OWEN Electric

A Touchstone Energy® Cooperative

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PUBLIC SERVICE COMMISSION

March 24, 2009

Director of Engineering
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

RE: PSC Administrative Case No. 2006-00494

To Whom It May Concern:

Please find enclosed our 2008 Annual Reliability Report as required by the Kentucky PSC Administrative Case No. 2006-00494. We have included three (3) hard copies and one compact disk copy for your review.

If you have any questions or need further information, please feel free to contact me.

Sincerely,

OWEN ELECTRIC COOPERATIVE

James D. See, P.E.
Senior V.P. of Systems Planning
and Reliability

JDS/jlh

Enclosures

# KENTUCKY PUBLIC SERVICE COMMISSION

## Electric Distribution Utility Annual Reliability Report

### SECTION 1: CONTACT INFORMATION

| | | |
|---|---|---|
| UTILITY NAME | 1.1 | Owen Electric Cooperative |
| REPORT PREPARED BY | 1.2 | James D. See |
| E-MAIL ADDRESS OF PREPARER | 1.3 | jsee@owenelectric.com |
| PHONE NUMBER OF PREPARER | 1.4 | (502) 563 - 3498 |

### SECTION 2: REPORT YEAR

| | | |
|---|---|---|
| CALENDAR YEAR OF REPORT | 2.1 | 2008 |

### SECTION 3: MAJOR EVENT DAYS

| | | |
|---|---|---|
| $T_{MED}$ | 3.1 | 12.65 |
| FIRST DATE USED TO DETERMINE $T_{MED}$ | 3.2 | 1/1/2003 |
| LAST DATE USED TO DETERMINE $T_{MED}$ | 3.3 | 12/31/2007 |
| NUMBER OF MED IN REPORT YEAR | 3.4 | 8 |

NOTE: Per IEEE 1366 $T_{MED}$ should be calculated using the daily SAIDI values for the five prior years. If five years of data are not available, then utilities should use what is available until five years are accumulated.

### SECTION 4: SYSTEM RELIABILITY RESULTS

Excluding MED

| | | |
|---|---|---|
| SAIDI | 4.1 | 111.57 |
| SAIFI | 4.2 | 1.34 |
| CAIDI | 4.3 | 84.84 |

Including MED (Optional)

| | | |
|---|---|---|
| SAIDI | 4.4 | 851.84 |
| SAIFI | 4.5 | 2.98 |
| CAIDI | 4.6 | 285.67 |

Notes:

1) All duration indices (SAIDI, CAIDI) are to be reported in units of minutes.
2) Reports are due on the first business day of April of each year
3) Reports cover the calendar year ending in the December before the reports are due.
4) IEEE 1366 (latest version) is used to define SAIDI, SAIFI, CAIDI, and $T_{MED}$

# KENTUCKY PUBLIC SERVICE COMMISSION

## Electric Distribution Utility Annual Reliability Report

### SECTION 5: OUTAGE CAUSE CATEGORIES
Excluding MED

| CAUSE CODE DESCRIPTION | | SAIDI VALUE | CAUSE CODE DESCRIPTION | | SAIFI VALUE |
|---|---|---|---|---|---|
| Weather | 5.1.1 | 24.71 | Weather | 5.2.1 | 0.31 |
| Major Storm | 5.1.2 | 21.58 | Member/Public | 5.2.2 | 0.18 |
| ROW Preventable | 5.1.3 | 17.27 | Unknown | 5.2.3 | 0.16 |
| Unknown | 5.1.4 | 11.35 | ROW Preventable | 5.2.4 | 0.16 |
| Equipment/Installation | 5.1.5 | 9.69 | Major Storm | 5.2.5 | 0.15 |
| Member/Public | 5.1.6 | 8.37 | Equipment/Installation | 5.2.6 | 0.11 |
| Age/Deterioration | 5.1.7 | 7.42 | Power Supplier | 5.2.7 | 0.08 |
| Birds/Animals | 5.1.8 | 2.98 | Age/Deterioration | 5.2.8 | 0.07 |
| Power Supplier | 5.1.9 | 2.83 | Birds/Animals | 5.2.9 | 0.05 |
| Scheduled | 5.1.10 | 2.73 | Scheduled | 5.2.10 | 0.04 |

### SECTION 6: WORST PERFORMING CIRCUITS

| CIRCUIT IDENTIFIER | | SAIDI VALUE | MAJOR OUTAGE CATEGORY |
|---|---|---|---|
| 1802 | 6.1.1 | 434.70 | Weather |
| 2001 | 6.1.2 | 363.36 | R.O.W. Preventable |
| 5202 | 6.1.3 | 350.00 | Weather |
| 5201 | 6.1.4 | 144.20 | Power Supplier |
| 5101 | 6.1.5 | 140.10 | Major Storm |
| 302 | 6.1.6 | 130.40 | Equipment/Installation |
| 1202 | 6.1.7 | 115.90 | Major Storm |
| 1503 | 6.1.8 | 114.80 | Power Supplier |
| 1505 | 6.1.9 | 111.50 | Power Supplier |
| 1706 | 6.1.10 | 106.10 | Weather |

| CIRCUIT IDENTIFIER | | SAIFI VALUE | MAJOR OUTAGE CATEGORY |
|---|---|---|---|
| 2001 | 6.2.1 | 6.22 | Equipment/Installation |
| 1802 | 6.2.2 | 5.20 | Unknown |
| 5202 | 6.2.3 | 4.65 | Power Supplier |
| 5201 | 6.2.4 | 3.00 | Power Supplier |
| 1902 | 6.2.5 | 2.48 | Birds/Animals |
| 1503 | 6.2.6 | 2.40 | Major Storm |
| 2002 | 6.2.7 | 2.00 | Power Supplier |
| 5707 | 6.2.8 | 2.00 | Power Supplier |
| 2003 | 6.2.9 | 2.00 | Power Supplier |
| 1706 | 6.2.10 | 1.90 | Birds/Animals |

# KENTUCKY PUBLIC SERVICE COMMISSION

## Electric Distribution Utility Annual Reliability Report

Additional pages may be attached as necessary

SECTION 7: VEGETATION MANAGEMENT PLAN REVIEW

In 2008, Owen Electric successfully completed 891 miles of right-of-way spraying and 817 miles of right-of-way trimming, in keeping with our 4-year cycle of maintenance. In 2008, we made more extensive use of our cross-country "sky-trim" to increase ROW trim clearance and enhance overall safety. We added a hydro axe late in 2008 and feel in 2009 it will greatly increase brush control in the ROW and allow for a more effective spray program the following year. Lastly, beginning January 2009, the addition of a mid-cycle trim program covering one-fourth of all circuits; the three phase line from the substation to the first set of breakers is checked for clearance and ground brush. The 2009 portion of this project has now been completed.

SECTION 8: UTILITY COMMENTS

In 2008 Owen Electric continued to enhance its effort to improve reliability. OEC worked more closely with customers, upgraded equipment, worked with our power supplier, did more inspections, and did more special ROW trimming. The result of that work has triggered three enhanced or new programs for 2009 at OEC. The first is the mid-cycle trim that is referred to and explained in the ROW write-up above, the second is a circuit hardening program where OEC evaluates the first section of a circuit from the substation to the first mainline protective device. Then based on the evaluation we would add/replace animal guards, replace gap arresters, remove CSP transformers, update protection coordination, and replace any marginal equipment. This program will start with the worst performing circuits. The third is an enhance maintenance program that will use a new specially trained crew to maintain on a regular bases all key distribution equipment.

As per Order 2006-00494 our ten worst performing circuits (WPC) based on SAIDI, SAIFI, and CAIDI (30 total), nine were caused by our power supplier, eight by major storm, seven by weather, two by equipment, two by bird/animals, one unknown, and one ROW. The nine due to power supplier were caused by two outages that affected two substations on one transmission line. We have and continue to work with our power supplier with addressing substation and transmission outages. The eight due to major storms were caused by the day before or after an MED day and were caused by major storms. The seven WPC due to weather were caused by severe weather that is beyond our design criteria. The two WPC caused by equipment were from two pieces of equipment that failed and required an additional scheduled outage to repair. OEC anticipates our enhanced maintenance program will eliminate some of these equipment failures. The two WPC caused by birds/animals were evaluated and found to have three locations that had multi animal caused outages. OEC had animal protection added to the equipment in those areas that didn't have it already. The one WPC caused by ROW was the result of one outage near the substation that took several hours to restore. This was a large yard tree that took out the line. We continue to work with our customers to get the maximum trimming we can regarding trees in the yard. The last WPC cause was unknown therefore, no action can be taken at this time.

Historical Reliability Index and charts have been included with this report as well.

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# Yearly System Indices Report

| Year | SAIFI | SAIDI | CAIDI | # MEDs |
|---|---|---|---|---|
| 2008 | 2.98 | 851.84 | 285.67 | 8 |
| | 1.34 | 111.57 | 83.22 | |
| 2007 | 2.31 | 207.74 | 89.84 | 2 |
| | 1.83 | 133.88 | 73.17 | |
| 2006 | 1.81 | 149.07 | 82.21 | 0 |
| | 1.81 | 149.07 | 82.21 | |
| 2005 | 1.74 | 143.09 | 82.4 | |
| | 1.74 | 143.09 | 82.4 | |
| 2004 | 2.03 | 292.4 | 144.09 | 3 |
| | 1.71 | 160.73 | 93.81 | |
| 2003 | 2.13 | 184.03 | 86.37 | 0 |
| | 2.13 | 184.03 | 86.37 | |
| 2002 | 2.25 | 214.06 | 95.13 | 1 |
| | 2.19 | 183.34 | 83.78 | |

* Major Event Day (MED) are based upon the IEEE Std 1366-2003 on Electric Power Distribution Reliability Indices.

☐ = Unfiltered
☐ = MED filtered*

Notes:

1) 2002 was a partial year (April 10th - December 31st) therefore we applied a corrective multiplier of 1.25 to the SAIDI and SAIFI indices for comparison to the following years.
2) Deviations from our report last year are a result of corrections made to outage data that was identified during this years analysis.

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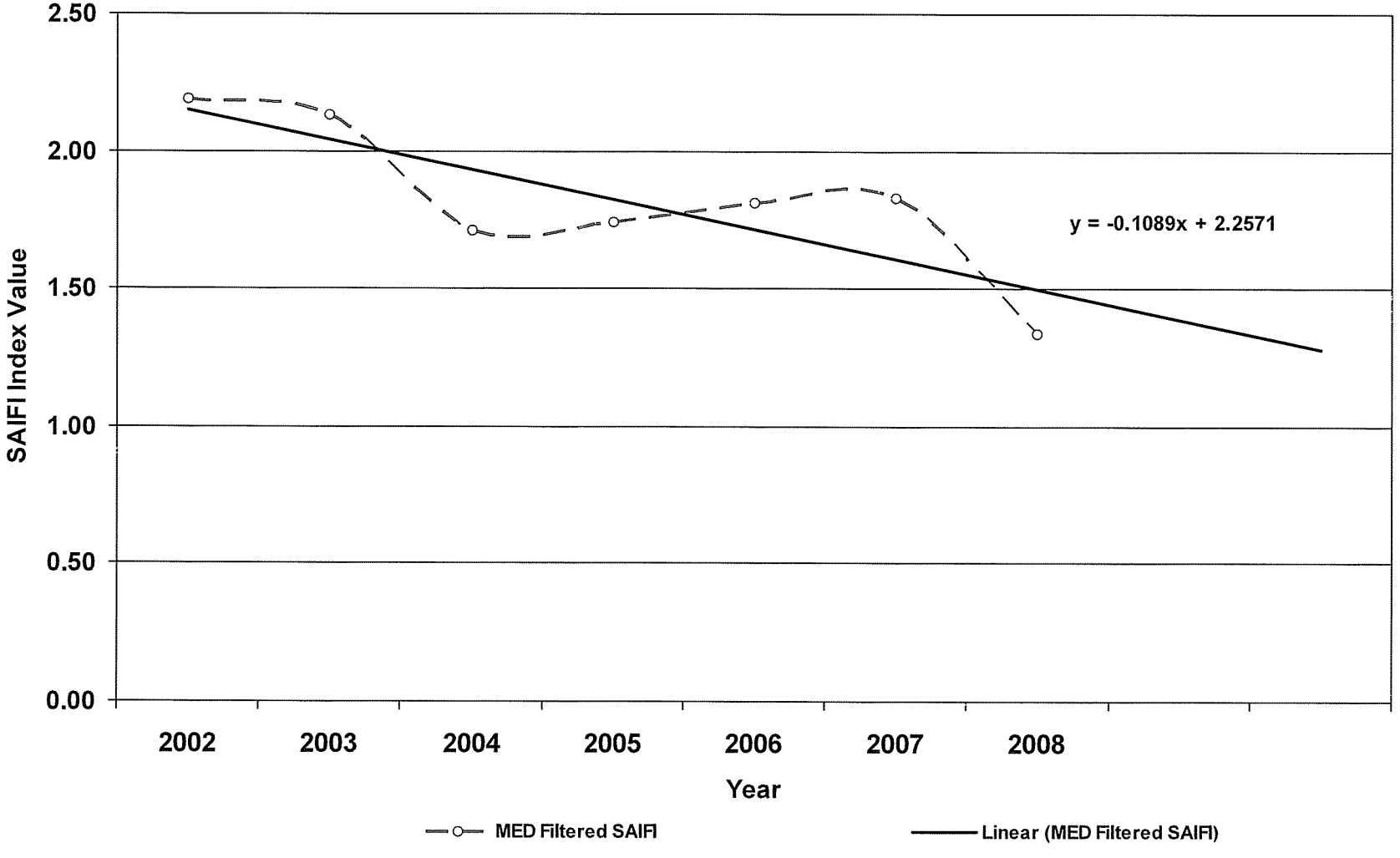
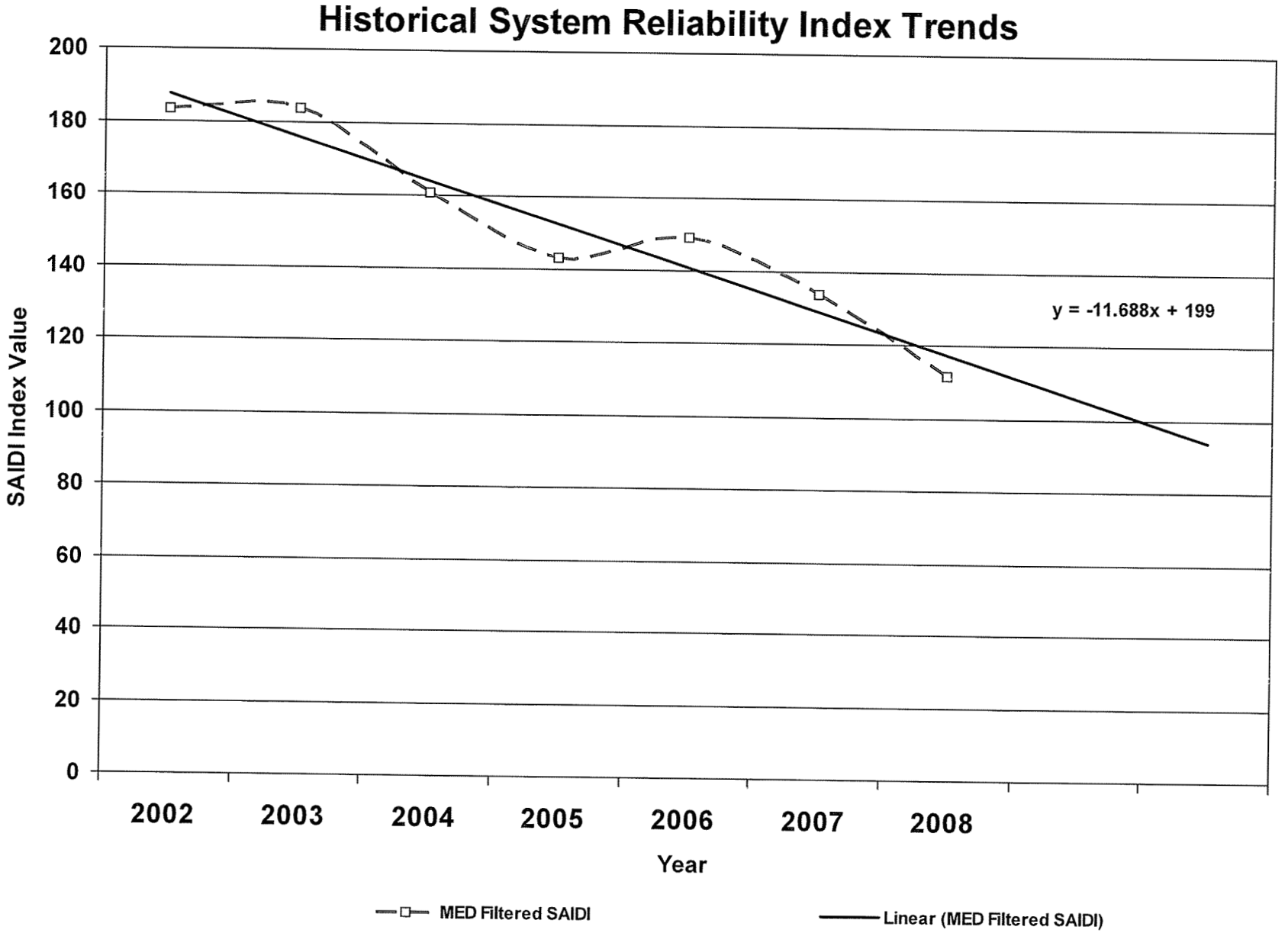
# Reliability Indices Trends Report

Prepared: 3/20/2009 2:36:35 PM

## Historical System Reliability Index Trends




Historical System Reliability Index Trends
SAIDI Index Value
200
180
160
140
120
100
80
60
40
20
0
2002
2003
2004
2005
2006
2007
2008
Year
y = -11.688x + 199
MED Filtered SAIDI
Linear (MED Filtered SAIDI)

# Historical System Reliability Index Trends