1200N), 2 spans west of tap to Sta. 12457.
49	Broken neutral spool		NE corner of CH 28 (1200N) & Rd. 3200E.
53	Blown lightning arrester		About 5 spans east of CH 15 (3300E) on Rd. 1300N.
54	Lightning damaged pole top	917	1st pole east of Sta. 12462 on Rd. 1300N.
54	Split pole top	918	1st pole east of Sta. 23038 on Rd. 1300N.
54	Broken neutral spool		3rd pole east of Sta. 23038 on Rd. 1300N.
54	Lightning damaged pole top		4th pole east of Sta. 23038 on Rd. 1300N.
54	Split (lightning damaged) pole top	919	5th pole east of Sta. 23038 on Rd. 1300N.
55	Missing guy marker		On Rd. 1300N at tap to Sta. 19901.
55	Lightning damaged pole top		1st pole west of Sta. 12464 on Rd. 1300N.
55	Broken neutral spool		2nd pole from east end of circuit (west of Rd. 3500E) on Rd. 1300N.
55	Missing guy marker		At east end of circuit (just east of Rd. 3500E) on Rd. 1300N.
56	Blown lightning arrester (field side)		On CH 15 (3300E) about 5 spans north of tap to Sta. 20148.
56	Blown lightning arrester (field side)		On CH 15 (3300E) about 9 spans north of tap to Sta. 20148.
57	Missing guy marker		At Sta. 19446 at end of tap going west from CH 15 (3300E), just north of IL Rt. 9.
57	Hanging steel brace (field side)		About 6 spans north of IL Rt. 9 on CH 15 (3300E).
57	Hanging steel brace (field side)		About 8 spans north of IL Rt. 9 on CH 15 (3300E).
58	Missing guy marker		On Rd. 1500N west of CH 15 (3300E) at tap going north to Sta. 18716.
58	2 missing guy markers		1st pole east of Sta. 18716 in tap going north from Rd. 1500N.
58	Missing guy marker		At Sta. 18716 at end of tap going north from Rd. 1500N.

Attachment "I"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/18/06**
Circuit:	**R99180 (Rural Farmer City, Weedman, & rural)**	**Inspector:**	**J. D. Spencer, w/ Mark Hiple (AmerenIP)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving rural Farmer City, Weedman, and a rural area on all sides of Weedman. Several new poles & crossarms are scattered throughout the circuit. There were no tree trimming issues (few trees on the circuit). Several "extra" lightning arresters were noted, but more may be needed. Animal guarding was well done at most locations. ***Weedman was not labeled on the circuit maps provided.*** ***NESC violations were noted at three locations.***		

Map No.	*Item Description*	*Photo(s)*	*Location*
1 of 31	Badly shell rotted pole		2nd pole southwest of Rd. 100N on IL Rt. 54.
1	Badly shell rotted pole		3 spans east of IL Rt. 54 on Rd. 100N.
2	Shell rotted pole		3 spans south of Rd. 100N on Rd. 3600E.
2	Lightning damaged pole top		On Rd. 3600E at tap to Sta. 11194.
4	3 shell rotted poles		First 3 poles west of Rd. 3800E on Rd. 100N.
8	Badly damaged crossarm & pole top	109-0935	3rd pole north of tap to Sta. 11177 on Rd. 950E.
10	2 badly shell rotted poles		1st & 3rd poles (1 & 3 spans) south of CH 10 (3300N) on Rd. 900E.
10	2 badly shell rotted poles		1st & 3rd poles east of Rd. 900E on CH 10 (3300N).
11	Badly shell rotted pole	933, 934	2nd pole north of south end of circuit on Rd. 900E.
11	Badly shell rotted pole		1st pole north of south end of circuit on Rd. 900E.
14	Blown lightning arrester (field side)		On last pole at south end of circuit on Rd. 800E.
19	Minor lightning damage to crossarm		1 span south of IL Rt. 54 on Rd. 3500E.
20	**Code violations (NESC 279.A.2):** Ungrounded downguys without strain insulators below energized conductors (both downguys going east). *Corrected by AmerenIP 4/26/06.*	928	On Rd. 1600N at Rd. 2750E (NE corner).
20	**Code violation (NESC 279.A.2):** No strain insulator in top downguy & grounding wire broken (top downguy going west). *Corrected by AmerenIP 4/26/06.*	929, 930	On Rd. 1600N at Rd. 2750E (SE corner).
24	**Code violation (NESC 279.A.2):** No strain insulator in top downguy & grounding wire broken in 2 places on pole (top downguy going north). *Corrected by AmerenIP 4/26/06.*	931, 932	On Rd. 1600N at CH 22 (2625E).

Attachment "J"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/27/06**
Circuit:	**R94271 (Rural Waterloo)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving a rural area west and south of Waterloo. There are several inaccessible cross-country areas and several underground areas. Several new poles were noted. There were no tree trimming problems. Ten poles with woodpecker holes were noted (there are probably several others). ***NESC violations were noted at one location.***		

Map No.	*Item Description*	*Photo(s)*	*Location*
2 of 18	**Code violations (NESC 279.A.2):** No strain insulators (except at the pole attachment) in the downguys to the north, nor in overhead guys to the west. Broken overhead guy (34 kV line--2nd OHG from top) & 4 woodpecker holes in pole top.	109-0936, 937, 938	At 34 kV Str. # 161, 1 span north of Sta. 12598.
5	Broken neutral spool		1st pole west of recloser Sta. 271-9 on HH Rd.
5	Broken primary downguy		At recloser Sta. 271-9 on HH Rd.
5	3 large woodpecker holes in pole top		1st pole north of HH Rd. in tap to Sta. 12604.
6	Shell rotted pole		1 span west of Gall Rd. on HH Rd.
6	Missing guy marker		Corner of Gall & HH Rds. (guy to north)
7	Split pole top & missing guy marker		1st pole west of Sta. 34076 on HH Rd.
8	Many splices in primary		In several spans going south from Sta. 39501.
10	Missing guy marker		At Sta. 32367 (near lower right corner of map).
10	Missing guy marker		On Andy Rd. at underground tap to Sta. 29339.
10	5(+) woodpecker holes in pole & bad pole top	939	1st pole north of Sta. 39374 on Andy Rd.
10	Missing guy marker		At Sta. 29255 at north end of circuit along Andy Rd.

Attachment "J" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**4/27/06**
Circuit:	**R94271 (Rural Waterloo)**	**Inspector:**	**J. D. Spencer, w/ Mike Tautphaeus (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
12	Several woodpecker holes in pole		1st pole east of Sta. 23261 on HH Rd. (east of Buck Run Dr.)
12	Woodpecker holes in pole		1span south of HH Rd. in tap to Sta. 26034.
12	Small woodpecker hole in pole		On HH Rd. at 1st pole west of tap to Sta. 26034.
12	2 large woodpecker holes in pole		1st pole east of recloser Sta. 271-3 on HH Rd.
13	2 woodpecker holes in pole top		On HH Rd. at taps to Stas. 18055 & 39865.
13	Several woodpecker holes in pole top		On HH Rd. at tap to Sta. 18732.
14	Woodpecker hole in pole		On D Rd. at tap to Sta. 35331.
15	Split (lightning damaged) pole top	940, 941	Corner pole SW of Sta. 17534 in spur going westerly from D Rd.

Attachment "K"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**7/12/06**
Circuit:	**P26281 (Marseilles & rural)**	**Inspector:**	**J. D. Spencer, w/ Ken Kirchner**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, serving a western portion of Marseilles and a small rural area west of Marseilles. There were several scattered tree trimming and structural problems, as noted. Animal guards were noted at many transformers, but were missing at many others. There were several mapping errors. ***NESC violations were noted at two locations.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
1 of 11	Soft maple tree very close to primary		Canal St. west of Sycamore Ave. (incorrectly labeled Glen Ave. on map), just west of Sta. 28426, Marseilles.
1	Trees close to primary		Sycamore Ave. (incorrectly labeled Glen Ave. on map) just south of Canal St., Marseilles.
1	Walnut tree into primary	110-1065, 1066	Bluff St. at 1st pole east of 3rd St., Marseilles.
1	Primary pin through crossarm (field side)		Ryall St. (incorrectly labeled Pacific St. on map) west of 1st St., 1st pole west of Sta. 28179, Marseilles.
1	Trees very close to primary		Pacific St. at Sta. 28270, between 1st & Perry Sts., Marseilles.
2	Badly deteriorated crossarms & missing guy marker	1061, 1062	Corner of Oakdale Ave. & easement south of Bluff St., Marseilles.
2	Missing guy marker		Corner of Oakdale Ave. & easement south of Clark St., Marseilles.
2	Badly deteriorated pole top		2 spans east of Oakdale Ave. in the easement south of Bluff St., Marseilles.
2	Badly deteriorated crossarms & pole top	1058, 1059, 1060	At Sta. 28166 in the easement south of Bluff St., Marseilles.
2	Split pole top	1057	1 span west of Lewis St. in the easement south of Bluff St., Marseilles.
2	Deteriorated pole top		At Sta. 28167 just north of Catalpa St. on Glenwood Ave., Marseilles.
2	Soft maple tree into primary (with burning)	1063, 1064	At 1st pole east of Sta. 28413 on Clark St., west of Glen Ave., Marseilles.
4	Soft maple tree very close to primary	1056	Just west of Sta. 75121 on 2829th Rd.
5	Split pole top (primary pin leaning)	1054	2nd pole west of Sta. 75311 on US Rt. 6, west of Marseilles.
5	Missing guy marker		At Sta. 75311 on US Rt. 6, west of Marseilles.
5	Soft maple tree into primary (with burning)	1055	East of E. 2219th Rd. (not labeled on map) on 2829th Rd.
5	Tree very close to primary		On E. 2219th Rd. (not labeled on map) south of 2829th Rd.
5	Missing guy marker		At Sta. 75031 on E. 22nd, north of 2829th Rd.
6	Soft maple tree into primary (with burning)	1067	Just east of Sta. 28246 on Commercial St., Marseilles.

Attachment "K" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**7/12/06**
Circuit:	**P26281 (Marseilles & rural)**	**Inspector:**	**J. D. Spencer, w/ Ken Kirchner**
Map No.	***Item Description***	***Photo(s)***	***Location***
7	**Code structural strength violations (NESC 261.D.4.c):** Single wood crossarms supporting a 3-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required).	1068, 1069, 1070	On CH 51 at the railroad crossing just east of Sta. 75971 (railroad not shown on map).
9	**Code structural strength violations (NESC 261.D.4.c):** Single wood crossarms supporting a 1-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required).	1071, 1072, 1073	On CH 51 at the railroad crossing just west of Sta. 76052 (railroad not shown on map).
10	Missing guy marker		At 1st pole east of Sta. 75123 on US Rt. 6.

Attachment "L"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**7/19/06**
Circuit:	**L17101 (Decatur)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving a northwestern part of Decatur. Tree trimming, overall, looked good with a few close places (tree trimming was in progress during the inspection). Animal guarding was well done. Almost no other problems were noted.		
Map No.	***Item Description***	***Photo(s)***	***Location***
2 of 10	Missing guy marker		South side of Pershing Rd. at Fair Oaks Dr.
4	Trees close to primary		2nd span east of Barnes Dr. along Josephine Dr.
4	Oak tree very close to primary		4th span west of MacArthur Rd. along Josephine Dr.
4	Missing guy marker (secondary)		1st pole west of MacArthur Rd. on Josephine Dr.
4	Hard maple tree very close to primary		Just south of Sta. 19127 in easement going south from Karen Ct.
4	Blown lightning arrester		At Sta. 19181 just south of Karen Dr. in easement west of Benton Dr.
9	Badly shell rotted pole		2nd pole west of Dean Dr. on W. Ash Ave.

Attachment "M"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**7/31/06**
Circuit:	**L42158 (DeLand, Weldon, DeWitt, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, serving DeLand, Weldon, DeWitt and rural areas mostly between those communities. There were some inaccessible and underground areas, mostly near Clinton Power Station & the associated recreation areas. Many poles and crossarms have been replaced recently. Tree trimming was well done except in locations noted. More lightning arresters are needed in some of the rural areas. **None of the cities were labeled on the circuit maps provided.**		
Map No.	***Item Description***	***Photo(s)***	***Location***
4 of 33	Cutout blown apart (field side) & road-side fused cutout disconnected from primary	111-1142, 1143	1 span north of Rd. 2225N (S. 3rd St.) on Rd. 425E.
5	Badly shell rotted pole		1st pole west of Western Ave. on S. 3rd St., DeLand.
5	Missing guy marker		1 span north of Railroad St. in the alley east of Highway Ave., DeLand.
5	Shell rotted pole		1st pole south of 3rd St. in the alley east of Highway Ave., DeLand.
6	Lightning damaged pole top		2nd pole south of tap to Sta. 50514 on CH 5 (Rd. 525E), south of DeLand.
8	Missing guy marker		NW corner of IL Rt. 10 (Rd. 2300N) & CH 5 (Rd. 550E), DeLand.
8	Badly shell rotted pole with bad top & deteriorated crossarm	1139	On 6th St., 1 span east of Short St. (labeled Indiana Ave. on map), DeLand.
8	Badly deteriorated crossarms	1140	NE corner of 6th St. & Short St. (labeled Indiana Ave. on map), DeLand.
8	Shell rotted pole with split top	1141	1 span west of Eastern Ave. on 5th St., DeLand.
13	Missing primary downguy		At Sta. 50449 on Lynn St. south of High St., Weldon.

Attachment "M" (continued)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**7/31/06**
Circuit:	**L42158 (DeLand, Weldon, DeWitt, & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren)**
Map No.	***Item Description***	***Photo(s)***	***Location***
13	Missing guy marker		At Sta. 50408 east of Chestnut St. in the alley south of High St., Weldon.
14	Split pole top		1st pole south of tap to Sta. 52323 on West St. (Rt. 10), north of Weldon.
19	Tree growing into primary	1145, 1146	On IL Rt. 10 about 5 spans from the east end of the circuit, northwest of Weldon.
24	2 blown lightning arresters (field side & road side)		2nd pole west of CH 14 on road not labeled on map.
30	Missing guy marker		At Sta. 50619, north of 1st St., DeWitt.
31	Trees very close to primary		Along IL Rt. 54 NE of Sta. 53799, NE of DeWitt.
32	Tree into primary, with burning	1147, 1148	Near south end of circuit on Rd. 2000E (south of IL Rt. 54).
32	Pine trees burned by primary		Near south end of circuit on Rd. 2000E (south of IL Rt. 54).

Attachment "N"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**8/15/06**
Circuit:	**P52306 (Monticello & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren) & Mark Hiple (AmerenIP)**
Gen. Notes:	This circuit was a worst performing 12 kV circuit in 2005, serving Monticello and a rural area to the southwest of Monticello and south to the north edge of Bement. This circuit has been divided into two circuits (305 & 341) since 2005. Several poles have been replaced & the line respanned in places. Tree trimming and animal guarding were generally well done. More lightning arresters are needed in some of the rural areas. ***NESC ground clearance violations were noted at two locations.***		
Map No.	***Item Description***	***Photo(s)***	***Location***
2 of 46	Bradford pear trees close to primary		Just south of Monroe St. on Market St. (Rt. 105), Monticello.
2	Ash tree into 12 kV spacer cable primary	112-1213	Irving St. just north of Monroe St., Monticello.
3	Silver maple tree growing into primary	1214	Kratz Rd. just west of Van Buren, Monticello.
5	Old lightning damage to pole top		2 spans west of Rd. 1000E on Rd. 1500N.
6	**Code clearance violation (NESC 232.B.1):** Inadequate neutral clearance above ground (along a fence adjacent to a cultivated field). Neutral approximately 10.5 ft. high at mid-span (15.5 ft. required).	1215, 1216	On Rd. 1500N in the 4th span from the east end of the circuit (4th span west of Sta. 12730).
13	Lightning damaged pole top		5th pole from the west end of the circuit on Rd. 1300N.
21	Woodpecker hole in pole top		1st pole west of tap to Sta. 12511 on Rd. 1300N (CH 6).
21	Broken wood pins (field side)		2nd pole east of tap to Sta. 12511 on Rd. 1300N (CH 6).
22	Split pole top (not too bad)		1st pole west of Rd. 425E on Rd. 1300N (CH 6).
26	Trumpet vine up pole	1210, 1211	1 span east of IL Rt. 105 in tap to Sta. 12710, south of Monticello.
26	Shell rotted pole with split top	1212	2 spans east of IL Rt. 105 in tap to Sta. 12710, south of Monticello.
32	**Code clearance violation (NESC 232.B.1):** Inadequate neutral clearance above a cultivated field.		4th span north of Rd. 1300N in tap to Sta. 12714.
42	Split (lightning damaged) pole top	1206, 1207	1st pole north of Sta. 21582 on Rd. 800E.
46	Lightning damaged pole top	1208, 1209	1st pole east of tap to Sta. 19615 on Rd. 1100N.

Attachment "O"

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	**AmerenIP**	**Date:**	**8/15/06**
Circuit:	**K74162 (Champaign & rural)**	**Inspector:**	**J. D. Spencer, w/ Bev Hall (Ameren) & Mark Hiple (AmerenIP)**
Gen. Notes:	This circuit was a next-worst performing 12 kV circuit in 2005, and was a worst performing circuit in 2001. It serves a small northern part of Champaign and a rural area north of Champaign. The circuit looked very good, overall, with only a few problems noted.		

Map No.	*Item Description*	*Photo(s)*	*Location*
10 of 24	Hanging steel crossarm brace (field side)		1st pole west of Sta. 11441 on Rd. 2200N.
10	Split pole top		1st pole west of Sta. 13706 in tap going east from Prospect Ave.
15	Shell rotted pole		1 span north of CH 33 in tap to Sta. 11446.
15	Shell rotted pole & split (lightning damaged) pole top	112-1217	2 spans north of CH 33 in tap to Sta. 11446.
20	Blown lightning arrester (road side)		1st pole east of tap to Sta. 13535 on CH 1.

Attachment "P"

Summary of Distribution Circuit Spot Checks by ICC Staff			
Utility:	**AmerenIP**	**Dates:**	**3/1/06, 3/2/06**
Circuits:	**L12127 (Decatur); K79222 (Champaign); R20502 (Mayview, St. Joseph, Glover, Ogden); N50331 (Jacksonville); L17101 (Decatur); J33803 (Benld); R78300 (Venice, Brooklyn, National City); P26283 (Marseilles); Q34360 (W. of Ottawa); L12127, L23145, K89143, P69175, & 2- 34 kV taps (Decatur); N73121 (Danville); M45212 (Georgetown, Olivet, Vermilion Grove, & rural)**	**Inspector:**	**J. D. Spencer, w/ Jerry Murbarger (Ameren--3/1), w/ Bev Hall (Ameren--3/2, 3/8, & 7/19), w/ Mike Tautphaeus (Ameren--4/4), w/ Ken Kirchner (7/12), & w/ Ron Roof (Ameren--8/14/06)**
Gen. Notes:	These are 2006 spot-checks of AmerenIP 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. Staff's notes resulting from its 2006 inspections are shown in the item descriptions below in blue and red font. ***New NESC violations are noted at four locations.***		

Circuit--Date	*Item Description*	*Photo(s)*	*Location*
L12127--1/9/06	Low profile padmount transformer leaking oil. *Transformer was replaced by AmerenIP within 2 or 3 days after notification by Staff.*		Sta. 25221 in front of 4525 Nicklaus Ct., Decatur.
K79222--3/1/06	Verified correction of prior years' (2004 & 2005) broken 15 kV spacers problem. *Found no broken spacers in this line section 3/1/06; many spacers have been replaced or added.*	FF6 (2004) A20, A21 (2005)	Hickory St. between Columbia Ave. & North St., Champaign
R20502--3/1/06	Checked on correction of split & lightning damaged crossarm noted in 2005. ***No change as of 3/1/06.***	A19 (2005)	4 spans east of Rd. 1800E on Rd. 1700N, northwest of Mayview (map 26).
	Verified correction of prior year NESC clearance violation-- inadequate primary clearance to leg of 69 kV steel tower legs. *Pole relocated to increase primary clearance, clearance okay now.*	A17, A18 (2005)	In tap to Sta. 16190 on Rd. 1700N (beside 69 kV tower # 202), northwest of Mayview (map 27).
	Verified correction of prior year NESC clearance violation-- inadequate primary clearance to a skip-span pole. *Top portion of skip-span pole removed, clearance okay now.*	A7, A8 (2005)	In 2nd span east of CH 12 on Rd. 1700N, St. Joseph (map 31).
	Verified correction of prior year NESC structural strength violation-- single wood crossarm supporting a 3-phase crossing of I-74, on the north side of I-74 (the south side had a double arm). *Second crossarm added to north side of interstate crossing, NESC requirement is met now.*		Along Rd. 1900E at crossing if I-74, north of Mayview (map 39).

Attachment "P" (continued)

Summary of Distribution Circuit Spot Checks by ICC Staff			
Utility:	**AmerenIP**	**Dates:**	**3/1/06, 3/2/06**
Circuit--Date	***Item Description***	***Photo(s)***	***Location***
R20502--3/1/06 (continued)	Verified correction of prior year NESC structural strength violation-- single wood crossarms supporting a 3-phase crossing of I-74, on both sides of I-74. *Second crossarm added on both sides of interstate crossing, NESC requirement is met now.*		Along Rd. 2500E at crossing of I-74, between Ogden & St. Joseph (map 45).
	Verified correction of badly split crossarm noted in 2005. *Crossarm has been replaced.*	A12, A13 (2005)	5th pole west of tap to Sta. 12278 along south side of railroad, west of Mayview (map 50).
N50331--3/2/06	Verified correction of prior year NESC violation--69 kV downguy passing between 12 kV phase conductors without strain insulator below 12 kV conductors. *Strain insulator added, okay now.*	J16 (2005)	At 69 kV Str. 16 on IL Rt. 78 south of Valevue Acres Dr., north of Jacksonville (map 21).
	Verified correction of prior year NESC violation--69 kV downguy passing between 12 kV phase conductors without strain insulator below 12 kV conductors. *Strain insulator added, okay now.*		At 69 kV Str. 17 on IL Rt. 78 south of Valevue Acres Dr., north of Jacksonville (map 21).
	Verified correction of prior year NESC violation--12 kV downguy passing between 12 kV phase conductors without any strain insulator in downguy. *Strain insulator added, okay now.*	J17 (2005)	At 69 kV Str. 18 on IL Rt. 78 south of Valevue Acres Dr., north of Jacksonville (map 21).
L17101--3/2/06	Primary neutral down (2 spans). *Neutral repaired (twice) by AmerenIP.*	107-0793, 794	Mound Rd. east of Westlawn, Decatur.
J33803--3/8/06	Verified correction of prior year NESC violation--Inadequate clearance of a 12 kV spacer cable primary crossing over a street light secondary cable. *Secondary cable rerouted, okay now.*	G17, G18, G19 (2005)	Corner of Central Ave. (Rt. 138) & E. Oak St., Benld--next to Benld Laundry. (Hillsboro Circuit 803).
R78300--4/4/06	Checked on correction of vines up pole & on transformer noted in 2005. *Okay now.*	E8 (2005)	At Sta. 12805 just east of 3rd St. in the alley north of Adams St., Brooklyn (map 4).
	Checked on correction of deteriorated crossarm noted in 2005. *Okay now.*	E9 (2005)	Between 5th & 6th Sts., 1 span east of Sta. 12787, in the alley north of Adams St., Brooklyn (map 4).
	Checked on correction of split & deteriorated crossarm noted in 2005. *Okay now.*	E7 (2005)	At Sta. 24391 on St. Clair Ave., Brooklyn (map 4).
	Verified correction of prior year NESC structural strength violation-- single wood crossarms supporting a 3-phase crossing of a railroad, on both sides of the railroad. *Second crossarm added on both sides of railroad crossing, NESC requirement is met now.*		Along St. Clair Ave. at the crossing of railroads labeled on the circuit map as the New York Central and St. Louis RR, the Illinois Terminal RR, and the Illinois Central RR, National City (map 5).
	Checked on correction of bad pole top noted in 2005. *New pole now.*		1st pole south of Sta. 12778 on St. Clair Ave., National City (map 5).
	Checked on correction of missing primary downguy noted in 2005. ***No change as of 4/4/06.***		At Sta. 18953 at the south end of the circuit on St. Clair Ave., National City (map 5).
P26283--7/12/06	Checked on correction of split & deteriorated crossarm. *Okay now.*	N1, N2, N3 (2004)	One span west of Armstrong Ave. on Sample St., Marseilles (map 2).
	Checked on correction of split & deteriorated crossarm. *Okay now.*	N4, N5 (2004)	Sample St. at Sta. 28049, Marseilles (map 2).
	Checked on correction of deteriorated wood-pin crossarms on buckarm corner. ***No change as of 7/12/06 (not too bad).***		Sample St. one span south of Sta. 28263, Marseilles (map 2)..
	Checked on correction of really badly deteriorated crossarm. *Okay now.*	N6, N7 (2004)	Sample St. at end of circuit, just east of Glen Ave., Marseilles (map 2).
	Checked on correction of badly shell rotted pole. *Okay now--new pole.*		1st pole west of Best St. on Glen Ave., Marseilles (map 4).
	Checked on correction of pole mounted transformer completely engulfed in vines. *Okay now.*	N8, N9, N10 (2004)	Sta. 28233 at east end of line just south of Glen Ave., Marseilles (map 4).

Attachment "P" (continued)

Summary of Distribution Circuit Spot Checks by ICC Staff			
Utility:	**AmerenIP**	**Dates:**	**3/1/06, 3/2/06**
Circuit--Date	***Item Description***	***Photo(s)***	***Location***
Q34360--7/12/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the west side of the railroad crossing. (Double crossarms required).		At the railroad crossing along Rt. 6 west of Ottawa at Rd. E15.
L12127--7/19/06	Checked on correction of an NESC structural strength violation--single wood crossarms supporting a 3-phase crossing of a limited access highway, on both sides of the highway crossing. (Double crossarms required). ***No change as of 7/19/06--"Grandfathered" by AmerenIP.***		Crossing of I-72 at N. Oakland Ave., Decatur.
L23145--7/19/06	**Code structural strength violation (NESC 261.D.4.c):** Single wood crossarm supporting a 3-phase crossing of a railroad, on the east side of the railroad crossing. (Double crossarms or equivalent required). *AmerenIP installed double crossarms on the east side of the crossing 9/6/06.*	110-1086, 1087	At the railroad crossing along Mt. Auburn Rd. at Rt. 48 south (south of Rt. 51 bypass), Decatur.
K89143--7/19/06	**Code structural strength violations (NESC 261.D.4.c):** Single wood crossarms supporting a 3-phase crossing of a railroad, on both sides of the railroad crossing. (Double crossarms required). *Okay 7/19/06--2nd crossarm added on both sides of railroad crossing by AmerenIP on 6/8/06 (following telephone notification of 5/3/06).*	110-1088, 1089	At the railroad crossing along 44th St. at Rt. 36 east, Decatur.
P69175--7/19/06	Deteriorated crossarm in distribution underbuild on 138 kV Line 1462A, Str. 61.	1090	2nd pole east of Southbrooke on Harryland Rd., Decatur.
2- 34 kV taps--7/19/06	**Code violations (NESC 279.A.2):** Ungrounded 34 kV downguys without strain insulators below energized conductors. *Corrected by AmerenIP 8/16/06.*	1091, 1092	On Baltimore Ave. at two 34 kV taps into Baltimore Ave. Substation, Decatur.
N73121--8/14/06	Checked on correction of split pole top noted in 2005. *Okay now (new pole).*		3rd pole north of Center St. in the alley east of Chandler St., Danville (map 2).
	Checked on correction of broken lightning arrester noted in 2005. ***No change as of 8/14/06.***	H18 (2005)	At Sta. 13509 in the alley east of Harmon Ave., north of English St., Danville (map 2).
	Verified correction of prior year NESC violation--Inadequate clearance of a 12 kV spacer cable primary above an open wire 4 kV circuit at crossing of skip-span pole, & deteriorated 4 kV crossarm. *New poles & arms, clearances okay now.*	H19, H20, H21 (2005)	Southeast corner of Gilbert & English Sts. (next to Open Door Church of God), Danville (map 2).
M45212--8/14/06	Checked on correction of split pole top noted in 2005. *Okay now (new pole).*	H1 (2005)	2nd pole north of tap to Sta. 19744 on Rd. 2130E, east of Georgetown (map 34).
	Verified correction of prior year NESC violation--Inadequate clearance of a single-phase primary above a skip-span pole with secondary & neutral attached. *Primary span removed, clearance problem resolved.*	H2 (2005)	Skip-span pole just west of Sta. 19488 on Rd. 650N, east of Georgetown (map 36).
	Checked on correction of deteriorated crossarm noted in 2005. *Okay now (new pole & arms).*	H3 (2005)	On Yankee Branch Rd. at Rd. 1980E, east of Olivet (map 64).
	Checked on correction of badly split crossarm noted in 2005. ***Crossarm not changed as of 8/14/06 (saddle pinned on road side).***	H4, H5 (2005)	3rd pole east of Sta. 11119 on Hester Ln. (CH 26), east of Vermilion Grove (map 69).
	Checked on correction of broken spool noted in 2005. *Okay now.*		3 spans south of primary road crossing on Rd. 2000E, east of Vermilion Grove (map 75).
	Checked on correction of burned pole & lightning damaged pole top noted in 2005. *Okay now.*	H9, H10 (2005)	4 spans south of primary road crossing on Rd. 2000E, east of Vermilion Grove (map 75).

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.

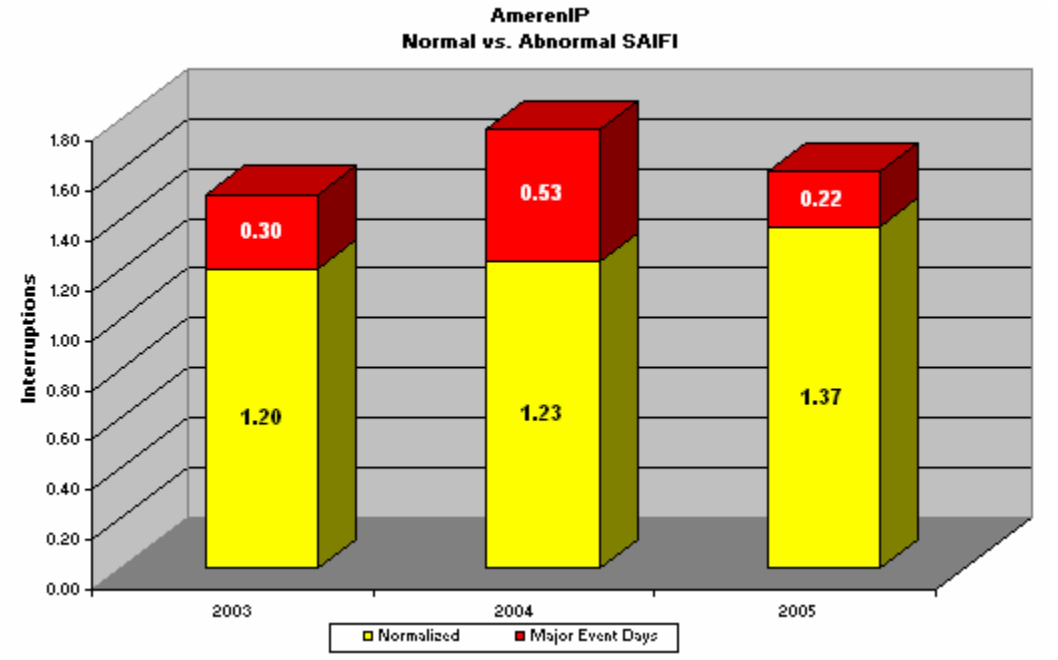


Figure 1 Normalized SAIFI Data

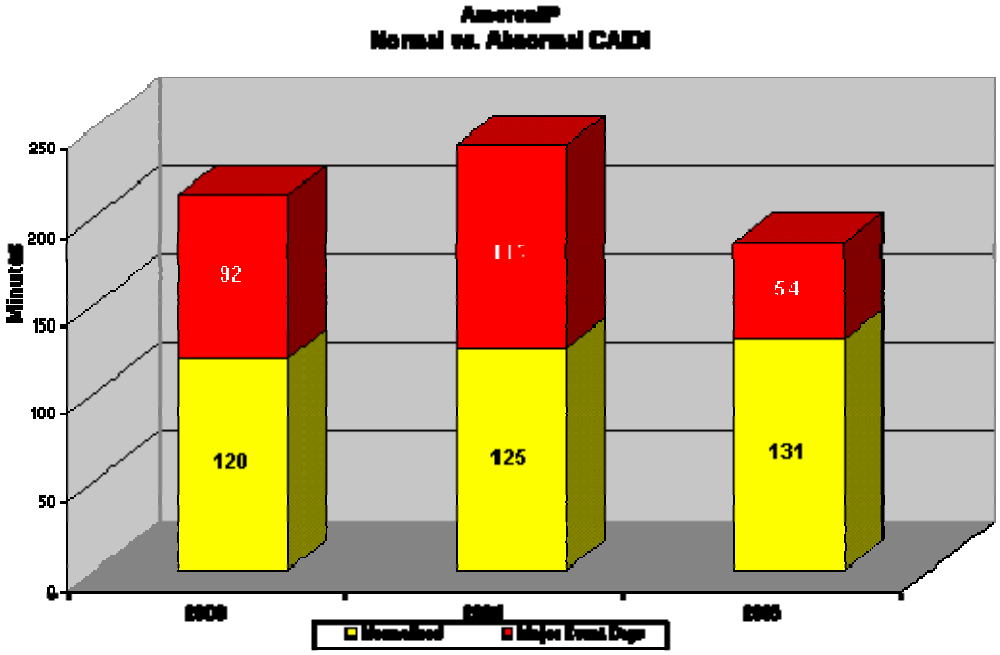


Figure 2 Normalized CAIDI Data

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.

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 *.