Assessment of

Ameren Illinois Company's

Annual Reliability Report and

Electric Service Reliability

For Calendar Year 2011

Pursuant to 83 Ill. Adm. Code 411.140

April 18, 2013

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1. Executive Summary

Ameren Illinois Company ("AIC") filed its Annual Report for the 2011 calendar year pursuant to Section 16-125 of the Illinois Public Utilities Act and the Commission's electric reliability rules as found in 83 Illinois Administrative Code, Part 411 ("Part 411"). Staff reviewed AIC's report and concluded that the initial Annual Report that AIC filed did not include all of the information required by Part 411. On July 2, 2012, AIC filed a revised Annual Report that included the missing information, and on October 29, 2012, again revised its Annual Report to correct several typographical errors.

Though Ameren Corporation has been operating electric utilities in Illinois for many years, Calendar year 2011 was the first full calendar year that AIC operated as an electric utility in Illinois. AIC formed in October of 2010 through the merger of Central Illinois Light Company (d/b/a AmerenCILCO), Central Illinois Public Service Company (d/b/a AmerenCIPS), and Illinois Power Company (d/b/a AmerenIP).

AIC's system average interruption frequency index ("SAIFI"), customer average interruption frequency index ("CAIFI"), and customer average interruption duration index ("CAIDI") all worsened (increased) during 2011, indicating that AIC's customers, on average, experienced more and longer interruptions than they experienced during 2010. Even so, AIC's SAIFI and CAIFI were still the lowest among all reporting utilities, indicating its customers, on average, experienced fewer interruptions than customers of other utilities. AIC's CAIDI of 234 minutes in 2011 indicates that its customers who experienced interruptions during the year averaged nearly four hours of interruption time. Long duration interruptions are not new at AIC or its legacy utilities, which typically reported higher CAIDI values than most other reporting utilities.

The decline in performance from 2010 to 2011, however, is likely primarily due to the increased number of weather events during 2011 with conditions that exceeded National Electrical Safety Code ("NESC") design standards. Also, as discussed in Section 9 of this report, AIC is taking effective steps to improve the performance of its distribution circuits on which multiple outages occur. AIC developed and implemented several reliability programs and initiatives that should improve the overall reliability performance of its distribution system.

During the summer of 2011, Staff inspected AIC's facilities that comprise fifteen different distribution circuits located in various parts of the state. During these inspections, Staff observed many locations where AIC had recently replaced deteriorated poles and/or crossarms, and noted relatively few threats to reliable service on the circuits inspected. Staff noted that AIC had done an excellent job keeping vegetation clear of its primary conductor of these fifteen distribution circuits. Staff did not find all of AIC's facilities to be in good condition. Staff noted problems at a number of locations, as described in Section 7 of this report. Staff found locations with loose or missing hardware, damaged/deteriorated poles and crossarms, and National Electrical Safety Code violations. Generally, though, Staff found these problem locations to be isolated and infrequent, and came away with the impression that the overall condition of AIC's facilities, making up the circuits, was better than observed in prior years' inspections. Staff's specific inspection findings for each circuit it inspected are included as Attachment A to this assessment report.

AIC appears to have successfully merged new reliability initiatives with those of its three legacy utilities. AIC and its legacy utilities have now cycled through all of its distribution circuits with a periodic inspection program. As this worthwhile inspection program continues, AIC should act upon its inspectors' findings promptly in order to prevent interruptions. AIC's Multiple Device Interruptions program is an effective, systematic approach that AIC is using to reduce the number of customers who experience repeat interruptions. With this program, AIC reviews distribution facilities that have been involved in three or more interruptions during a sliding twelve month period to determine what, if any, remedial action it should take in order to prevent additional interruptions to the same customers.

Following Staff's review of AIC's reliability report, AIC's responses to data requests, and its own inspections of AIC's distribution facilities, Staff identified few weaknesses regarding AIC's 2011 reliability performance and plan to improve the reliability of its distribution system in future years. In fact, Staff concluded that, generally, AIC should continue the reliability initiatives AIC identified in its 2011 Annual Report:

- AIC should continue inspecting its distribution system on no more than a four-year cycle in order to stay aware of the condition of its facilities that supply electricity to customers. AIC should take prompt action to remedy any problems the inspections identify. AIC should also periodically audit its inspectors to verify that they are properly identifying reliability threats and NESC violations.
- AIC should strive to further reduce the number of customers who experience interruptions in excess of reliability targets. AIC's Multiple Device Interruptions program is one excellent tool AIC is using to make this happen, and AIC should certainly continue this program. Also, when AIC identifies potential reliability threats on its circuits, it should execute remedial actions promptly in order to minimize the occurrence of additional interruption from previously identified causes.
- AIC should continue its efforts to reduce CAIDI. AIC's system CAIDI for the 2011 calendar year was the second highest among reporting utilities. AIC's most recent bargaining unit contract negotiation includes residency provisions intended to reduce the response time for its employees who act as first responders and its employees who make up restoration crews. These new contract provisions should help improve AIC's CAIDI in future years. Even so, AIC should continue and expand its use of fault indicators and SCADA-enabled equipment as it strives to reduce the average duration of the interruptions to customers within its service area.
- AIC should identify and address gaps beneath perimeter fencing at some of its substations to minimize the risk of animal intrusion and substation equipment outages.
- AIC should continue its vegetation clearing practices, including maintaining its trimming cycle of no longer than 4-years followed by mid-cycle patrols after two years.
- AIC should continue installing animal protection on unprotected distribution facilities, when working on those facilities, in order to minimize future interruptions.

2. Introduction

This document assesses the annual reliability report that Ameren Illinois Company ("AIC") filed with the Commission, and evaluates AIC's reliability performance for the 2011 calendar year.

According to Section 411.140, beginning with the year 1999, the Illinois Commerce Commission ("Commission") shall assess the annual reliability report of each electric public utility at least once every three years. Section 411.140 defines the parameters of such an assessment and the criteria for evaluation of the utility's annual report. Subsection 411.140(a)(2) requires the Commission to:

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

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

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

D) *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.*

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

Staff used the guidelines described in Section 411.140 to complete an assessment of AIC's annual report and reliability performance for calendar year 2011.

3. Description of Customers and Service Territory

AIC's service area, which is in central and southern Illinois, consists of the combined service areas of AIC's three legacy utilities: Central Illinois Light Company ("AmerenCILCO"), Central Illinois Public Service Company ("AmerenCIPS"), and Illinois Power Company ("AmerenIP"). AIC was formed when these three legacy utilities merged in October of 2010. During 2011, AIC supplied electricity to approximately 1.2 million customers in Illinois. Much of AIC's service area is rural, but AIC also supplies electricity in several urban areas, including the urban areas in and around Peoria, Galesburg, Quincy, Bloomington-Normal, Champaign-Urbana, Decatur, Danville, Mattoon, Belleville, Alton, Marion, and Carbondale.

4. Description of Electric Distribution System

AIC's distribution facilities include approximately 2,400 distribution circuits comprised of about 45,500 miles of distribution lines, most of which operate at 4.2, 12.5, or 13.2 kilovolts; though, AIC's subtransmission lines, classified as distribution, operate at 34.5 or 69 kilovolts. Approximately 86% of AIC's distribution lines are overhead and 14% are underground. In addition, AIC also owns, operates, and maintains over 4,750 miles of transmission facilities in Illinois.

Subsection 411.120(b)(3)(G) requires AIC to annually report on the age and condition of its distribution and transmission facilities. Table 1 summarizes information that AIC

provided regarding the age of its investments in specific categories of distribution equipment:

Table 1: Average Age of Distribution Equipment Investments

Distribution Equipment Investment Category	Depreciable Life of Investment (Years)	Average Age of Distribution Investment (Years)					
		2006	**2007**	**2008**	**2009**	**2010**	**2011**
Substation Equipment	50	20.2	20.4	20.4	19.7	19.6	19.7
Poles and Fixtures	40	16.4	16.8	17.0	16.8	17.2	17.4
UG conductor and devices	40	12.6	13.1	13.3	13.6	14.3	15.0
Dist. Transformers	39	18.6	18.8	19.1	19.5	20.0	20.3

5. Assessment of Company's Reliability Report

83 Illinois Administrative Code Section 411.120(b) requires each non-exempt jurisdictional entity to file an annual reliability report for the previous calendar year by June 1 of the current year ("annual report"). The annual report that AIC filed on June 1, 2012, did not contain all the information Subsection 411.120(b)(3) requires. AIC filed a revised annual report on July 2, 2012. AIC's revised annual report fully complied with Subsection 411.120(b)(3) requirements.[1]

6. Historical Performance Relative to Established Reliability Targets

Subsection 411.140(b)(4)(A-C) establishes electric service reliability targets that each electric utility must strive to meet. These targets, which are provided in Table 2, specify the number and duration of controllable interruptions that each electric utility must strive not to exceed for any customer. [2] Reporting utilities agreed to report on all interruptions (controllable and uncontrollable) in relation to the service reliability targets and to include in their annual reports any specific actions, taken or planned, to address the reliability concerns of individual customers.

Table 2: Customer Service Reliability Targets

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

[1] On October 29, 2012, AIC filed a 2nd Revised annual report to correct typographical errors.

[2] Section 411.20 defines "controllable interruption" as an interruption caused or exacerbated in scope and duration by the condition of facilities, equipment, or premises owned or operated by a jurisdictional entity, or by the action or inaction of persons under a jurisdictional entity's control and that could have been prevented through the use of generally accepted engineering, construction, or maintenance practices."

Subsection 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 these service reliability targets during the reporting period. For each of the customers who experienced interruptions that exceed the reliability targets, the utility must provide:

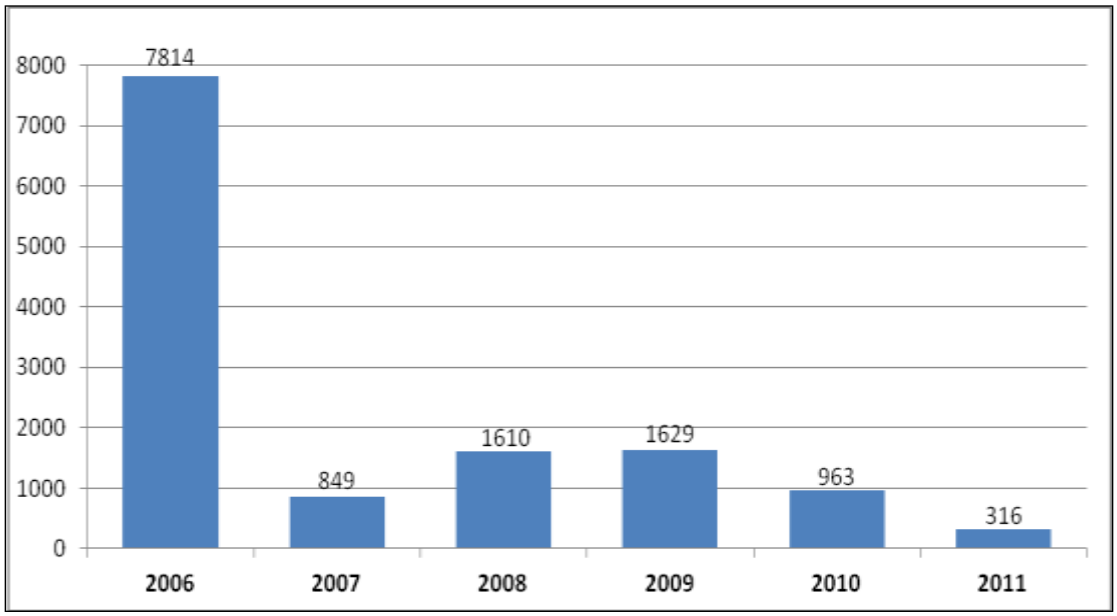
- the number of interruptions that the customer experienced in each of the three preceding calendar years (the calendar year that the annual report covers plus the two prior calendar years),
- the total interruption durations that the customer experienced in each of the three preceding calendar years (the calendar year that the annual report covers plus the two prior calendar years), and
- the number of consecutive years in which the customer experienced interruptions in excess of the reliability targets shown in Table 2.

Data included in AIC's annual report indicates that 316 of AIC's distribution customers supplied at 15 kV or below experienced interruptions in excess of reliability targets during 2011. Historically, the annual reports for each of AIC's three legacy utilities indicate that far more customers in AIC's service area experienced interruptions that exceeded the duration target (more than 18 hours of interruption duration during each of three consecutive calendar years) than the frequency target (more than six interruption during each of three consecutive calendar years), and AIC's data for 2011 continues this trend. In 2011, 305 of the 316 customers experienced at least 18 hours of interruption duration during each of the last 3 years and only 12 customers experienced more than 6 interruptions - one customer experienced interruptions that exceeded both reliability targets. [3]

Figure 1 illustrates the number of AIC's customers who experienced interruptions in excess of reliability targets for the period 2006-2011. The values included in Figure 1 for each of the years 2006 - 2010 illustrate the total number of customers who experienced interruptions in excess of reliability targets while supplied by AIC's legacy utilities. 316 customers for 2011 represent an obvious and significant service reliability improvement.

[3] Page 141 of AIC's annual report indicates that 308, rather than 305, of its customers experienced interruptions that exceeded the duration target during 2011. However, AIC listed some of the unique customer identification numbers more than once in its supplemental report, apparently resulting in its double-counting those customers within its annual report.

Figure 1: Number of AIC Customers Experiencing Interruptions in Excess of Reliability Targets



Subsection 411.140(b)(4)(D) requires the Commission's assessment to determine if AIC has a process in place to identify, analyze, and correct service reliability for customers who experienced interruptions that exceeded reliability targets. Staff concludes that AIC does have such a process. Appendix A to AIC's annual report includes information that identifies the interruptions that individual customers experienced and the actions AIC has taken or plans to take in order to improve service for these customers. As an illustrative example, Appendix A indicates that 58 customers supplied by Circuit B93002 experienced more than 18 hours of total interruption duration time during each of the calendar years 2009-2011. AIC explains that interruptions were caused by trees, overhead equipment problems, and vehicle accidents. To improve service to the affected customers, AIC states that it: (a) replaced 4 poles and corrected hardware problems in 2010; (b) added avian protection in 2011; and (c) verified protective device coordination, trimmed trees, and completed corrective work from its most recent circuit inspection in 2012. AIC provided this type of information for each customer, or group of customers, who experienced interruptions that exceeded reliability targets.

7. Analysis of Reliability Performance

A. Reliability Indices:

The Commission can use reliability indices to compare the reliability performance of different utilities. Reliability indices can also provide an indication of whether an individual utility's performance is improving or degrading over time. Since each reporting utility uses its own reporting and recording methods, and because severe storms, or other major event, may not affect all electric utilities in the state equally, direct reliability index comparisons between utilities do not provide a complete picture of relative reliability performance, but can still be informative. Table 3 (a-c) shows the system 2011 SAIFI, CAIDI, and CAIFI indices for each reporting utility. The order of the listing in each index table is from best to worst performance:

Table 3: Year 2011 Reliability Indices for Reporting Utilities

a) SAIFI

UTILITY	SAIFI
AIC	**1.35**
ComEd	1.57
MidAmerican	2.04
Mt. Carmel	6.26

b) CAIDI

UTILITY	CAIDI
MidAmerican	87
Mt. Carmel	154
AIC	**234**
ComEd	366

c) CAIFI

UTILITY	CAIFI
AIC	**1.92**
ComEd	2.28
MidAmerican	2.59
Mt. Carmel	6.36

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

When comparing the indices reported by all the utilities that filed reliability reports for 2011, Staff observed:

- AIC's SAIFI of 1.35 was the lowest (best) reported: 59% lower than the average of values reported by the other three utilities and 14% lower than the next best performer (ComEd's 1.57).
- AIC's CAIDI of 234 was the 2nd highest (worst) reported: 16% higher than the average of values reported by the other three utilities, and nearly 170% greater than the best performer (MidAmerican Energy Company's 87 minutes).
- AIC's CAIFI of 1.92 was the lowest (best) reported: 49% lower than the average of values reported by the other three utilities, and 16% lower than the next best performer (ComEd's 2.28).

AIC reported a CAIFI of 1.53 and a CAIDI of 252 for its 87,504 customers who purchase power from an alternative retail electric supplier or other utility during 2011. This indicates that, on average, customers who purchased power from a supplier other than AIC experienced slightly fewer, but longer, interruptions than AIC's traditional customers. However, the CAIFI and CAIDI for customers using an alternative supplier did not differ greatly from AIC's system values, and do not indicate that AIC treated customers who purchased electric supply from a source other than AIC differently.

B. Customer Satisfaction Survey:

The results of an annual independent survey indicate that, with respect to the 2011 calendar year, residential customers gave AIC an average reliability score of 8.44 out of 10, and non-residential customers gave AIC an average reliability score of 8.62 out of 10. The following table illustrates that only MidAmerican Energy Company received higher survey scores from its customers regarding the provision of reliable electric service:

Table 4: Comparison of 2011 Survey Scores for Providing Reliable Service

AIC		ComEd		MidAmerican		Mt. Carmel Public Utility	
Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential
8.44	8.62	8.03	8.05	8.72	8.75	8.05	8.21

Figures 2 and 3 illustrate that AIC's 2011 survey scores continue the improvement begun by AIC's legacy utilities. The improving scores may be attributable to AIC's improved maintenance practices and storm recovery performance.

Figure 2: AIC and Legacy Residential Scores: Providing Reliable Electric Service (2006-2011)

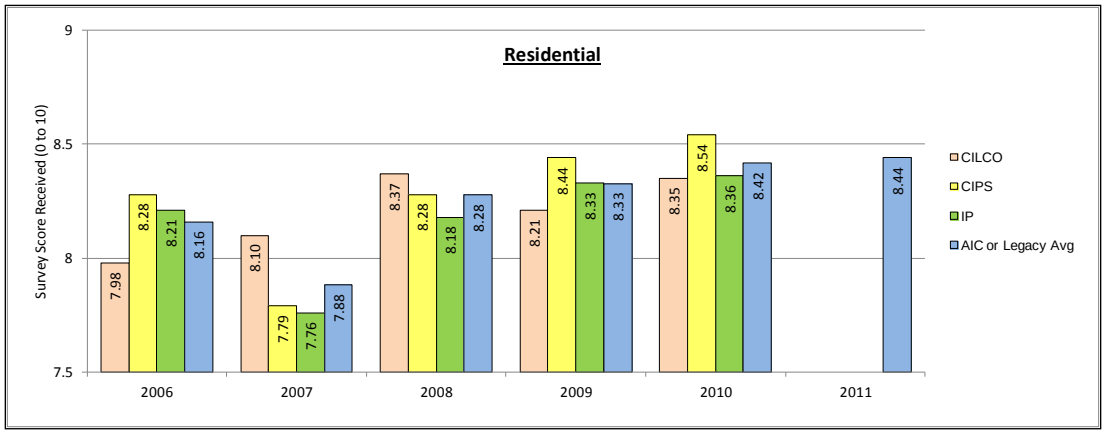
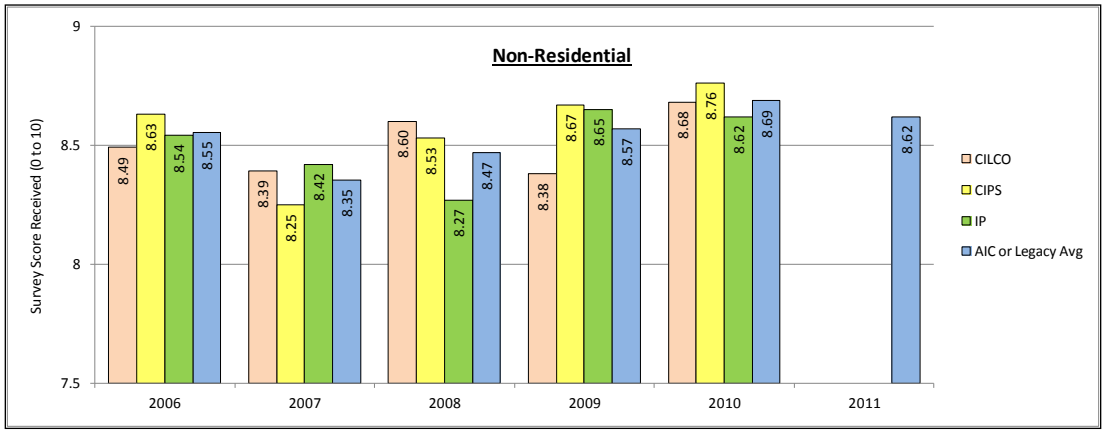


Figure 3: AIC and Legacy Non-Residential Scores: Providing Reliable Electric Service (2006-2011)



C. Customer Complaints:

During 2011, AIC received, and resolved, 42 complaints relating to frequent outages or damage. AIC received 14 such complaints in 2010; 22 in 2009 and 26 in 2008. Though the number of customer complaints during 2011 is somewhat higher, Staff does not believe the increase in reliability-related complaints during 2011 warrants any special action at this time. AIC's reported SAIFI and CAIFI values were both the lowest among all reporting utilities. Staff plans to review the number of reliability-related complaints that AIC identifies in its annual report for 2012 to determine if the Commission should be concerned regarding the increasing number of complaints from AIC's customers and/or whether the Commission should examine AIC's methods of communicating information to its customers about service interruptions.

Utilities can and should minimize interruptions, and reliability complaints from customers about interruptions, by keeping track of the interruptions that occur beyond specific protective devices on their distribution systems, and by taking prompt corrective action

throughout the year if the same customer(s) experience multiple interruptions. By taking prompt corrective action, a utility can significantly reduce the number of customers that experience multiple interruptions, and therefore the number of customers who experience interruptions in excess of the Commission's frequency and duration targets. In this regard, AIC has taken the right approach by supplementing its Circuit Inspection Program, which provides a thorough inspection of each distribution circuit once every four years, with a Multiple Device Interruptions Program, which initiates an additional inspection of problem segments on a distribution circuit if distribution facility segments experience three or more outages during a sliding 12-month window. AIC's annual report indicates that, under this program, AIC performs a weekly evaluation to determine what, if any, action it should take. The Commission encourages AIC to retain its Multiple Device Interruption Program in future years as an effective tool to limit repeat interruptions. AIC's annual report indicates that AIC completed 422 inspections and 126 projects under this program during 2011.

D. Worst Performing Circuits:

Section 411.20 defines Worst Performing Circuits as follows:

> *"Worst-performing circuits" are those distribution circuits that, for each reliability index, are among the one percent of all circuits in an operating area (or at least one circuit for each reliability index) with the highest achieved values (lowest performance levels) for the reliability index. For the purpose of identifying worst-performing circuits, only distribution circuit interruptions and customers affected by such interruptions shall be considered in calculating the reliability indices*.

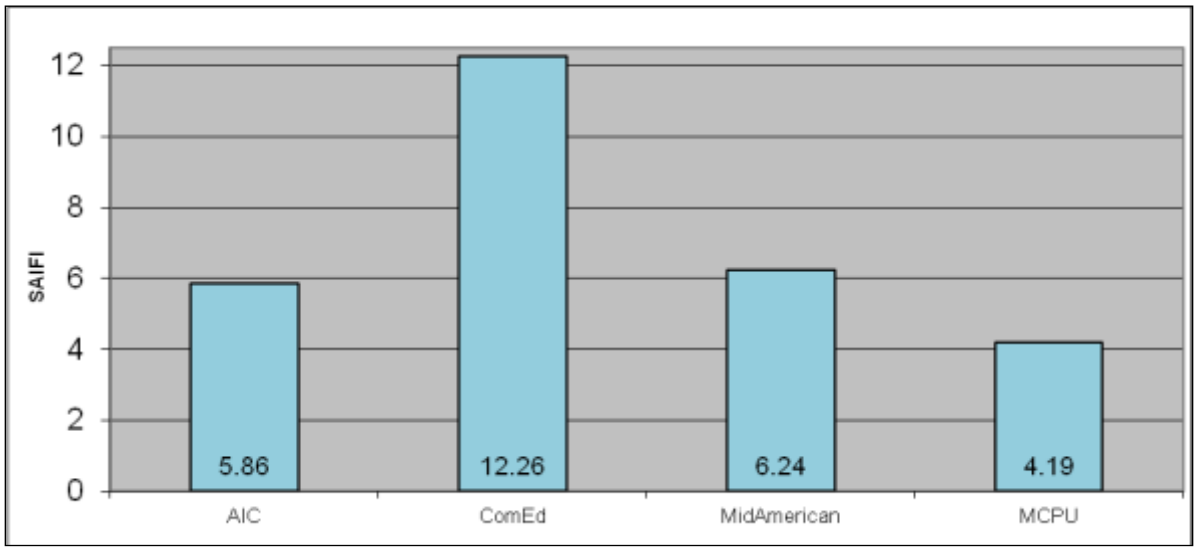
Section 411.120 requires utilities to report worst performing circuits and state corrective actions taken or planned to improve the performance of those circuits. As defined above, worst performing circuits for each reporting utility are its 1% of circuits that had the highest SAIFI, CAIDI, and CAIFI during the report year. For 2011, AIC reported 54 circuits as worst performing circuits: 25 circuits due to CAIDI, 4 due to SAIFI, 4 due to CAIFI, and 21 due to both SAIFI and CAIFI.

A utility must report on its worst performing circuits even if all its circuits performed well during the year:. The Part 411 requirement is simply that the utility provide information about its circuits that performed the worst based upon each reliability index. Since designating a circuit as a worst performing circuit does not necessarily indicate that the circuit performed poorly, comparing the index values for worst-case circuits from utility to utility can be useful when attempting to assess the performance of distribution circuits of a given utility.

- Figure 4 illustrates that the highest values of SAIFI for individual distribution circuits (worst performing) for the 2011 calendar year ranged from 4.19 for Mt. Carmel Public Utility Company ("MCPU") to 12.26 for ComEd. AIC's highest SAIFI circuit for 2011, Circuit S83533, had a SAIFI value of 5.86. Circuit S83533 was also a worst performing SAIFI circuit during both 2009 and 2010, with reported values of 5.33 and 3.30, respectively. While repeat appearances as a worst performing circuit does not necessarily indicate that AIC failed to take appropriate actions following poor 2009

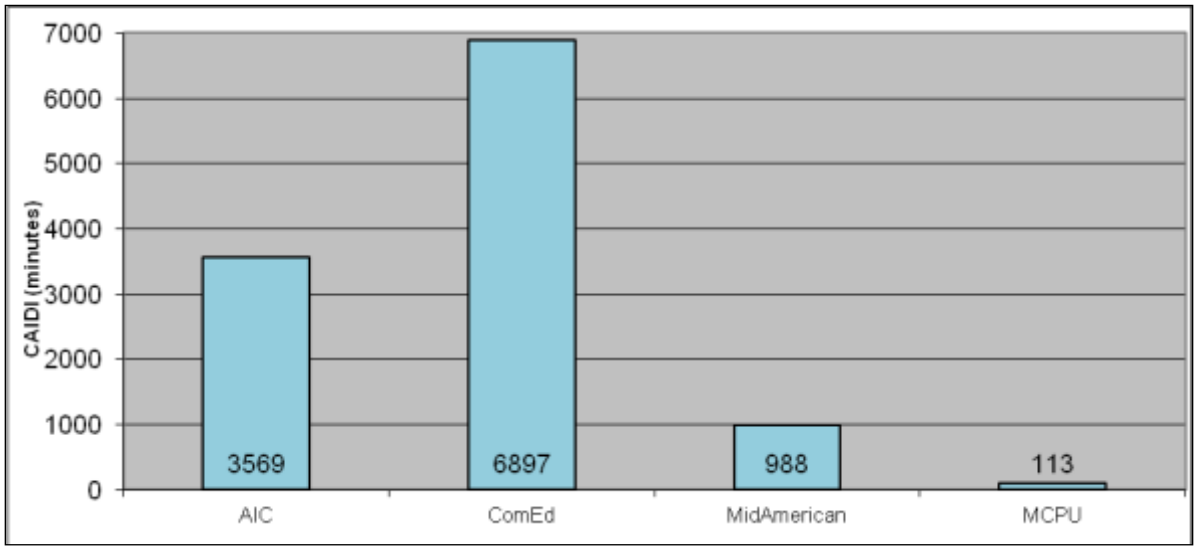
and 2010 performance, Staff believes it does indicate that the actions AIC took were likely insufficient and/or too late to significantly improve Circuit S83533's performance in 2011. For 2010, AIC's worst-case single-circuit SAIFI was 4.61 for Circuit J79305. In 2011, the SAIFI for Circuit J79305 improved to 2.77.

Figure 4: Highest (Worst Case) SAIFI for each Reporting Utility's Distribution Circuits in 2011



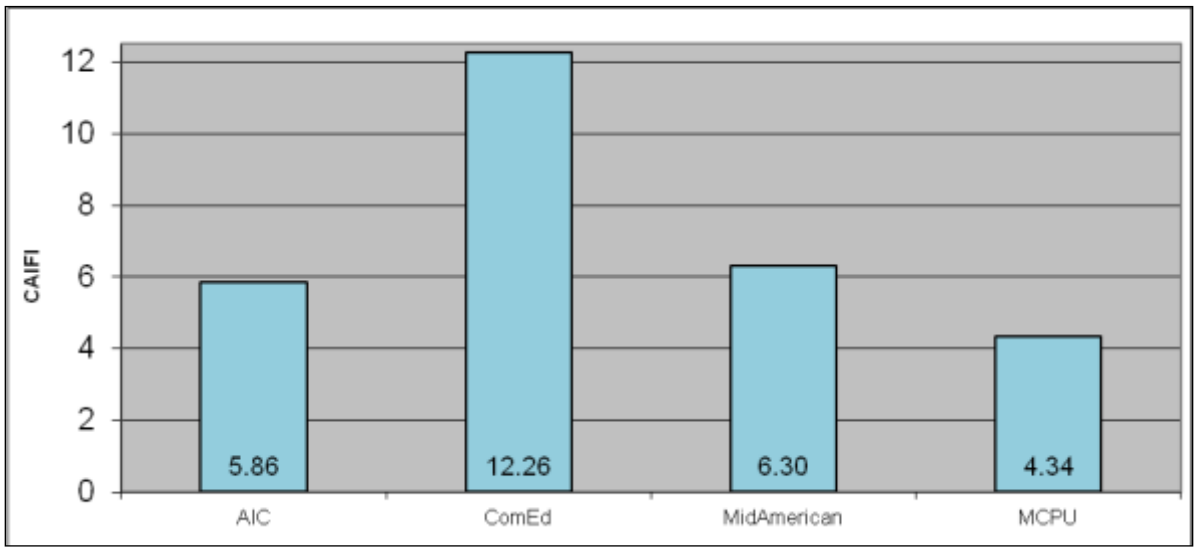
- As illustrated by Figure 5, the highest values of CAIDI reported for individual distribution circuits for the 2011 calendar year ranged from 113 minutes for MCPU to 6,897 minutes for ComEd. AIC's highest CAIDI circuit for 2011, Circuit W01528, had a CAIDI of 3569 minutes (nearly 60 hours). For 2010, the CAIDI for Circuit W01528 was189 minutes (about 3 hours). For 2010, AIC's worst-case single-circuit CAIDI was 1,641 minutes (over 27 hours) for Circuit D39002. For 2011, the CAIDI value for Circuit D39002 improved to 162 minutes (less than 3 hours).

Figure 5: Highest (Worst Case) CAIDI for each Reporting Utility's Distribution Circuits in 2011



- As illustrated by Figure 6, the highest values of CAIFI reported for individual distribution circuits for the 2011 calendar year ranged from 4.34 for MCPU to 12.26 for ComEd. AIC's circuit with the highest SAIFI during 2011, Circuit S83533, also had AIC's highest CAIFI for the year: AIC reported a value of 5.86 for both indices. For 2010, the CAIFI for Circuit S83533 was 3.30. For 2010, AIC's worst-case single-circuit CAIFI was 4.61 for Circuit J79305. For 2011, the CAIFI for Circuit J79305 improved to 2.77.

Figure 6: Highest (Worst Case) CAIFI for each Reporting Utility's Distribution Circuits in 2011



AIC included information in its annual report regarding the causes for interruptions on its 54 worst performing circuits, and identified maintenance activities it has performed or plans to perform on them, including capital projects and tree trimming. While AIC's corrective actions appeared to Staff to be logical and adequate for nearly all of its 2011 worst performing circuits, Staff found that the corrective actions AIC identified for one circuit, Circuit K67911, seemed deficient. Circuit K67911 supplies 739 customers in a rural area in the vicinity of Coulterville, in southwestern Illinois. 117 outages occurred on Circuit K67911 during 2011. This was a worst performing circuit due to both SAIFI and CAIFI, and AIC attributed 43 of the 117 outages that occurred to overhead equipment failures, trees, unknown, and "other". AIC indicates that in 2011 it conducted a mid-cycle patrol to identify potential vegetation problems, but AIC did not indicate whether it performed any additional vegetation clearing. In addition, following a circuit coordination review in 2012, AIC re-sized 5 fuses. This action was beneficial to customers because when fuses are properly sized, though outages still occur, the number of customers affected by each outage is minimized. Staff found that both AIC's mid-cycle patrol and its coordination review were prudent, but due to the relatively high number of outages that occurred on Circuit K67911 in 2011, Staff believes that AIC should attempt to reduce the number of future outages by conducting an additional inspection of the distribution facilities that make up Circuit K67911, and eliminate any threats to reliable service that this additional inspection reveals.

E. Staff's Circuit Inspections:

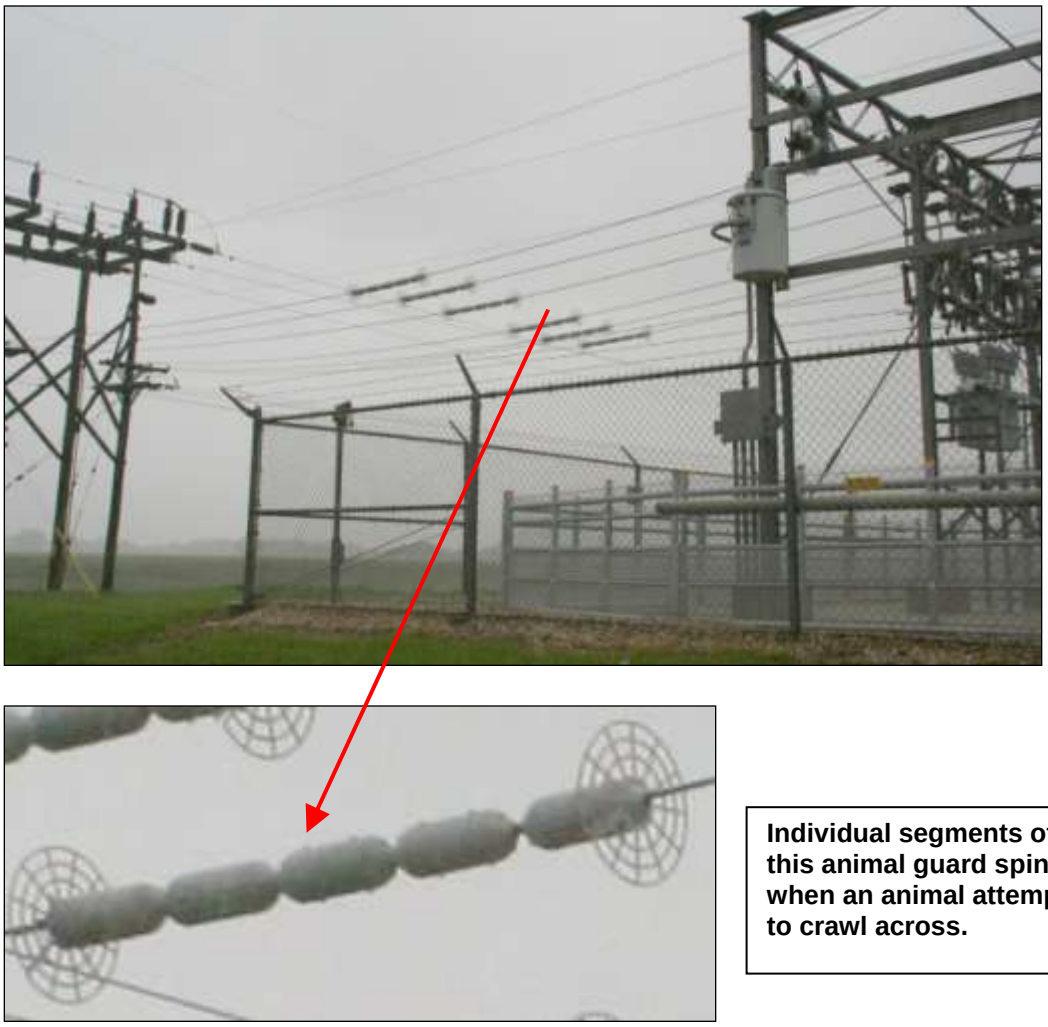
During the spring and summer of 2012, Staff inspected fifteen of AIC's distribution circuits that were either worst performing circuits during 2011, or were circuits that had a SAIFI higher than AIC's system-wide SAIFI. An AIC representative accompanied Staff during each of these circuit inspections. Staff found that most of the facilities making up the circuits inspected were in good condition, and in many cases observed that AIC had taken steps to improve the reliability of the circuits so that they should provide safe and more reliable service to its customers. For instance, Staff noted very few tree contacts and lots of poles and crossarms that had recently been replaced. Though Staff identified several locations where AIC should repair or replace its distribution facilities, there were fewer such problem locations than in prior years. Staff cannot state that the pictures in this assessment depict conditions anywhere else on AIC's distribution system because Staff has not inspected any other portions of the AIC system except the circuits where these pictures were taken. During the inspection, Staff pointed out the problem locations to the accompanying AIC representative, and later, Staff conveyed a record of the problem locations to AIC via email (see Attachment A). Specific information about Staff's observations regarding each of AIC's circuits that Staff inspected follows:

- *Circuit V83-505 (12 kV): (SAIFI=3.39; CAIDI=145; CAIFI=3.39)*

  Circuit V83-505 supplies 236 customers in rural areas southwest of Jacksonville, including areas in and around the communities of Alsey and Glasgow. It was a worst performing circuit during 2011 due to SAIFI. Of the 11 interruptions that occurred on this circuit during 2011, three affected the entire circuit. AIC attributed 6 interruptions to overhead equipment failures, 2 to weather, 1 to a vehicle accident, and 2 to "other" causes. AIC completed tree trimming on Circuit V83-505 in September 2009, and completed a mid-cycle patrol in 2011. AIC's most recent visual inspection of Circuit V83-505 in 2011. That inspection identified 63 locations requiring work, which AIC was still addressing in 2012. AIC also plans to install lightning arresters and a line recloser in 2012.

  When inspecting Circuit V83-505 in early May, Staff was impressed with the animal protection that AIC had installed at South Winchester Substation, the circuit's source, which included a separate electrified animal fence inside the substation perimeter fence, animal guards on the bushings of the distribution equipment within the substation, and "spinner" animal guards on the distribution conductors exiting the substation to prevent squirrels or other animals from getting inside the fence via these conductors (Photo 1). The extensive animal protection that AIC has installed at South Winchester Substation is an effective method to keep raccoons, squirrels, and other animal pests from causing large-scale interruptions. The only problem that Staff noted at the substation was that the substation transformer was rusting and should be painted. Out on the distribution circuit, Staff observed few potential threats to reliable service: four locations where new tree growth was coming close to the primary conductors, and one location where a primary insulator was coming loose from its crossarm. Staff found that the steps AIC has taken or plans to take to improve the reliability of Circuit V83-505 are reasonable.

Photo 1: Interior electrified animal fence and animal guards at South Winchester Substation.



Individual segments of this animal guard spin when an animal attempts to crawl across.

- *Circuit U41-517 (12 kV): (SAIFI=3.33; CAIDI=656; CAIFI=3.33)*

Circuit U41-517 supplies 335 customers in a rural area northeast of Quincy and west of Coatsburg, including the rural communities of Paloma and Fowler. Much of this circuit shares poles with AIC's 34 kV subtransmission circuit. Circuit U41-517 was not one of AIC's worst performing circuits during 2011, but its SAIFI was significantly higher than AIC's system average of 1.35. Of the 18 service interruptions that occurred on this circuit during 2011, AIC attributed 11 to overhead equipment failures, 5 to weather, 1 to an animal, and one to an unknown cause. AIC last completed tree trimming on Circuit U41-517 in March of 2010, and last performed a visual inspection in 2008, at which time it identified 156 locations at which facilities required repair or replacement. AIC replaced several poles during 2011, and anticipates additional pole replacements in 2012. AIC also plans to install a line recloser during 2012.

When performing its inspection in May of 2012, Staff found AIC's Coatsburg Junction Substation to be well maintained, with animal guards covering all the bushings of the distribution equipment. Out on Circuit U41-517, Staff identified one

location where a maple tree was contacting the primary, several poles with varying degrees of woodpecker damage (Photo 2), adjacent poles with missing crossarm braces, a static wire support coming loose from the top of a subtransmission pole, a lightning damaged crossarm (Photo 3), and a secondary riser with inadequate stand-off bracket spacing.[4] Staff noted that AIC had replaced a large number of poles, had installed overhead fault indicators at several locations, and had installed animal guards on most of its distribution transformers –all of which should increase the reliability of Circuit U41-517 in the future. Staff believes that the steps AIC has taken or plans to take to improve reliability for customers supplied by Circuit U41-517 are reasonable

Photo 2: Large Woodpecker hole at location of crossarm brace attachment (U41-517).

Photo 3: Lightning damaged crossarm (U41-517)

- *Circuit Y68-581 (12 kV): (SAIFI=3.77; CAIDI=248; CAIFI=3.77)*

  Circuit Y68-581 supplies electricity to 564 customers in the rural area north of Danville, including the communities of Potomac and Henning. It was a worst performing circuit during 2011 due to both SAIFI and CAIFI. Of the 19 interruptions

[4] To prevent unauthorized individuals from climbing utility facilities, Rule 217(2)(c) of the National Electrical Safety Code (NESC) requires that stand-off brackets include a spacing of not less than 8 feet between either the ground and the first bracket, or between the two lowest brackets.

that occurred on this circuit during 2011, AIC attributed 6 to weather, 5 to animals, 5 to overhead equipment failures, and 1 each to the trees, public, and “unknown”. AIC last completed tree trimming in November of 2011, and most recently performed its own visual inspection in 2011. AIC’s inspection identified 91 locations with a recommendation for varying types of repairs. AIC reported that three interruptions in 2011 that affected the entire circuit were due to sub-transmission outages. AIC reported that in addition to completing an emergency 69 kV tie in 2011, it has replaced nearly two dozen poles. In 2012 it plans to perform a protective device coordination study.

Staff noted the Rossville South Substation, the source for Circuit Y68-581, appeared to be well maintained. This substation’s animal protection did not include an internal electrified animal fence, but did include animal guards on substation distribution equipment bushings as well as on the exiting distribution circuit conductors. Staff suggests that AIC could likely shorten its time to locate the cause of some interruptions if it installed more overhead fault indicators –especially where some of the cross-country segments of this circuit leave roadways. Staff also recommends that AIC continue to install animal guards on its pole-mounted distribution transformers, as many distribution transformers lacked them. Staff noted: 5 locations where crossarms were supported by a single brace rather than two braces (Photo 4); three locations where crossarm braces were split and one location with a severely split crossarm (Photo 5); one location where riser stand-off bracket spacing did not meet NESC Rule 217(2)(c); and one pole with a large woodpecker hole located below the primary attachment. Staff believes that the steps AIC has taken or plans to take to improve reliability for customers supplied by Circuit Y68-581 are reasonable, but recommends it also correct the hardware issues that Staff noted when inspecting the circuit.

Photo 4: Crossarm leaning due to splitting single brace (Y68-581)

Photo 5: Crossarm is split near pin insulator that is missing mounting nut (Y68-581)

Circuit Y60-593 (12 kV): (SAIFI=4.11; CAIDI=142; CAIFI=4.11)

Circuit Y60-593 supplies approximately 746 customers in a rural area east of Rantoul, including the communities of Gifford and Penfield. Circuit Y60-593 was a worst-performing circuit during 2011 due to both SAIFI and CAIFI. Of the 14 sustained interruptions that occurred on Circuit Y60-593 during 2011, AIC attributed 7 to overhead equipment failures, 4 to animals, and 3 to unknown causes. AIC last completed tree trimming in May of 2010, and last conducted a visual inspection in 2011, which identified 193 locations requiring varying types of repairs. In 2011, the entire circuit experienced an interruption on 4 occasions - twice in April of 2011 due to galloping conductor at the same location.[5] AIC rebuilt its facilities at the location where galloping occurred. Also during 2011, AIC installed an emergency circuit tie so that it can supply customers from an adjacent circuit.

When inspecting Circuit Y60-593, Staff observed only a few threats to reliable service. Staff found Rantoul substation to be well maintained except for a gap beneath the fence large enough for small animals to pass under. When inspecting the circuit, Staff noted a pole with both crossarm braces detached (Photo 6), a location where only a single crossarm brace had been installed, and 3 locations where hardware holding insulators to poles or crossarms was missing or loose (Photo 7). Staff believes that if, in addition to the work it has already performed, AIC addresses the few locations with loose or failed hardware that Staff identified, Circuit Y60-593 is likely to perform much better in future years.

Photo 6: Both braces detached from pole (Y60-593)

Photo 7: Pole top pin with top nut loose and lower nut missing (Y60-593)

[5] An interruption due to galloping conductor means that the wind caused the wires to bounce up and down so severely that they were either damaged or came into contact with one another.

- *Circuit R93-350 (12 kV): (SAIFI=4.10; CAIDI=117; CAIFI=4.10)*

  Circuit R93-350 supplies *319* customers in both rural and urban areas between Edwardsville and Alton. Circuit R93-350 was a worst-performing circuit during 2011 due to both SAIFI and CAIFI, and had a SAIFI during 2010 that was also higher than the system average. Four of the 19 sustained interruptions that occurred on Circuit R93-350 during 2011 affected the entire circuit. Of the 19 interruptions, AIC attributed 5 to overhead equipment failures, 3 to animals, and 2 to trees. AIC last completed tree trimming in February of 2010, and last conducted a visual inspection in 2008, at which time it identified 114 locations for various types of repairs. AIC replaced about a dozen poles on this circuit during 2011 and 2012, installed several fuses and relocated a recloser. AIC scheduled a mid-cycle patrol for 2012.

  When inspecting Circuit R93-350, Staff noted only two problem locations: one location with insufficient riser stand-off bracket spacing, and one location where a vine had grown up a guy wire and reached the primary level. There were also two woodpecker holes about midway up the same pole. Given the apparent good condition of this circuit, Staff believes that the steps AIC has taken or plans to take to improve the reliability of Circuit R93-350 are reasonable.

- *Circuit K46-388 (12 kV): (SAIFI=3.11; CAIDI=147; CAIFI=1.11)*

  Circuit K46-388, which supplies 1896 customers in and around Collinsville, was not a worst-performing circuit during 2011, but it had a SAIFI that was higher than AIC's system average SAIFI of 1.35. Two weather related interruptions during 2011 affected all the customers on the circuit: one in February for nearly 3 hours, and one in May for two hours. A total of 37 sustained interruptions occurred on Circuit K46-388 during 2011, and AIC attributed 12 to weather, 8 to trees, 6 to underground equipment failures, and 1 each to other and unknown causes. AIC last completed tree trimming in June of 2011, and last conducted its own inspection in 2009, at which time it identified 476 locations requiring various types of repairs. In addition to the tree trimming it completed in 2011, AIC plans to perform a coordination-study, and replace underground cable that has failed multiple times.

  Due to its location between roadways, AIC's substation that supplies Circuit K46-388, Collinsville Cloverleaf Substation, has an oddly-shaped footprint. There is an additional electrified animal fence for the distribution equipment, as well as animal guards on most bushings of distribution equipment in the substation. When inspecting Circuit K46-388, Staff observed two locations where AIC's conductors appeared to have inadequate ground clearance (one a neutral and one a secondary), one location where a pole-mounted primary riser molding had come apart, and one location with a leaning pole. Staff believes that the steps AIC has taken or plans to take to improve the reliability of Circuit K46-388 are reasonable.

- *Circuit M48-814 (4 kV): (SAIFI=4.00; CAIDI=47; CAIFI=4.00)*

  Circuit M48-814, is a short 4 kV circuit that supplies 205 customers in the community of Gillespie. Circuit M48-814 was a worst-performing circuit during 2011 due to recurring outages to the entire circuit reportedly caused by a loose primary

connection. Only 6 sustained interruptions occurred on Circuit M48-814 during 2011: two attributed to weather and 4 to overhead equipment failures (3 of the overhead equipment failures were associated with the abovementioned loose primary connection). AIC last completed tree trimming in February of 2011, and last conducted its own inspection in 2009, at which time it identified 65 locations for various types of repairs. AIC indicated it plans to replace 8 poles on this circuit during 2012.

When conducting its inspection in mid-May, 2012, Staff found this circuit to be in good shape. The only observation was that the gates to Gillespie Oak Street Substation did not appear to be properly bonded to the fence or substation ground grid. Though there were no animal guards on the distribution equipment in the substation, there were no reports of animal-caused outages either. Staff concluded that with the loose primary connection corrected, this circuit's performance should be much improved.

- *Circuit N70-330 (12 kV): (SAIFI=2.37; CAIDI=68; CAIFI=2.37)*

  Circuit N70-330 supplies 1554 customers in and around Kewanee. It was not a worst-performing circuit during 2011, but was a worst-performing circuit in 2010 due to SAIFI, and in 2011 still had a SAIFI higher than AIC's system average of 1.35. The circuit's poor performance during 2010 was largely due to overhead equipment malfunctions, and to a lengthy interruption of unknown cause that affected all customers on the circuit. AIC most recently completed tree trimming on the circuit in June of 2011, and last conducted a visual inspection in 2009, which identified 704 locations requiring various types of repairs. The only improvements AIC identified for this circuit were related to these 2009 inspection findings.

  During Staff's inspection, Staff noted that Kewanee South Street Substation had no grounding straps on its entrance gates, and very large gaps under the gates and fence – some that were large enough for a person to crawl through (Photos 8). There was no electrified animal fence inside the perimeter fence, but AIC had installed animal guards on the distribution equipment bushings. One of the substation's regulators was very rusty (Photo 9). AIC has done a good job keeping vegetation away from its primary conductors out on the circuit. However, Staff noted a few other problems: a location where the primary conductor had come loose from the post insulator so that it was floating very close to the neutral (Photo 10); several locations with improper riser stand-off bracket spacing; two locations where the ground clearance of AIC's neutral conductor appeared to be inadequate; two locations where crossarm braces were broken or detached (Photo 11); and several locations where down guys appeared to be neither insulated nor effectively grounded. Given that Circuit N70-330 was a 2010 worst performing circuit, the Company should have identified and addressed the abovementioned issues.

Photo 8: Large gaps under gates at Kewanee South Street Substation (N70330)

Photo 9: Rusty regulator at Kewanee South Street Substation (N70330)

Photo 10: Primary conductor detached from insulator and floating near neutral (N70330)

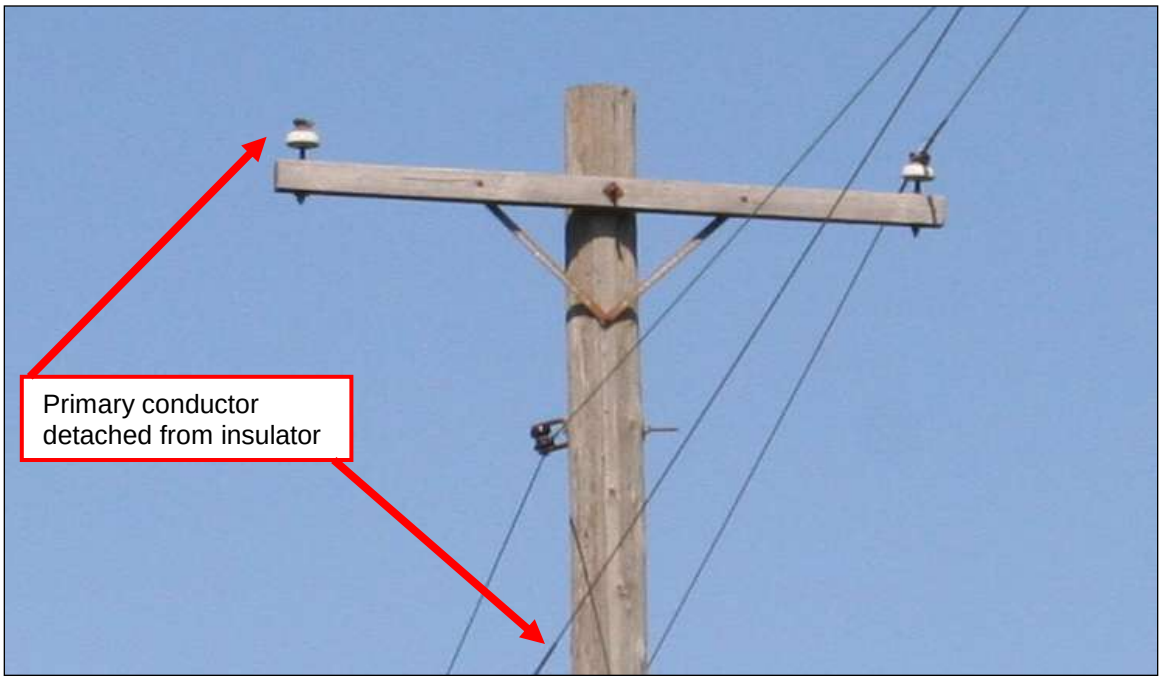


Photo 11: Bolt for brace coming out of crossarm – brace detached (N70330)

- *Circuit Q34-380 (4 kV): (SAIFI=3.70; CAIDI=177; CAIFI=3.70)*

  Circuit Q34-380 is a short 4 kV circuit that supplies 184 customers in Ottawa. It was a worst performing circuit during 2011 due to both SAIFI and CAIFI – due mainly to underground equipment failures. AIC last completed tree trimming in January of 2009, and last conducted its own inspection in 2011, at which time it identified 86

locations requiring various types of repairs. AIC indicated that, in addition to the items identified during its inspection, AIC replaced a section of underground cable and installed a recloser to isolate the overhead portion of the circuit from additional problems that might occur on the underground portion of the circuit.

Staff noted only two items of concern during its inspection of Circuit Q34-380: new tree growth contacting some spacer cable, and two new metal riser ducts were not properly bonded to ground. AIC's representative indicated it was already aware of the riser grounding, but had not yet corrected it. Overall, Staff found this circuit to be in good shape, and believes that the steps AIC has taken or plans to take to improve reliability for customers supplied by Circuit Q34-380 are reasonable.

- *Circuit R73-841 (12 kV): (SAIFI=3.38; CAIDI=181; CAIFI=4.38)*

  Circuit R73-841 supplies 1321 customers in a large geographic area that includes over 80 miles of distribution lines both within Vandalia and in rural areas to the east. In 2011, it was a worst performing circuit due to both SAIFI and CAIFI. AIC attributed half of the 66 interruptions that occurred during 2011 to weather and overhead equipment failures. Outages due to animals, trees, unknown and "other" causes were also numerous. AIC last completed its circuit-wide tree trimming in 2012, and its last visual inspection in 2010. The 2010 inspection identified 708 locations requiring repairs. AIC replaced a number of poles in 2011, and plans to review the coordination of its protective equipment during 2012.

  During its August inspection, Staff noted no vegetation contacts, but did note other concerns: large gaps under the substation gates; 2 locations with splitting/deteriorated pole tops (Photo 12 & 13); 3 locations with insufficient riser stand-off bracket spacing; 1 location with a blown lightning arrester; 1 service drop with inadequate vertical clearance; 2 adjacent poles with woodpecker holes; and 1 location with insulator pin that had fallen through the crossarm. AIC should perform maintenance at these locations to reduce the likelihood of additional interruptions.

Photo 12: Split pole top (R73-841)

Photo 13: Deteriorated pole top (R73-841)

- *Circuit X69-555 (12 kV): (SAIFI=4.16; CAIDI=185; CAIFI=4.16)*

  Circuit X69-555 supplies 664 customers in rural areas in the vicinity of the communities of Flora, Clay City and Sailor Springs, in southeastern Illinois. It was a worst-performing circuit in 2011 due to both SAIFI and CAIFI. Four separate outages affected all customers on the circuit - 2 during a February ice storm. Of the 29 outages that occurred on the circuit, AIC attributed 9 to animals, 8 to overhead equipment failures, 5 to weather, 4 to unknown causes, and 3 to trees. AIC last completed tree trimming on the circuit in July of 2011, and also completed a visual inspection during 2011. The inspection identified 89 locations requiring various types of repairs. In 2012, AIC scheduled a protective device coordination review, and installed a line recloser to limit the number of outages that affect the entire circuit.

  The only issue Staff noted at Flora East Substation was that the gates were not electrically bonded to the fence. The substation appeared to be well maintained. It did not have an internal electrified animal fence, but had animal guards installed on distribution equipment bushings. Staff noted no vegetation or hardware issues when inspecting this circuit. AIC had recently replaced a large number of poles, and had cleared all vegetation from its primary facilities. Staff's only negative observation was that many of this circuit's pole-mounted distribution transformers had no animal protection installed. Since animals were a leading cause of outages during 2011, Staff suggests that AIC re-emphasize installation of animal guards on this circuit. Beyond that, Staff was satisfied that the steps AIC has taken or plans to take should improve this circuit's performance.

- *Circuit X49-569 (12 kV): (SAIFI=4.71; CAIDI=877; CAIFI=4.71)*

  Circuit X49-569 supplies 121 customers east of Carmi, in southeastern Illinois. It was a worst performing circuit in 2011 due to both SAIFI and CAIFI, with trees causing two of the three outages that affected the entire circuit. AIC reported a total of 11 outages on the circuit for the year: 5 due to trees, 4 due to weather, and 2 due to overhead equipment failures. AIC most recently completed tree trimming on the circuit in December of 2011, and also completed a visual inspection in 2011. That inspection identified 51 locations requiring various types of repairs. AIC indicated that it replaced approximately 100 poles on this circuit during 2011 and 2012. In addition, AIC performed a coordination review, and plans to install a recloser in 2012.

  Crossville Junction Substation, which is the circuit's source, has an internal electrified animal fence. Staff noted what appeared to be bird nesting materials in the cooling fins of the substation transformer. Restricted air flow through the cooling fins can lead to high transformer temperatures, which in turn can shorten the transformer's life. Out on the circuit, Staff observed only one problem with hardware – a nut holding a pin insulator to its crossarm was loose. Staff noted many new poles on the circuit, as well as good lightning arrester coverage. The actions AIC has taken, or plans to take, to improve the reliability of this circuit are reasonable. In addition, due to the many cross-country segments on this circuit, Staff suggests that AIC also install additional overhead fault indicators.

- *Circuit S47-576 (12 kV): (SAIFI=4.85; CAIDI=97; CAIFI=4.85)*

  This circuit supplies 686 customers in southern Illinois, extending from Herrin to Freeman Spur. Galloping conductor caused an interruption for all the customers supplied by the circuit on three occasions. There were a total of 25 outages on the circuit during the year, including 15 due to overhead equipment failures, 4 due to animals, and 3 due to trees. AIC most recently completed tree trimming in March of 2012, and its own visual inspection in 2011. That inspection identified 85 locations requiring various types of repairs. AIC installed dampeners and spacers, and shortened some span lengths in order to eliminate a repeat of the galloping conditions that occurred in April of 2011. In addition, as a result of a coordination study AIC resized several fuses.

  Staff found Herrin Substation to be well maintained. It has an internal electrified animal fence and animal protection is installed on the distribution equipment bushings and on the conductors. Much of the segment of Circuit S47-576 that supplies the community of Freeman Spur occupies the same structures/poles as AIC's 34 kV subtransmission line. At a location in Herrin where the line begins its cross-country route towards Freeman Spur, Staff observed a deteriorated 34 kV crossarm with detached braces (Photo 14). In addition, Staff noted 2 locations where poles holding distribution transformers were leaning, 3 locations with poles that had split tops or were deteriorated (Photo 15), 2 locations where the conductor had inadequate ground clearance, and one location where a tie wire for a down guy appeared to be unwrapping from the guy wire. In addition to replacing the damaged/deteriorated poles that Staff identified, Staff recommends that AIC consider installing additional overhead fault indicators on cross-country segments.

Photo 14: Damaged 34 kV crossarm on structure above 12 kV circuit (S47-576)

Photo 15: Top of pole is split and hollow below the crossarm mounting bolt (S47-576)

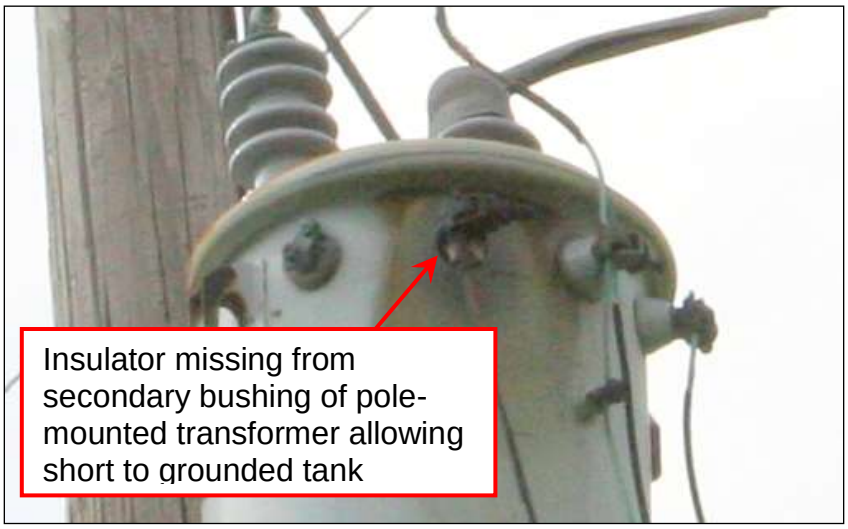
Photo 16: Pole @ RR crossing with split top & single brace on both crossarms (S47-576)

- *Circuit T08-502 (12 kV): (SAIFI=4.50; CAIDI=200; CAIFI=4.50)*

  Circuit T08-502 supplies 524 customers north and east of West Frankfort, in southern Illinois. It was a worst performing circuit in both 2011 and 2008 due to SAIFI and CAIFI. Of the 21 outages that occurred on this circuit during 2011, AIC attributed 7 to trees, 5 to weather, and 3 to overhead equipment failures. Three of these outages affected all the customers that the circuit supplies. AIC completed tree trimming in January of 2012. Its most recent visual inspection, performed in 2011, identified 74 locations requiring various types of repairs. In 2012, AIC re-sized fuses for better coordination, replaced several poles and crossarms, reinforced poles, added lightning protection, and reduced exposure on the circuit by removed several spans of primary that were no longer supplying customers. As of the time of Staff's inspection in September of 2012, the circuit had exhibited much better performance than in 2012 than it had in 2011.

Staff found that AIC's West Frankfort Ida Substation appears to be well maintained, with fresh gravel filling any gaps beneath the perimeter fence. There is not an interior electrified animal fence, but animal guards cover the bushings on the distribution equipment in the substation. Staff found little to criticize during its inspection of this circuit: a riser with insufficient stand-off bracket spacing; a primary riser conduit that was not properly grounded, one deteriorated pole top; and an energized distribution transformer with a broken secondary bushing (Photo 17). The significant work AIC recently performed on this circuit will undoubtedly improve its performance.

Photo 17: One of the secondary bushings missing on transformer (T08-502)



- *Circuit R41-131 (12 kV): (SAIFI=4.16; CAIDI=591; CAIFI=4.19)*

  Circuit R41-131 was a worst performing circuit in both 2011 and 2008. It supplies 797 customers located in rural areas south of Centralia. AIC attributed 14 of the 40 interruption that occurred during 2011 to overhead equipment failures, 8 to unknown causes, 6 to weather, 5 to trees, and 4 to animals. AIC last completed tree trimming in August of 2010, and completed its own inspection in 2012. The inspection identified 500 locations requiring various repairs. To improve reliability, AIC reviewed fuse coordination and plans to install animal guards at one location.

  At Texas Substation, the source for Circuit R41-131, Staff noted a very rusty transformer and mounded gravel that might make it difficult for crews to operate emergency equipment (Photo 18). Several sections of the circuit are constructed jointly with AIC's subtransmission system, and Staff found that AIC had done a good job clearing vegetation growth from the rights-of-way of (Photo 19). Staff observed one location where vegetation was growing close to the primary conductor, 5 locations where woodpeckers had damaged AIC's poles (Photos 20 & 21), 4 locations where pole tops were splitting or deteriorated (Photos 22-24), 1 location with a deteriorated crossarm and detached brace, and 3 locations where AIC's conductors appeared to have inadequate ground clearance. In Staff's view, AIC should perform some additional maintenance on this circuit.

Photo 18: Rusting transformers at Texas Substation (R41-131)

Photo 19: AIC's vegetation clearing (R41-131)

Photo 20: Woodpecker damaged pole (R41-131)

Photo 21: Woodpecker damaged pole (R41-131)

Photo 22: Pole top splitting to below crossarm mounting bolt (R41-131)

Photo 23: Split pole top (R41-131)

Photo 24: Lightning damaged pole top (R41-131)

F. Vegetation Management:

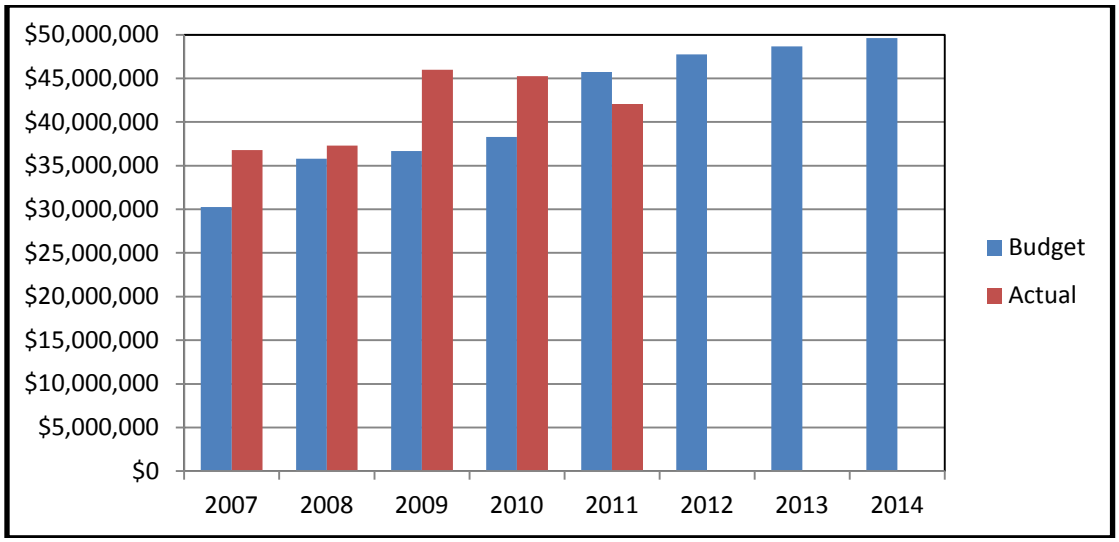
Most outages that occur during weather events involve trees - broken limbs or limbs that blow in the wind and contact and/or damage primary distribution conductors. Consequently, many interruptions that utilities categorize as weather-related are actually caused by trees. AIC's annual report states that it trimmed trees along 100% of the 8,409 miles of circuit that it planned to trim during 2011, and in addition it trimmed 1280 miles that it had previously scheduled to trim in 2012. AIC trims trees on a four-year cycle, so that every four years it trims about 33,600 miles of distribution circuit. In addition, AIC performed all of its scheduled mid-cycle inspections in 2011. AIC's mid-cycle patrols identify and target fast growing trees and vines that are likely to grow into distribution lines more quickly than the four year trim cycle protects against. During 2012, AIC is scheduled to trim 6614 circuit miles and perform mid-cycle patrols on 8890 circuit miles. In the past, AIC's mid-cycle patrols occurred only on three-phase main-feeders and unfused taps. AIC's 2011 annual report indicates that AIC has expanded its mid-cycle patrol program to include all circuit segments. Staff had previously recommended this change, and identifies it as a great improvement to the program. To reduce tree-related outages even further, AIC removed 101,228 trees during 2011. This is an impressive number of tree removals that required significant communication and cooperation with landowners and community leaders.

When inspecting AIC's circuits in 2012, Staff found that AIC had done a good job keeping vegetation cleared from its distribution lines. Though Staff identified a few isolated locations where new tree growth was approaching the primary conductor, Staff found that AIC did a very good job overall keeping vegetation, including fast growing vines, cleared away from the circuits that Staff inspected. During its field inspections, Staff found little to criticize regarding AIC's vegetation clearing efforts, and expects

AIC's efforts to have very positive effects for AIC's customers - especially during severe weather events. Even though the 5286 tree-related interruptions that AIC reported in 2011 is more than the 5176 that AIC reported for 2009, or the 3865 for 2010, it is far fewer than the 9885 that AIC reported for 2008.

Figure 7 illustrates that AIC's is budgeting greater amounts for tree trimming for the years 2011 and later than it had budgeted in prior years. AIC's budget appears to indicate that AIC is planning to fund its vegetation management program to maintain its improving results.

Figure 7: AIC's Actual and Budgeted Vegetation Management Expenditures

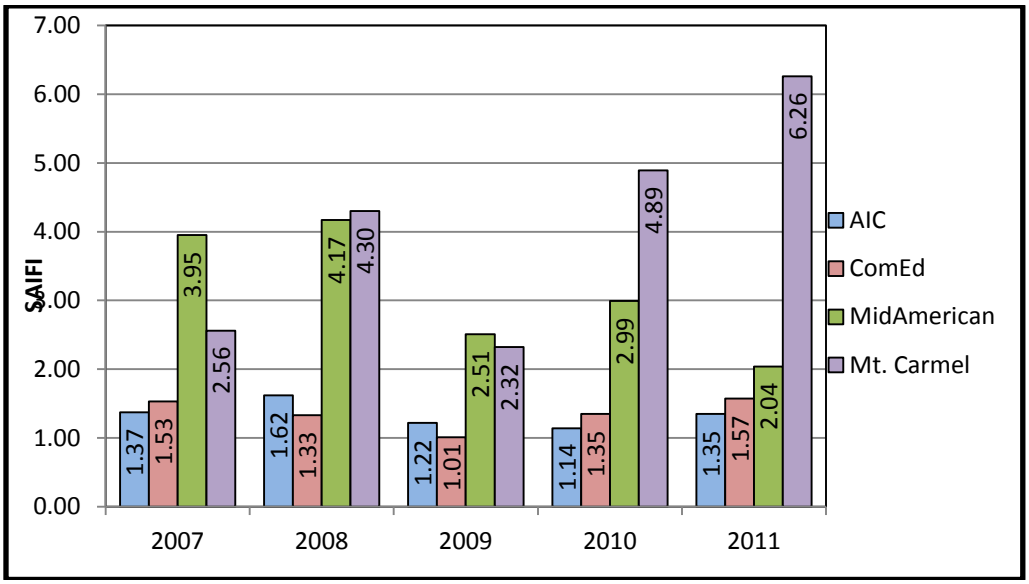


8. Trends in Reliability Performance

A. Trends in Reliability Indices:

- *SAIFI:* Figure 8 shows system SAIFI values for years 2007-2011 for reporting electric utilities:

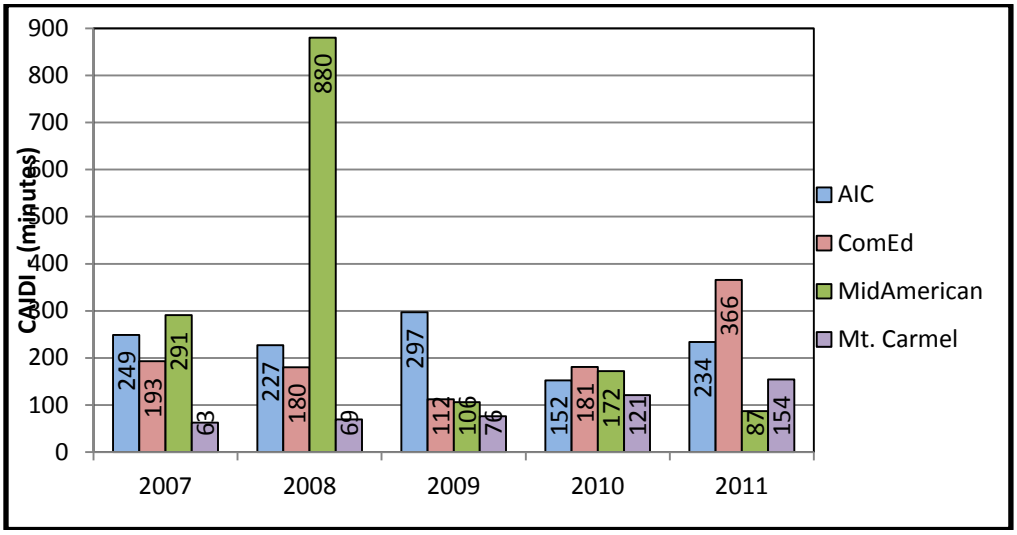
Figure 8: System SAIFI by Utility (2007-2011)



- In 2008, the combined SAIFI for AIC's three legacy utilities increased (worsened) by approximately 18% when compared to 2007, but was still more than 50% lower (better) than the average of the SAIFI values of the three other reporting utilities (AIC legacy utilities' 2008 combined SAIFI=1.62).
- In 2009, the combined SAIFI for AIC's three legacy utilities improved by nearly 25%, and was about 37% lower (better) than the average of the SAIFI values reported by the three other reporting utilities (AIC legacy utilities' 2009 combined SAIFI=1.22).
- In 2010, AIC's SAIFI improved by another 7%, and was the lowest reported; about 63% lower (better) than the average of the SAIFI values of the three other reporting utilities (AIC's 2010 SAIFI=1.14).
- In 2011, AIC's SAIFI worsened by about 18%, but was still the lowest reported: about 59% lower (better) than the average of the SAIFI values of the three other reporting utilities, and 14% better than the SAIFI reported by ComEd, which had the next lowest SAIFI (AIC's 2011 SAIFI=1.35).

- *CAIDI:* Figure 9 shows system CAIDI values for years 2007-2011 for reporting electric utilities*:*

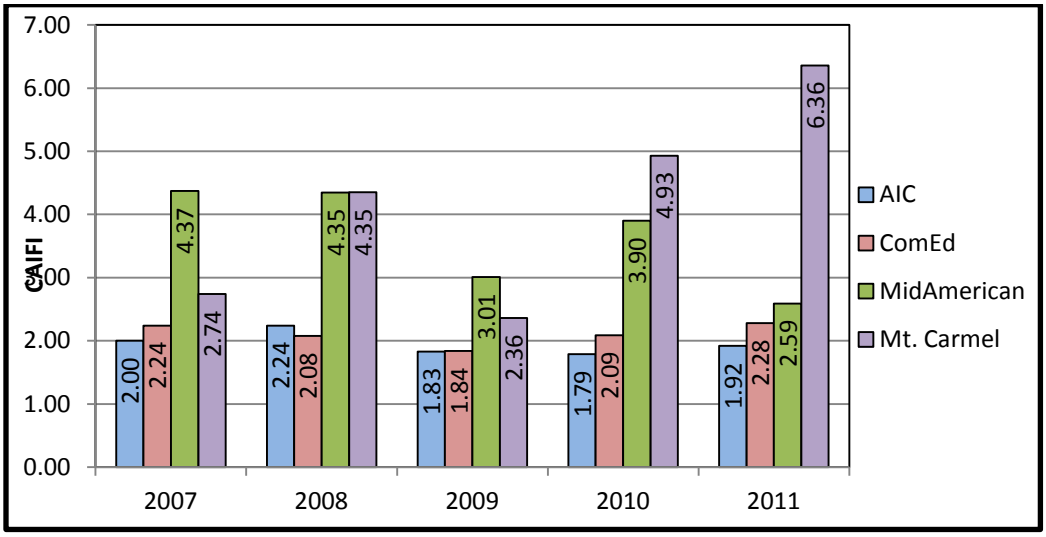
Figure 9: System CAIDI by Utility (2007-2011)



- In 2008, the combined CAIDI for AIC's three legacy utilities decreased (improved) by approximately 9% when compared to 2007, and though it was the second highest value, it was about 40% lower (better) than the average of the SAIFI values of the three other reporting utilities because of the extremely high CAIDI reported by MidAmerican Energy Company that year (AIC legacy utilities' 2008 combined CAIDI=227 minutes).
- In 2009, the combined CAIDI for AIC's three legacy utilities worsened by about 30%, and was more than 200% higher (worse) than the average of the CAIDI values reported by the three other reporting utilities (AIC legacy utilities' 2009 combined CAIDI=297 minutes).
- In 2010, AIC's CAIDI improved by nearly 50%, and was the second lowest; about 4% lower (better) than the average of the CAIDI values of the three other reporting utilities (AIC's 2010 CAIDI=152 minutes).
- In 2011, AIC's CAIDI worsened by about 54%, and was about 16% higher (worse) than the average of the CAIDI values of the three other reporting utilities. It was 169% higher than the CAIDI reported by MidAmerican Energy Company (AIC's 2011 CAIDI=234).

➢ *CAIFI:* Figure 10 shows system CAIFI values for years 2007-2011 for reporting electric utilities:

Figure 10: CAIFI by Utility (2007-2011)



- In 2008, the combined CAIFI for AIC's three legacy utilities increased (worsened) by approximately 12% when compared to 2007, but was still about 38% lower (better) than the average of the CAIFI values of the three other reporting utilities (AIC legacy utilities' 2008 combined CAIFI=2.24).
- In 2009, the combined CAIFI for AIC's three legacy utilities improved by 18%, and was the lowest reported: about 24% lower (better) than the average of the CAIFI values reported by the three other reporting utilities (AIC legacy utilities' 2009 combined CAIFI=1.83).
- In 2010, AIC's SAIFI improved by another 2%, and was again the lowest reported: about 50% lower (better) than the average of the CAIFI values of the three other reporting utilities (AIC's 2010 CAIFI=1.79).
- In 2011, AIC's SAIFI worsened by about 7%, but was still the lowest reported: about 49% lower (better) than the average of the CAIFI values of the three other reporting utilities, and 16% better than the SAIFI reported by ComEd, which had the next lowest CAIFI (AIC's 2011 CAIFI=1.92).

AIC's reliability indices for 2011 compared to 2010 indicate that, on average, AIC's customers experienced slightly more and longer interruptions during 2011.

Changes in AIC's reliability indices from 2010 to 2011 were greater, but similar to the changes in reliability indices of Illinois' other reporting utilities:

- AIC's SAIFI increased by about 18% from 2010 to 2011. The average of the SAIFI values from all other reporting utilities increased by about 7%. Despite the increase in AIC's 2011 SAIFI, AIC reported the lowest value for the year.
- AIC's CAIDI increased by about 54% from 2010 to 2011. The average of the CAIDI values from all other reporting utilities increased by about 28%. With this relatively large increase, AIC reported the second highest CAIDI for 2011.

- AIC's CAIFI increased by about 7% from 2010 to 2011. The average of the CAIFI values from all other reporting utilities increased by about 3%. Despite the increase in AIC's 2011 CAIFI, AIC reported the lowest value for the year.

B. Trends in Interruptions to Individual Customers:

AIC's interruption data indicates that a smaller number of its customers experienced three or fewer interruptions during 2011 than during 2010, and that a greater number of its customers experienced more than six interruptions.

- *Zero interruptions*: During 2011, about 30% of AIC's customers experienced zero interruptions. During 2010, just over 36% experienced zero interruptions. The combined values for AIC's three legacy utilities were about 33% and 28% for 2009 and 2008, respectively.
- *Three or Fewer Interruptions*: During 2011, about 88% of AIC's customers experienced 3 or fewer interruptions. During 2010, about 91% experienced three or fewer. The combined values for AIC's three legacy utilities were about 90% and 85% for 2009 and 2008, respectively.
- *More than six Interruptions*: During 2011, about 1.4% of AIC's customers experienced more than 6 interruptions. During 2010, 0.9% experienced more that six interruptions. The combined values for AIC's three legacy utilities were about 1.1% and 2.8% for 2009 and 2008, respectively.

AIC's annual report indicates that there were nine weather events that exceeded NESC design criteria in AIC's service area during 2011, including an ice storm and several storms that produced tornados. There were three such weather events in 2010. Given the high number of weather events affecting AIC's service area with conditions that exceeded NESC design criteria in 2011, Staff finds that it is not surprising that fewer customers experienced three or fewer interruptions in 2011. Figure 11 illustrates that, except for 2006, the percentage of AIC's customers experiencing three or fewer interruptions annually have generally remained in the range of 80-90 percent since 2005. In 2006, only about 75% of the customers of AIC's three legacy utilities experienced three or fewer interruptions, and over 5.2% experienced more than six interruptions. Regarding repeat interruptions to customers, AIC's performance in 2011 appears to be most similar to the combined performance of AIC's three legacy utilities in the years 2005 and 2007.

Figure 11: AIC's Customers with 3 or Fewer Interruptions Annually (2005-2011)

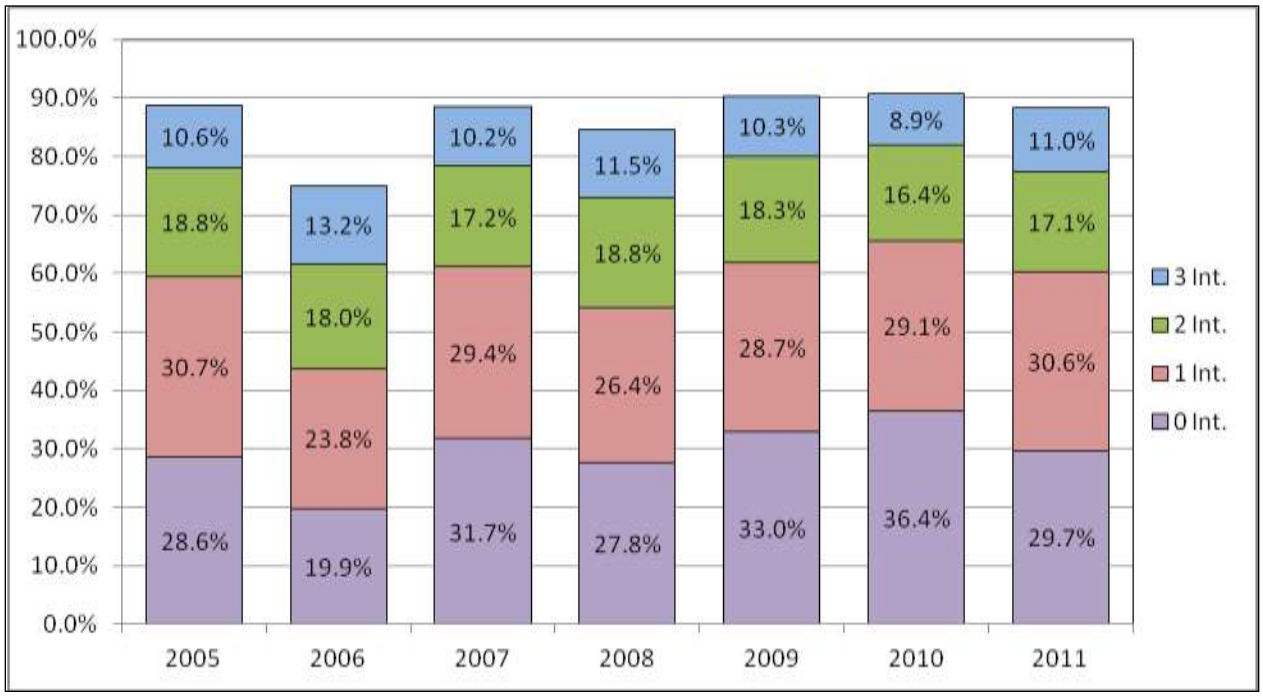
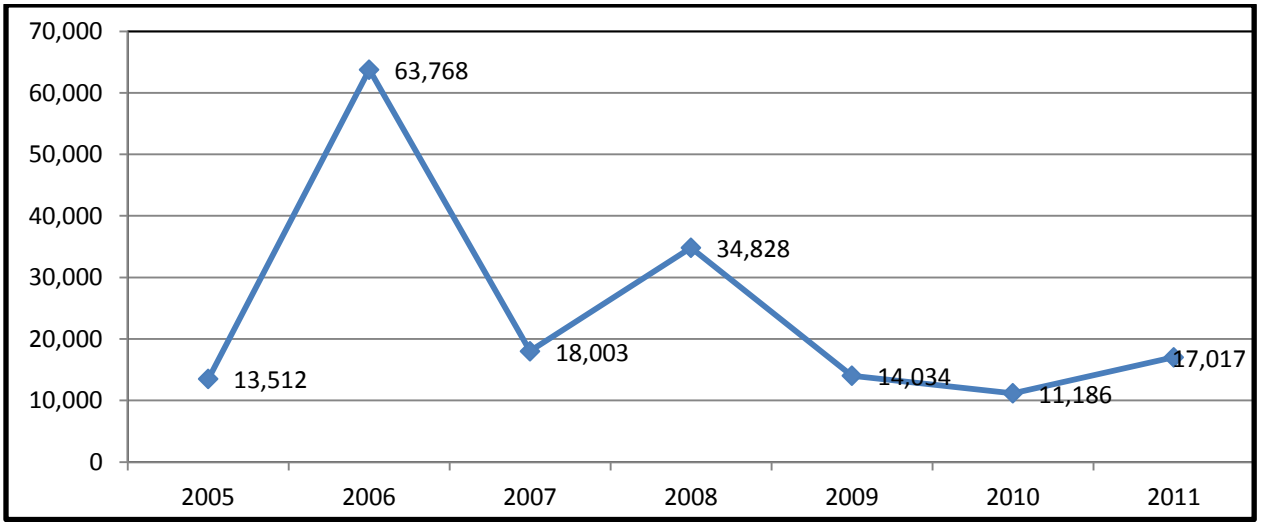


Figure 12 shows that the number of AIC's customers, or those of its legacy utilities, that experienced more than six interruptions annually has varied between 11,000 and 64,000 during the years 2005-2011. Comparing 2011 to 2010, AIC reported a 52% increase in the number of customers experiencing more than six interruptions. Similar to the above discussion regarding customers with three or fewer interruptions, Staff finds that the increase during 2011 is not surprising, given the higher number of weather events in 2011 with conditions exceeding NESC design criteria.

Figure 12: AIC's Customers with More than 6 Interruptions Annually



C. Trends in Customer Interruption Cause Categories:

Table 5 lists the number of interruption events that occurred annually on AIC's distribution system (or the distribution systems of its 3 legacy utilities) due to various causes. The 41,586 interruption events that affected AIC's distribution system in 2011 was similar to the quantity that occurred during 2007, 2009 and 2010. The small increase in the total number of interruption events from 2010 to 2011 may be attributable to the higher number of severe weather events during 2011, as indicated by the tree-related and weather cause categories.

Table 5: AIC's Annual Number of Interruption Events by Cause Category (2006 - 2011)

Cause Category	2011		2010		2009		2008		2007		2006	
OVERHEAD EQUIPMENT	10,518	25.29%	10,479	25.50%	10,248	24.29%	14,297	28.20%	10,120	25.37%	7,368	13.21%
INTENTIONAL	6,355	15.28%	8,205	19.97%	7,542	17.87%	7,335	14.47%	6,089	15.26%	5,466	9.80%
TREE RELATED	5,286	12.71%	3,865	9.41%	5,176	12.27%	9,885	19.50%	4,334	10.86%	2,639	4.73%
WEATHER	4,664	11.22%	3,563	8.67%	4,427	10.49%	281	0.55%	3,592	9.00%	23,947	42.93%
ANIMAL RELATED	4,508	10.84%	4,789	11.66%	4,187	9.92%	4,285	8.45%	4,602	11.54%	5,893	10.56%
OTHER	3,302	7.94%	3,491	8.50%	3,664	8.68%	6,829	13.47%	4,241	10.63%	3,549	6.36%
UNKNOWN	2,610	6.28%	2,340	5.69%	2,281	5.41%	2,984	5.89%	2,248	5.64%	2,309	4.14%
UNDERGROUND EQUIPMENT	2,474	5.95%	2,451	5.97%	2,476	5.87%	2,510	4.95%	2,479	6.21%	2,096	3.76%
PUBLIC	1,021	2.46%	1,142	2.78%	1,077	2.55%	1,270	2.50%	1,454	3.64%	1,281	2.30%
CUSTOMER	368	0.88%	301	0.73%	378	0.90%	318	0.63%	126	0.32%	355	0.64%
SUBSTATION EQUIPMENT	224	0.54%	217	0.53%	204	0.48%	278	0.55%	209	0.52%	86	0.15%
JURISDICTIONAL	177	0.43%	173	0.42%	282	0.67%	271	0.53%	248	0.62%	363	0.65%
TRANSMISSION OUTAGE	51	0.12%	47	0.11%	84	0.20%	50	0.10%	52	0.13%	188	0.34%
LOSS OF SUPPLY	28	0.07%	26	0.06%	168	0.40%	106	0.21%	97	0.24%	244	0.44%
Total	**41,586**	**100%**	**41,089**	**100%**	**42,194**	**100%**	**50,699**	**100%**	**39,891**	**100%**	**55,784**	**100%**

AIC's annual report states that AIC only uses the cause code "weather" if weather data confirms that National Electrical Safety Code ("NESC") design criteria was exceeded during a weather event (for example, ice and/or wind loading). AIC attributed more than 11% of interruption events to weather in 2011, compared to less than 9% in 2010. AIC's efforts to accurately report the causes of interruptions on its system are commendable. AIC's outage information is much more accurate and useful as a result of this reporting practice.

Since 2007, overhead equipment failures have consistently caused the highest number of interruption events on AIC's system. During Staff's 2012 circuit inspections, Staff found that most of AIC's facilities were in good shape; however, Staff observed several locations where AIC's overhead facilities were in need of immediate repair.

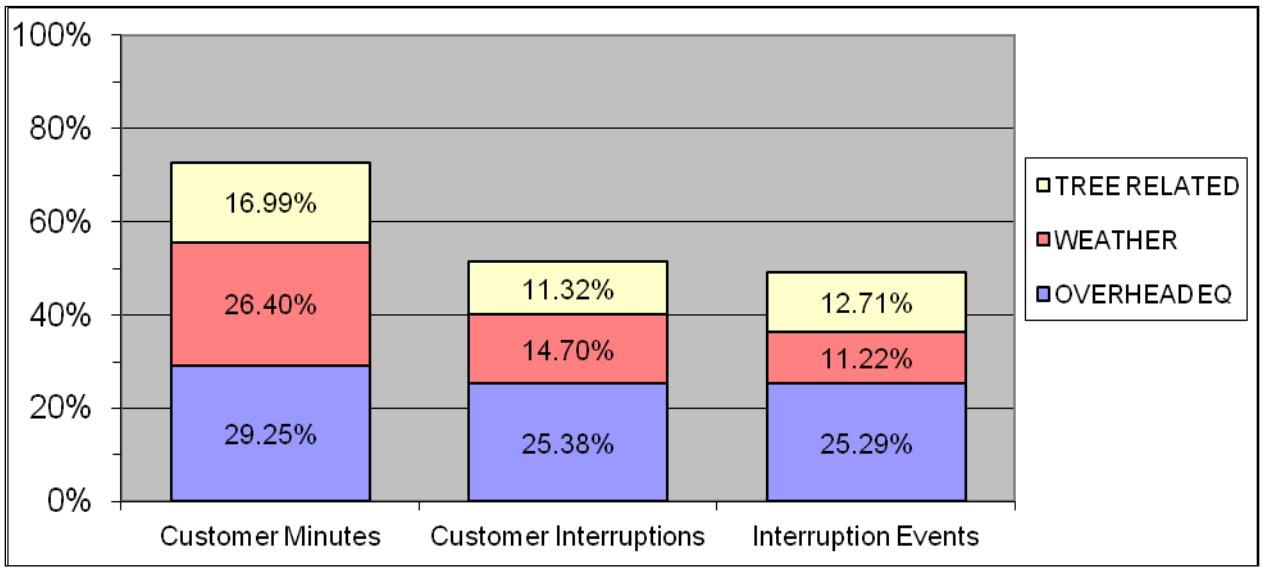
AIC attributed more than 15% of the interruption events during 2011, and nearly 12% of the customer interruptions to intentional interruptions – where AIC purposely de-energizes its facilities to perform maintenance or repairs. As Table 5 indicates, intentional interruptions have been the cause of a significant number of AIC's interruption events every year, and in 2010, made up nearly 20% of the total interruption events. Since crews are normally in position to perform necessary repairs when the intentional interruption occurs, intentional interruptions accounted for only 4% of total

interruption duration in AIC's service area during 2011; despite, the high number of interruption events. This was the lowest duration percentage for intentional interruptions since 2007. Even so, AIC should be attentive regarding the impact of intentional interruptions on its customers, and reduce the number of interruptions and their scope whenever possible.

The number of interruption events identified by cause shown in Table 5 is not indicative of how many of AIC's customers were affected by the interruptions or the duration of the interruptions. For example, consider a tree-caused interruption isolated by a tap fuse so that the interruption affects 10 customers for one hour. This tree-caused interruption would result in 10 customer-interruptions (10 customers X 1 interruption) and 600 customer-minutes (10 customers interrupted X 60 minutes of duration). As a second example, consider an overhead equipment failure on the mainline of a circuit that causes an interruption of service to 1000 customers for five hours. This overhead equipment failure results in 1000 customer-interruptions (1000 customers X 1 interruption) and 300,000 customer-minutes (1000 customers interrupted X 300 minutes of duration). Even though the first example involving the fuse and 10 customers results in fewer customer interruptions with much shorter duration, each of these two interruption events would be counted in Table 5 as one interruption.

Figure 13 illustrates the relative contribution of AIC's top three interruption causes, overhead equipment failures, trees, and weather, to its 2011 interruption statistics. Figure 13 shows that more than 72% of AIC's interruption durations during 2011 were associated with these three interruption causes. These three interruption causes also accounted for approximately 50% of AIC's interruption events and customer interruptions during 2011. Staff believes that AIC's ability to significantly improve the reliability of service it provides to its customers in future years will largely hinge on its success at reducing interruptions due to overhead equipment failures, weather, and trees.

Figure 13: Contribution of Various Causes to AIC's Interruption during 2011



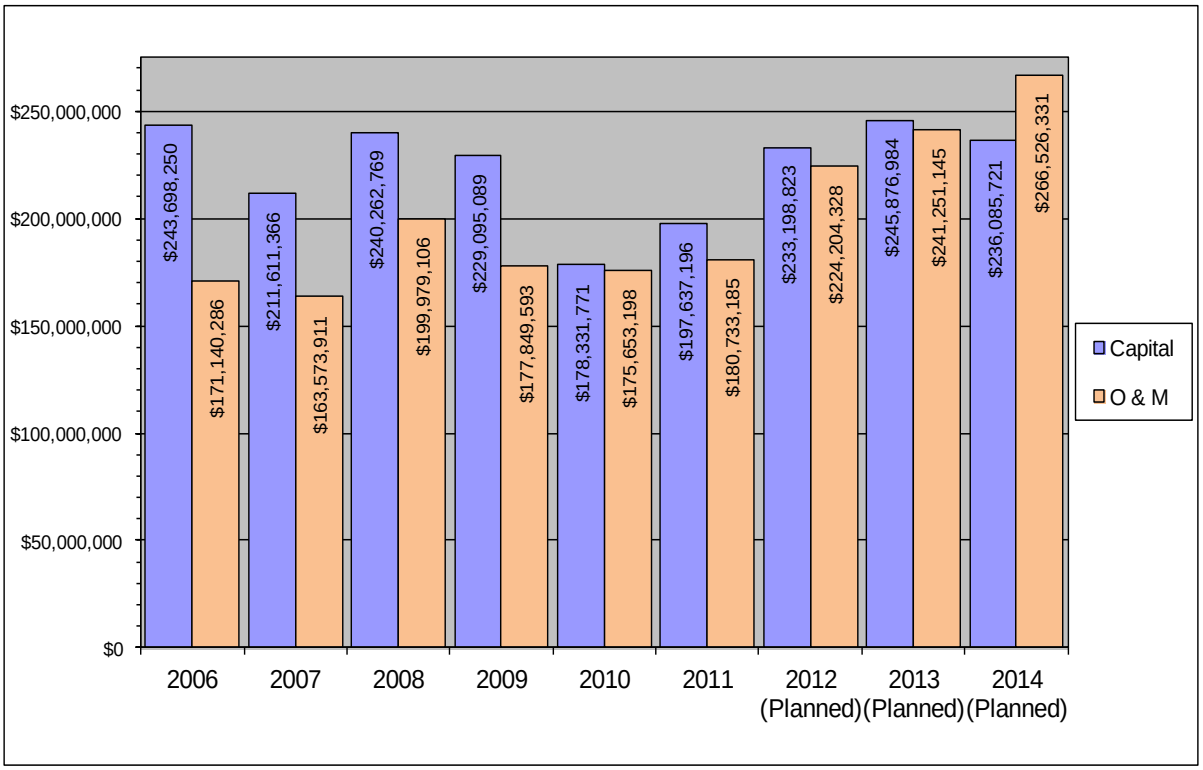
9. Plan to Maintain or Improve Reliability

In its annual report, AIC listed several ongoing activities that it employs to positively impact the reliability of its distribution system. These activities include: worst performing circuit improvements, substation and relay maintenance, capacity studies, circuit inspections, vegetation management, installation of animal protection on distribution transformers and at substations, installation of avian protection, installation of lightning protection, installation of new automated switches, repairing and tracking underground cable failures, and performing coordination studies. AIC's management uses a report that summarizes its planned reliability activities and monitors completion progress.[6] AIC's year-end action plan summary report for 2011 indicates that AIC completed all field activities planned at its distribution substations, and about 90% of the field activities planned on its distribution circuits. AIC does not state whether the uncompleted activities were scheduled to be completed in 2012.

Figure 14 illustrates AIC's historical and planned distribution expenditures (or the combined expenditures of its three legacy utilities). AIC's distribution capital expenditures, which had been decreasing from 2008 to 2010, increased by about 11% from 2010 to 2011. AIC indicated that it anticipates additional increases in distribution capital expenditures each year through 2013.

AIC's 2011 distribution O&M expenditures were about 3% higher in 2011 than in 2010. AIC's annual report indicates it plans to increase its O&M expenditures by 24% in 2012, and then increase them by an additional 8 to 10 percent each year in 2013 and 2014.

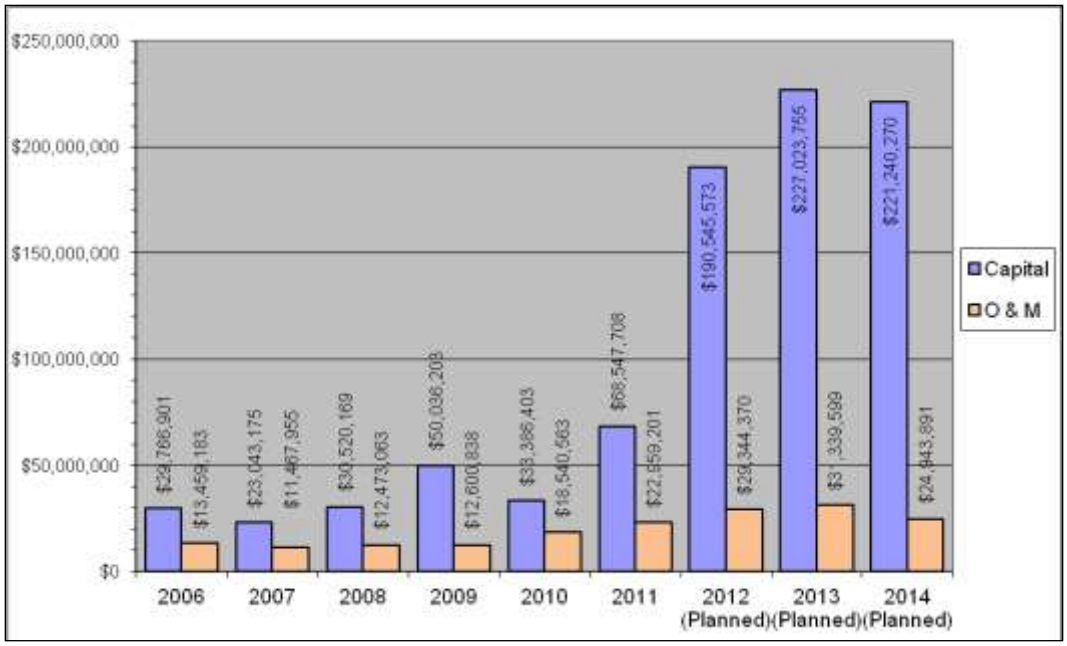
Figure 14: AIC's Distribution Expenditures (2006-2014)



[6] Figure 4 on page 32 of AIC's 2011 annual report shows the year-end summary.

Figure 15 illustrates that after increasing its transmission capital spending by more than 100% from 2010 to 2011 ($33 million to $69 million), AIC expects to increase it by nearly 300 percent more from 2011 to 2012 ($68 million to $191 million), and to continue this higher spending level on transmission facilities for several years. Capital spending depends upon the timing of large transmission construction projects, and AIC is preparing to construct several new transmission lines in and across multiple areas of the state, including Bloomington, Champaign, and Peoria. AIC's O&M expenditures will also increase slightly due to these projects.

Figure 15: AIC's Transmission Expenditures (2006-2014)



10. Potential Reliability Problems and Risks

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

- It appears that AIC's inspectors have not consistently identified all the deteriorated facilities and NESC violations on AIC's overhead distribution circuits that they inspected, or that AIC has not adequately addressed all of the locations the inspectors identified. When inspecting AIC's distribution circuits during the summer of 2012, Staff found that most of AIC's facilities appeared to be in good condition and with many new poles and crossarms. However, Staff observed some locations with deteriorated poles, crossarms and braces, and some locations with loose hardware that Staff believes poses a real threat to reliable service. It appeared to Staff that some of these maintenance issues likely existed at the time AIC had last performed its own inspection of the circuit (for example, Photos 12 to 15). At the time of Staff's inspections in 2012, AIC had still not performed remedial action at these locations – which were parts of distribution circuits that had performed poorly during the prior calendar year.

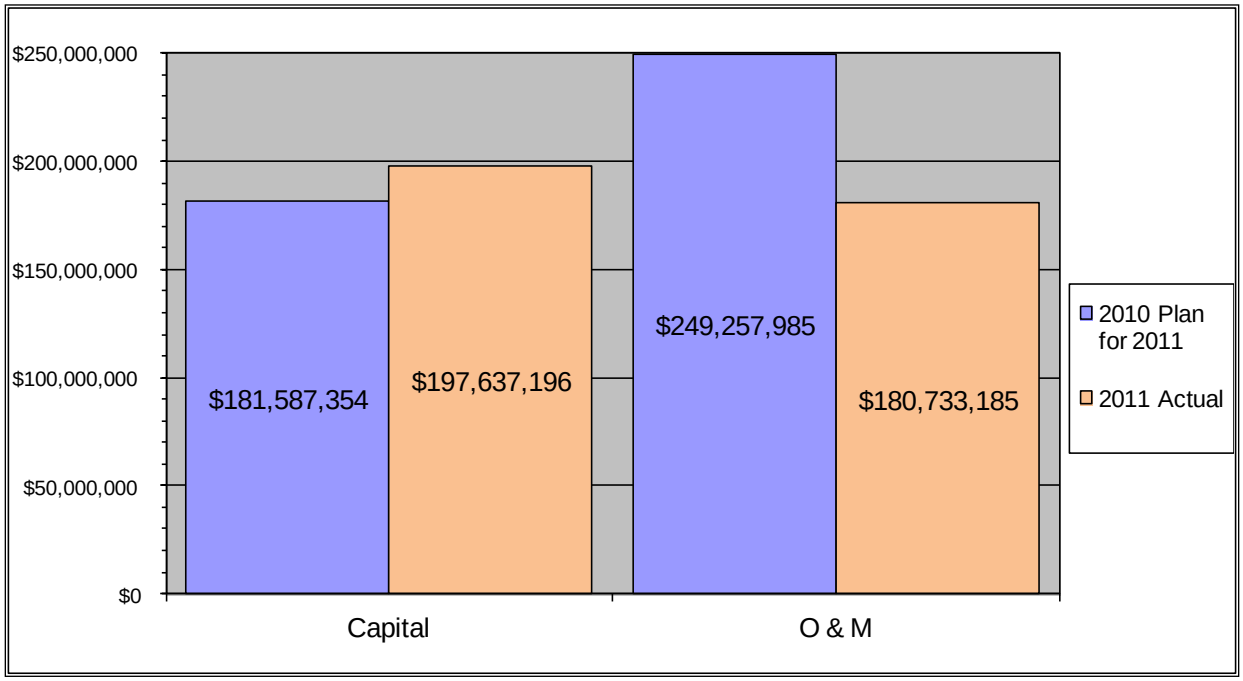
- Once AIC plans to perform reliability improvements on a distribution circuit, it sometimes takes a long time to execute those plans. Until AIC completes the planned improvements, customers continue to be subjected to reliability threats. For example, Circuit S83533 has been a worst-performing circuit due to SAIFI for three consecutive years (2009-2011). Staff inspected this circuit in June of 2011 and found that there are sections of the circuit that are difficult to access, with cross-country spans that are not visible from a roadway. In its annual report for calendar year 2010, AIC stated: "The circuit is being reviewed for alternate sources to transfer circuit open points to minimize exposure and reduce outage duration for each event." AIC had a good plan that was executed in early 2012 – after the circuit had been a worst performing circuit due to SAIFI for three consecutive years.
- AIC's 2011 system CAIDI remains relatively high. AIC's 2011 CAIDI indicates that, on average, customers who experienced interruptions during 2011 were without electricity for nearly 4 hours, versus about 2.5 hours in 2010. AIC's interruption cause categories that resulted in the most interruption durations were overhead equipment failures, weather, and trees. These three interruption categories accounted for over 72% of AIC's customer interruption durations during 2011 (Figure 13). In 2012, AIC negotiated new terms with its employees that respond to emergencies to require residency within 25 miles of their operating center, and require a minimum acceptable overtime response time. Prior to the 2012 negotiation, employees of each legacy company had different residency and response rules, with some areas having no specified response requirements. Staff believes that AIC's new requirements for employees who respond to outages will have a positive affect on CAIDI. Even so, the best way for AIC to reduce CAIDI is to minimize the number, duration, and impact of outages that occur on its system. AIC should continue to use various initiatives to minimize outage durations, including: an expansion of its SCADA system to include more distribution switching devices, which could expedite fault isolation; use of more overhead fault indicators on line segments that are difficult to access and patrol, which would allow faster locating of the faulted segments; and the completion and utilization of circuit ties, which would allow some customers to be supplied from alternate distribution sources when the normal source is interrupted for an extended period.
- AIC did not complete all of the reliability projects in 2011 that it had planned to complete. AIC completed about 90% of the planned work on its distribution circuits. In addition to missing potential gains in service reliability, an on-going backlog of unconstructed reliability projects might cause AIC's employee's to perceive that the company does not consider reliability improvement projects for distribution circuits to be important. Such a perception could stifle development of future projects that are needed to improve the reliability of service to customers.

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

Figure 16 compares AIC's actual expenditures for distribution capital and O&M during 2011 with the plan it provided in its annual report covering 2010. AIC's actual capital expenditures of $198 million were about 9% greater than the amount AIC had planned, when O&M expenditures were approximately 27% lower. Combining capital and O&M

distribution expenditures, AIC's 2011 actual expenditures were approximately 12% lower than the planned amounts. AIC attributes its higher than budgeted capital spending to major storms in the first half of 2011. AIC attributes its lower than budgeted distribution O&M spending to its inclusion of expenses for pensions and benefits within the O&M portion of its budget listed in its 2010 annual report.

Figure 16: AIC's Actual 2011 Distribution Expenditures Compared to its Prior Year Plan



AIC's annual report provides updates on projects associated with worst-performing circuits identified in prior years. For instance, for Circuit V59561, a 2010 worst-performing circuit, AIC installed lightning arresters, line reclosers, fuses and fault indicators, and replaced seven poles in 2011. As another example, for 2010 worst-performing circuit U45536, AIC added animal protection in 2011. In its annual report, AIC provides a table that compares the reliability indices of its 2010 worst-performing circuits to the circuit's reliability indices in 2009 and 2011. In most cases, 2011 performance was markedly improved. Two exceptions are Circuit P62138, a rural circuit near Mount Vernon, and Circuit S83533, a rural circuit in the southern tip of the state. For Circuit P62138, AIC installed fuses in 2011 and 2012 to protect the three-phase main feeder from problem areas. For Circuit S83533, AIC transferred about half of the circuit miles to an adjacent feeder in early 2012 to better balance system exposure. AIC did a good job providing follow-up information about the plans it identified and executed for its prior year's worst-performing circuits.

AIC's 2011 transmission capital expenditures of $68.5 million were about 88% more than the amount projected in its 2010 annual report. AIC attributes the increase to two new transmission lines near Ottawa and La Salle that were budgeted for Ameren Illinois Transmission Company but were transferred to Ameren Illinois Company. AIC's transmission O&M expenditures of $23 million were approximately 91% higher than

projected in its 2010 annual report due to additions to staffing levels and work performed by contractors that had not been included in its 2010 forecast.

12. Summary of Recommendations

- AIC should continue inspecting its distribution system in order to stay aware of the condition of its facilities that supply electricity to customers, and take prompt action to correct problems that it finds – especially those that affect safety and reliability. AIC should also periodically audit its inspectors to verify that they are properly identifying reliability threats and NESC violations.
- AIC should strive to further reduce the number of customers who experience interruptions in excess of reliability targets. AIC has demonstrated a great improvement in this regard: the number of AIC customers who experienced interruptions in excess of reliability targets decreased from 963 in 2010 to 316 in 2011. There is still room for improvement, and prompt remedial actions such as trimming a tree, tightening a slack guy wire, tightening loose hardware, and replacing a broken crossarm or blown arrester, could prevent an interruption from occurring. AIC's Multiple Device Interruptions program is one excellent tool AIC is using, and AIC should certainly continue this program.
- AIC should continue its efforts to reduce CAIDI. AIC's system CAIDI for the 2011 calendar year was the second highest value reported. Of course AIC should continue its efforts to prevent interruptions from occurring in the first place, but also AIC should expand its use of fault indicators and SCADA-enabled equipment to reduce the duration of the interruptions that do occur.
- AIC should regularly inspect its substation for gaps beneath perimeter fencing and inadequate grounding of entrance gates. Staff noted gaps under some substation fences (Photo 8), as well as entrance gates, could allow some fairly large animals to gain access to the substation equipment.
- Staff's distribution circuit inspections during 2012 revealed that AIC had done a good job keeping vegetation cleared from its lines. AIC should continue adequately funding its vegetation management program to effectively keep vegetation from contacting its distribution lines with its 4-year tree trimming cycle and mid-cycle patrols.
- AIC should continue to emphasize the installation of animal protection on distribution transformers. Several of the circuits that Staff inspected had a high number of outage events due to animals in 2011. Continued installation of animal protection when performing work at distribution transformer locations is a good way to continually reduce the number of animal-caused interruptions.

From: Rockrohr, Greg
To: "Hall, Bev Bowlby B"
Cc: Stoller, Harry; Buxton, Roy; @ Voiles, Jackie
Subject: Staff"s 2012 inspections of Ameren Distribution Circuits
Date: Wednesday, October 10, 2012 1:07:00 PM
Attachments: AIC Summary of Staff 2012 Field Inspection.xls

Bev-

The attached file contains summaries of notes that I took when inspecting AIC's distribution circuits this spring and summer. Note that I previously sent some of this information (the first 8 tabs) to Jackie Voiles with a copy to you via email on June 8, 2012. The file that is attached to this email includes an additional 7 circuits that I inspected with AIC's representatives in August and September. I hope the attached inspection summaries are useful to your company.

Note: I do not represent that the attached summaries capture all of the potential reliability problems that existed on each circuit at the time of my inspection. In many cases, there were portions of the circuits that I did not see. My inspections do not take the place of the thorough, detailed inspections that your company should periodically perform.

Please contact me if you have any questions about the information contained in the attached inspection summaries.

Thank you,

Greg Rockrohr
Illinois Commerce Commission
217-524-0695

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/1/12
Circuit:	V83505: Supplies 236 Customers	**Inspector:**	Rockrohr (ICC)/Lavin (AIC)
Gen. Notes:	Alsey & rural area to west. Tree trimming last completed Sept. 2009: Next Sept. 2013. AIC inspection in 2011. (Raining during inspection) Circuit supplies Alsey and west to Glasgow. Few issues noted. Several new poles. Animal fence @ substation. 3 total circuit interruptions. 2011 WPC: OH(6), other (2), weather(2), public(1). Also 2008 NTWPC for SAIFI. Circuit appeared to be generally in good shape.		

Map No.	*Item Description*	*Photo(s)*	*Location*
14	Rusting substation transformer should be repainted	1	Winchester South Substation
13	Loose nut on field side insulator		P# 949369 Hwy 106 S/Campbell Rd.
12	Tree contacting/close to primary		Alsey: Alsey-Smith Rd. @ Brick Rd.
4	Tree contacting/close to primary		Glasgow: Jackson S/W Main
4	Tree contacting/close to primary		Glasgow: P#946796(#115 Exchange)
7	Tree contacting/close to primary		Glasgow: P#954756 Jackson N/Wmain
5	Tree contacting/close to primary		Glasgow: P#954777 (#430 N. Exchange)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/3/12
Circuit:	U41517: Supplies 335 Customers	**Inspector:**	Rockrohr (ICC)/McDonald(AIC)
Gen. Notes:	Coatsburg, Paloma & Fowler & rural. Tree trimming last completed March 2010. Only a few tree issues observed. Most recent utility inspection 2008. Well maintained rural substation. Lots of new poles. Good use of FI's. Excellent animal guard coverage. Few hardware issues observed. 2011 NTWPC: OH(11), weather(5), animal(1), unknown(1). Large woodpecker holes in sub-transmission underbuilt poles at 2 key locations.		

Map No.	*Item Description*	*Photo(s)*	*Location*
5	Large woodpecker hole adjacent to bolt for crossarm brace	8 & 9	P#888518 1600N (Ewbanks) 3 E/84th St.
9	5-6 woodpecker holes	6 & 7	P#895499 N96th @ E1333
10	Maple tree contacting primary	10	Fowler: N1720 W/E1343 -Near P#895367
17	Several large woodpecker holes & extension for static wire loose	4 & 5	P#886895 1750 N & 1750 E -2nd pole out of substation
19	Appears OH guy in conflict with primary	10 & 11	Coastsburg: P#886738 & 886741 alley & Keen btw S. Main &
19	Adjacent poles supporting 3-phase with only one crossarm brace		Coastsburg: Quincy & Adams
19	Deteriorated cross arm	12	P#886681 S/ Hwy 24 - 1st lane W/Coatsburg
19	Stand-off bracket on sec. riser too low	13	P#886519 Alley E/Quncy btw Houston & N. Main

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/10/12
Circuit:	Y68581: Supplies 564 Customers	**Inspector:**	Rockrohr (ICC)/Kallal(AIC)
Gen. Notes:	Rural areas SW/Rossville including communities of Petomac & Henning. Tree trimming last completed 11/11. Most recent utility inspection 2011. Much of circuit is underbuilt 69 kV -X-country segments difficult to access. Recommend FI's to facilitate trouble-shooting outages & more AG on trfs. 2011 WPC: Weather(6), animal(5), OH equip(5), unknown(1), public(1), tree(1). Other than the few maint. items noted, seemed in good shape.		

Map No.	*Item Description*	*Photo(s)*	*Location*
5	Single crossarm brace installed		Potomac: P#974695 Alley E/West St. -btw Park & State
6	Single crossarm brace installed	11	Potomac: P#974808 Wilson btw State & Logan
6	Single crossarm brace installed		Potomac: P#974464 Alley E/Vermillion St. -btw Aband. RR & State
12	Single crossarm brace installed on each arm of double arm		Henning: Corner Main and Lane
12	Single crossarm brace installed	9&10	Henning: Alley btw Loren & Church @ Vinton St.
13	Splitting crossarm -road side	7&8	P#959580 Jackson St. E/ Road 1300
19	Splitting crossarm brace -and vine grown up to trf. level on pole	6	P#959842 R/W E/ intersection of Hwy 1& 1500 E.
20	Splitting crossarm brace	5	P# 959856 R/W -4th pole S/3330 N.
22	Riser standoff appears to have inadequate clearnce/spacing	3	P#956401 Road 1700 N/ Substation
23	Large woodpecker hole	4	P#956419 Road 1700 @ 1st tap N/ Road 3330

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/10/12
Circuit:	Y60593: Supplies 746 Customers	**Inspector:**	Rockrohr (ICC)/Kallal (AIC)
Gen. Notes:	Rural area E/Rantoul, including Gifford and Penfield. Tree trimming last completed May 2010. Most recent utility inspection 2011. Very good vegetation clearance and fairly good lightning arrester and animal guard coverage. 2011 WPC: OH(7), animal(4), unknown(3). Many line sections in Rantoul on joint poles with municipal electric -express out of Rantoul to east.		

Map No.	*Item Description*	*Photo(s)*	*Location*
2	Large gap under substaion fence would allow easy animal ingress	9 to 11	Rantoul Substation
3	Both crossarm braces detached	7 & 8	Rantoul: P#2095882 Old North Road East of Rantoul Century Sub
13	Avian guard came loose and slid down phase conductor	6	P#2096461 2000E @ Prairie Materials entrance
18	Single brace on top crossarm	4 & 5	Gifford: P#972135 Corner of Summit & New
24	Bolts holding pole top pin to pole coming loose	3	Penfield: P#972416 Alley btw Main & West N/Walnut
26	Bolts holding pole top pin to pole coming loose	2	Penfield: P#972416 Alley btw Main & West N/Walnut
30	Nut holding road side insulator to crossarm coming loose	1	P#972555 3000 N between taps to north

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/17/12
Circuit:	R93350: Supplies 319 Customers	**Inspector:**	Rockrohr (ICC)/Felmlee(AIC)
Gen. Notes:	Supplies area btw Edwardsville & Alton: includes rural and urban. Tree trimming last completed February 2010. Most recent utility inspection 2008. Except 1 vine, veg. clearance good. Several new poles on circuit. Some segments not visible from road -FI's would help. 2011 WPC: OH(5), animal(3), other(3), weather(2), unknown(2), tree(2), customer(1), UG(1). 2010 NTWPC. Many distribution trfs lack AGs.		

Map No.	*Item Description*	*Photo(s)*	*Location*
4	Riser stand-off bracket spacing near base appears < NESC req	1	P#2959027 Cemetery Rd N/Wagon Wheel Rd.
9	Angle pole has vine grown up DG to pri & large WP hole	2 & 3	Tap E/Wanda Rd -just S/RR & Levy

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/17/12
Circuit:	K46388: Supplies 1896 Customers	**Inspector:**	Rockrohr (ICC)/Felmlee(AIC)
Gen. Notes:	Mixed com/res area of Collinsville. Tree trimming last completed June 2011. Most recent utility inspection 2009. No vegetation issues noted. Many facilities appeared old but in good condition. Issues noted mostly relate to apparent NESC clearance violations. Supplies AIC's operations bldg. 2011 NWPC: OH(4), weather(12), trees(8), UG(6), animal(5), unknown(1), other(1). Lots of rear lot line and UG segments on circuit.		

Map No.	*Item Description*	*Photo(s)*	*Location*
2	Neutral clearance appears to be 9-10'	1	P#2630489 -Wille Dr N/Main
2	Riser duct/molding coming apart on pole	2	Perry Ave -W/Rt 159
5	Leaning pole with distribution trf	3	P#2743150 Near #600 Hayden Lane
6	Secondary clearance appears to be 10-11' over drive	5	P#3156939 Near #748 Mary Mae Ave.

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/17/12
Circuit:	M48814: Supplies 205 Customers	**Inspector:**	Rockrohr (ICC)/Parker(AIC)
Gen. Notes:	4 kV circuit supplies only downtown Gillespie. Tree trimming last completed February 2011. Most recent utility inspection 2009. No vegetation or hardware issues noted. Circuit very short -several poles recently replaced and more scheduled to be replaced. 2011 WPC: OH(4), weather(2). 3 total circuit interruptions during 2011.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	No bond visible on gates at substation.	1	Gillespie Oak St. Substation

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/22/12
Circuit:	N70330: Supplies 1554 Customers	**Inspector:**	Rockrohr (ICC)/McTaggart(AIC)
Gen. Notes:	Urban in Kewanee and rural area to W & SE. Tree trimming last completed June 2011. Most recent utility inspection 2009. Only 1 veg. issue noted. Only a few hardware issues noted. Several DGs appeared not bonded or insulated & several metal ug risers with non-compliant stand-off spacing. 2010 WPC: OH(22), weather(8), unknown(4), other(2), animal(2), tree(2). Fence @ substation had multiple large gaps beneath.		

Map No.	*Item Description*	*Photo(s)*	*Location*
6	Floater -road-side primary - detached from crossarm	4 to 6	P#3090907 N/450 Ave -W/RR
8	Gaps under substation gate & fence from washout -gate not	1 & 2	Kewanee South Street Substation
8	Regulator in substatin yard rusting -needs paint	3	Kewanee South Street Substation
12	Riser bracket spacing < NESC req min of 8' & not bonded	7 & 8	P#3036593 Willard N/South Street
13	Neutral clearance appears to be 13-14' over drive/alley		P#3070622 Tap N/E. McClure btw Willard & Dwight
13	Riser bracket spacing < NESC req min of 8'		#233 E. College
25	Broken crossarm brace	9	650E N/1320N
28	Detached crossarm brace	10	650E N/1650N
31	3 DGs do not appear to be bonded or insulated		Last tap to N/1550N and @ angle pole two spans to east
31	Neut. clearance over rise in tilled field looked lower than 15.5'		Last tap to N/1550N -span to trf #33760
36	Riser bracket spacing < NESC req min of 8' (sec)		800 E N/1600 E
39	Pine trees close to primary		925E S/1650N
43	Riser bracket spacing < NESC req min of 8' (sec)		Tap E/925E just S/County Highway 8
44/46	DG does not appear to be bonded or insulated		County Hwy 12 -N/1650N (angle pole near junction of maps)
47	DG does not appear to be bonded or insulated		County Hwy 12 @ 1750E

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	5/22/12
Circuit:	Q34380: Supplies 184 Customers	**Inspector:**	Rockrohr (ICC)/McTaggart(AIC)
Gen. Notes:	Short, urban 4 kV cct in Ottawa. Tree trimming last completed January 2009. Utility's last inspection 2011. Only one veg. issue noted. Some recent work should improve performance. Substation under const. related to new 138 transm line to Wedron. 2011 WPC: UG (4), OH(1), weather(1), unknown(1). Multiple lengthy UG outages appear to be cause of 2011 poor performance.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Tree growing into spacer cable		Main just E/Orleans
1	2 new metal primary risers not bonded to ground		Alley N/Main btw Canal & LaSalle (both ends of new UG)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	8/22/12
Circuit:	R73841: Supplies 1321 Customers	**Inspector:**	Rockrohr (ICC)/Cleaver(AIC)
Gen. Notes:	Urban in Vandalia and rural area east to Brownstown. Tree trimming last completed 7/11. Most recent utility inspection 2011. No veg. issues noted. Only a few hardware issues. Several ug risers with non-compliant stand-off spacing. Cct covers large area -did not inspect SE segment E/1200E. 2011 WPC: OH(16), weather(17), unknown(6), other(8), animal(7), tree(7), public(4), customer(1). OH FI's could greatly aid outage restoration.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Poletop split to cross arm attachment	2	Alley btw Burtchi & 8th -N/Lincoln (P#3380741)
1	Poletop splitting through pole top pin attachments	3 & 4	Alley btw 5th & 6th @ Washington (P#3380741)
1	Riser standoff spacing appears to be in violation of NESC		Alley btw Burtchi & 8th -N/Lincoln
1	Riser standoff spacing appears to be in violation of NESC		Alley btw 4th & 5th -S/Taylor (P#3380917)
5	Woodpecker holes in adjacent poles	5	4th & 5th pole E/Trf 21042
10	Riser standoff spacing appears to be in violation of NESC		Pri tap to Trf 24284
13	Blown lightning arrester -road side	6	1200E - N/Regulator 841-2
16	Pin insulator fallen through cross arm		N/Hwy 40 & W/Trf 14154
32	Svc Drop with inadequate vertical clearance		Brownstown Road -Trf 17722

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	9/11/12
Circuit:	X69555: Supplies 664 Customers	**Inspector:**	Rockrohr (ICC)/Bailey(AIC)
Gen. Notes:	Rural area E/Flora to Clay City and Sailor Springs. Tree trimming last completed 7/11. Most recent utility inspection 2011. No veg. issues noted. No hardware issues noted on circuit. Not many lightning arresters installed, but no damage noted. Lots of dist transformers lacked animal guards. 2011 WPC: animal(9), OH(8), weather(5), unknown(4), tree(3). Lots of new poles & the overall condition of this circuit appeared to be very good.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Substation gate - no visible bond to ground	1	Flora East Substation

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	9/11/12
Circuit:	X49569: Supplies 121 Customers	**Inspector:**	Rockrohr (ICC)/Bailey(AIC)
Gen. Notes:	Rural area S/Crosville to Maunie. Tree trimming last completed 7/11. Most recent utility inspection 2011. No veg. issues noted. Only 1 hardware issues noted on cct. LAs installed regularly on main feeder. Several cross country spans - FIs might aid outage response. 2011 WPC: tree(5), weather(4), OH(2). The overall condition of this circuit appeared to be very good, with lots of new poles installed.		

Map No.	*Item Description*	*Photo(s)*	*Location*
5	Bird nesting materials in transformer cooling fins	1	Crossville Jct Substation
7	Loose nut holding center pin insulator to cross arm	3	1700 E near 1275N (P#3109469)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	9/12/12
Circuit:	S47576: Supplies 686 Customers	**Inspector:**	Rockrohr (ICC)/Eberhart(AIC)
Gen. Notes:	Herrin and north to Freeman Spur. Tree trimming last completed 3/12. Most recent utility inspection 2011. No veg. issues noted. Large substation site was well maintained with animal protection installed, including animal fence & spinners on conductor. 2011 WPC: OH(15), animal(4), tree(3), UG(2), customer(1). 2008 NTWPC. FIs on X-country segments could expedite fault locating and isolation.		

Map No.	*Item Description*	*Photo(s)*	*Location*
1	Low service drop appears to have been snagged by vehicle	6	Tower Road -service to antenna site (Trf# 20558)
3	Transformer pole warped/leaning over buckling riser duct	7	#2821 Weaver Rd. (P# 3235021)
3	Tie wire for down guy appears to be unwrapped	5	13th N/Orient (Trf# 19835)
6	Rotted arm on 34kv pole with detached braces	2 & 3	5th St - in Campground @ pond (P#3121976 & 3121975)
6	Neutral conductor with inadequate clearance	4	8th S/Mine B Rd.
11	Leaning transformer pole	8	Freeman Spur: Berry E/6th (Trf# 20381)
11	Deteriorated pole	9 & 10	Freeman Spur: W/Kennedy btw Coal & County Line (P#3239584)
11	Lightning damaged pole top - split and splinterred at DE bolt	11 & 12	Freeman Spur: Ezra W/Kennedy (P#3239713)
11	Shell rot and splitting pole @ RR crossing	13 & 14	Freeman Spur: Ash @ RR (P#3235072)

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	9/12/12
Circuit:	T08502: Supplies 524 Customers	**Inspector:**	Rockrohr (ICC)/Eberhart(AIC)
Gen. Notes:	W. Frankfort and rural to north and east. Tree trimming last completed January 2012. Most recent utility inspection 2011. No veg. issues noted. Substation site was well maintained with fresh gravel & animal guards on equipment -no animal fence. Several x-country segments -FIs might help. 2011 WPC: Tree(7), weather(5), OH(3), animal(2), unknown(2), UG(1), customer(1). 2008 WPC. Recent tree trimming should help this cct.		

Map No.	*Item Description*	*Photo(s)*	*Location*
3	Riser metal conduit not bonded	2	Meadow Brook N/9th (P# 2837609)
3	Riser standoff spacing appears to be in violation of NESC		Meadow Brook @ Cochran (P#3021525)
4	Shell rot pole with top deteriorated @ crossarm bolt	3 & 4	St. Louis @ Sunnyslope (P#3107179)
10	Distribution transformer has broken secondary bushing	5	Corner of Hwy 149 & Dunston Rd.

Summary of Distribution Circuit Field Inspection by ICC Staff			
Utility:	AIC	**Date:**	9/13/12
Circuit:	R41131: Supplies 797 Customers	**Inspector:**	Rockrohr (ICC)/Klein(AIC)
Gen. Notes:	Rural south of Centralia. Tree trimming last completed August 2010. Most recent utility inspection 2012. Only one veg. issues noted. Substation site well maintained. Some X-country underbuilt segments. Some segments joint with Coop. Lots of dist. transformers without Ags. 2011 WPC: OH(14), Unknown(8), weather(6), tree(5), animal(4), public(2), other(1). 2009 NWPC. 2008 WPC. Lots of woodpecker damaged poles.		

Map No.	*Item Description*	*Photo(s)*	*Location*
10	Neutral conductor appears to have inadequate ground clearance		Hwy 161 -E/Schwartz Rd. -tap to north (P#2901628)
10	3 adjacent woodpecker damaged poles	21	Hwy 161 -E/Schwartz Rd. -tap to north(#1861)
23	Woodpecker damaged pole	8 & 9	Corner Lake & Mohawk (P#2901729)
23	Apparent previous floater with primary insulator removed	6	Cody S/Lake (P#2901739)
29	Rusting substation transformers -need paint	1 to 3	Texas Substation
29	Tree very close to primary near substation		SW of Substation @ trf 18916
34	NG cross arm and detached brace	11	Meyers N/Mt. Moriah (P#2903049)
39	Duplex appears to have inadequate ground clearance -loose guy		Old Salem S/Walnut Hill (P#2907813)
40	Lightning damaged/splinterred pole top	19 & 20	Kell E/I-57 & W/Old Salem (P#2895595)
41	Woopecker damage at DE attachment	15	Tap W/Hwy 37- trf#13597 (P#2843959)
46	Woodpecker damaged pole	16	#4565 Crawly Rd (P#2907803)
48	Pole top split past DE bolt	13 & 14	CH26 E/Carter (P#2908803)
54	Pole top split	17 & 18	Kell N/2nd (P#2905933)
56	Neutral conductor appears to have inadequate ground clearance		Gaston -2nd & 3rd spans S/Cedar
56	Woodpecker damaged pole with split top (tagged for replacement)		Gaston -6th S/Cedar