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John J. Finnigan, Jr  
Associate General Counsel

**VIA E-MAIL, FACSIMILE AND OVERNIGHT DELIVERY**

January 12, 2007

Ms. Elizabeth O'Donnell  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
P.O. Box 615  
Frankfort, Kentucky 40602-0615

RECEIVED

JAN 16 2007

PUBLIC SERVICE  
COMMISSION

Re: An Investigation of The Reliability Measures of Kentucky's Jurisdictional  
Electric Distribution Utilities and Certain Reliability Maintenance Practices  
Case No. 2006-00494

Dear Ms. O'Donnell:

Enclosed are an original and seven copies of Duke Energy Kentucky, Inc.'s responses to the Staff's first set of data requests in the above-referenced case.

Please date stamp and return the extra copies of this letter in the enclosed self-addressed envelope. The responses are also being submitted for filing to the Commission on January 12, 2007 by e-mail and facsimile delivery in accordance with the Commission's electronic filing requirements for filing as of January 12, 2007.

Thank you for your consideration in this matter.

Very truly yours,

John J. Finnigan, Jr.  
Associate General Counsel

cc: Hon. Elizabeth E. Blackford (w/encl.)  
All parties of record (w/encl.)

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

JAN 16 2007

In the Matter of An Investigation of the )  
Reliability Measures of Kentucky's ) ADMINISTRATIVE  
Jurisdictional Electric Distribution ) CASE NO. 2006-00494  
Utilities and Certain Reliability )  
Maintenance Practices )

PUBLIC SERVICE  
COMMISSION

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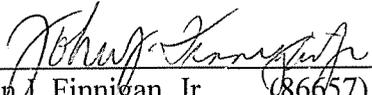
DUKE ENERGY KENTUCKY, INC.'S  
RESPONSES TO THE KENTUCKY PUBLIC SERVICE COMMISSION'S  
FIRST SET OF DATA REQUESTS

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Duke Energy Kentucky, Inc. submits the following responses to the Commission's First Set of Data Requests in this proceeding via e-mail, facsimile and overnight mail.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

  
\_\_\_\_\_  
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## CERTIFICATE OF SERVICE

I certify that a copy of the attached responses of Duke Energy Kentucky, Inc. to the Commission's First Set of Data Requests in this proceeding has been served by ordinary mail to the following parties on this 12th day of January, 2007:

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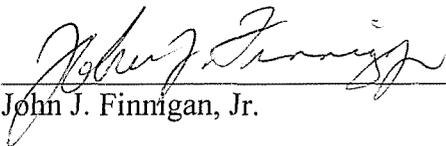
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\_\_\_\_\_  
John J. Finnigan, Jr.

**KyPSC Staff First Set Data Requests**  
**Duke Energy Kentucky**  
**Case No. 2006-00494**  
**Date Received: December 12, 2006**  
**Response Due Date: January 12, 2007**

**KyPSC-DR-01-001**

**REQUEST:**

1. Does utility management measure, monitor, or track distribution reliability?
  - a. If so, describe the measures used and how they are calculated.
  - b. If reliability is monitored, provide the results for the past 5 years for system wide reliability.

**RESPONSE:**

Yes.

- a. **System Average Interruption Frequency Index** is the average number of sustained customer interruptions for all customers we serve.  $SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers}}$   
**System Average Interruption Duration Index** is the average amount of time customers are without power per year.  $SAIDI = \frac{\text{Sum of Customer Interruption Durations}}{\text{Total Number of Customers Served}}$   
**Customer Average Interruption Duration Index** is the average amount of time it takes to restore service to those customers who have sustained interruptions.  $CAIDI = \frac{\text{Sum of Customer Interruption Durations}}{\text{Total Number of Customer Interruptions}}$
- b. See Attachment KyPSC-DR-01-001 (b).

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**Duke Kentucky Year-End Reliability Indices**

Year	All Weather Included			Severe Weather Excluded		
	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI	SAIDI
2001	1.67	215.3	359.6	1.15	98.3	113.5
2002	1.66	86.0	142.5	1.55	82.5	127.7
2003	1.72	100.1	172.3	1.49	77.3	115.1
2004	1.07	74.4	79.9	1.07	74.3	79.7
2005	1.24	94.5	117.1	1.04	85.2	88.6

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-002**

**REQUEST:**

2. Are any outages excluded from your reliability measurement? If so, what criteria are used to exclude outages?

**RESPONSE:**

Yes. Duke Energy Kentucky excludes outage data from Major Event Days, which are determined using the methodology contained in IEEE 1366-2003. The method uses five years of daily SAIDI data to calculate a value called "Tmed" (which stands for "Threshold Major Event Day"). Days with daily SAIDI greater than the Tmed value are excluded. This method for determining excludable event days is also called the "2.5 Beta Method."

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-003**

**REQUEST:**

3. Does the utility differentiate between momentary and sustained outages?
  - a. What criteria are used to differentiate?
  - b. Is information about momentary interruptions recorded?

**RESPONSE:**

Yes.

- a. Outages longer than five minutes are sustained. Outages five minutes or less are momentary.
- b. Yes.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-004**

**REQUEST:**

4. At what level of detail does the utility record customer outages (individual customer, by re-closer, by circuit, by substation, etc.)?

**RESPONSE:**

Outages are recorded down to the individual customer level.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
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**KyPSC-DR-01-005**

**REQUEST:**

5. How does the utility detect that a customer is experiencing an outage?

**RESPONSE:**

For those circuits served from a substation equipped with SCADA equipment, circuit outages are automatically recorded. Outages involving circuits and substations without SCADA, fused tap lines, distribution transformers or individual customers are reported by telephone.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-006**

**REQUEST:**

6. How does the utility know when a customer is restored?

**RESPONSE:**

Repair crews report when restoration is complete. Also, customers who call to report an outage have the option to be called back to verify restoration.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-007**

**REQUEST:**

7. Are the causes of outages categorized and recorded? If they are, provide a list of the categories used.

**RESPONSE:**

Yes. See Attachment KyPSC-DR-01-007.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**Duke Kentucky Trouble Cause List**

Animal on Equipment
Auto/Vehicle Hit Equip
Constr/Farm Vehicle Hit Equip
Crew Initiated Outage
Customer Trouble/No Outage
Cust Requested Disc/Reconnect
Dig In
Equipment Failure
Fire - Structure
Flicker Caused by Other Outage
Fluid Leak
Foreign Object on Equip
Foreign Utility Caused Outage
Human Contact
Lightning
No Duke Equip Affected
Other/See Notes
Overload
Select a Cause
Tree Cut
Tree or Limb on Line
Turn On, Missed
Turn On Non Pay
Unknown
Vandalism
VRU Error
Weather, Ice
Weather - High Winds

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
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**KyPSC-DR-01-008**

**REQUEST:**

8. Can the utility record outage information for each circuit in the system including for each customer outage:
  - a. Length of each disruption?
  - b. Number of customers affected by each disruption?
  - c. Number of customers served by each circuit:
  - d. Cause of each interruption?

**RESPONSE:**

- a. Yes.
- b. Yes.
- c. Yes.
- d. Yes.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-009**

**REQUEST:**

9. If the answer to any part of Item 8 is no, what would be required to enable the utility to collect this level of data?
  - a. Provide an estimated cost to obtain this level of detail.
  - b. Provide an estimated timeline to implement such upgrades.

**RESPONSE:**

See response to KyPSC-DR-01-008.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
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**KyPSC-DR-01-010**

**REQUEST:**

10. Does the utility follow any type of standard (e.g., ANSI A300) for trimming trees in or near to the distribution right-of-way?

**RESPONSE:**

Yes. Duke Energy Kentucky follows standard practices for trimming/pruning trees. Tree cuts are to be made in accordance with the National Arborist Association's standards, ANSI A-300 standards and/or as referenced in Dr. Alex Shigo's Field Guide for Qualified Line Clearance Tree Workers. In rural areas, upon authorization of the Duke Energy Kentucky vegetation contractor, mechanized pruning equipment may be utilized for clearing work.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-011**

**REQUEST:**

11. What criteria does the utility use to determine when vegetation maintenance or tree trimming is required?

**RESPONSE:**

A variety of factors are used to determine when vegetation maintenance is required. An evaluation is performed on an annual basis to prioritize the group of circuits that will be scheduled to trim. The factors of consideration include: the last year the circuit was trimmed, reliability performance history, customer impact, system operations impact, field operations needs, and projected budgets. Other factors of consideration include observations from periodic inspections, and selective maintenance performed (hot-spot trimming) between routine cycles. The circuit trimming schedule priority is adjusted if necessary throughout the year.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
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**KyPSC-DR-01-012**

**REQUEST:**

12. Is the tree trimming performed by utility personnel or by contractor? If by contractor, describe the controls management uses to ensure trees are trimmed per utility requirements.

**RESPONSE:**

The tree trimming is performed by contractor companies.

The work to be performed is identified, planned and assigned by several Duke Energy Kentucky employees. The work progress is then monitored, inspected for compliance to specifications, and approved (or rejected) by Duke Energy Kentucky Vegetation Management employees.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests**  
**Duke Energy Kentucky**  
**Case No. 2006-00494**  
**Date Received: December 12, 2006**  
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**KyPSC-DR-01-013**

**REQUEST:**

13. Is any portion of the utility system subject to local codes or ordinances regarding tree trimming or vegetation management?
- a. Which areas of the system are covered by local codes or ordinances?
  - b. For each covered area, what do the local codes or ordinances require?

**RESPONSE:**

- a. None.

There is no part of the system that is subject to local codes or ordinances regarding tree trimming. There are a few communities that have informally requested specific notification procedures prior to performing tree trimming work.

In accordance with the contract agreement, the Contractor is required to perform all Work in conformance with Duke Energy Kentucky Work specifications, OSHA regulations, American National Standards Institute Z-133.1 and ANSI A-300, National Arborist Association's standards, as referenced in Dr. Alex Shigo's Field Guide for Qualified Line Clearance Tree Workers, and all federal, state, county, and municipal laws, ordinances and regulations applicable to the Work.

- b. Not Applicable.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-014**

**REQUEST:**

14. How often does the utility clear its distribution easements?

**RESPONSE:**

The distribution circuits are trimmed on a five year average cycle time.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests**  
**Duke Energy Kentucky**  
**Case No. 2006-00494**  
**Date Received: December 12, 2006**  
**Response Due Date: January 12, 2007**

KyPSC-DR-01-015

**REQUEST:**

15. How much has the utility spent on distribution easement clearing for each of the last 5 years? Include the cost per mile expended.

**RESPONSE:**

<b>Year of Activity</b>	<b>Expenditure</b>	<b>Circuit miles trimmed</b>	<b>Percent of system miles</b>	<b>Average Cost per Mile</b>
2002	\$ 210,210	436	29.1%	\$ 482
2003	\$1,828,660	275	18.3%	\$6,650
2004	\$3,362,005	548	36.5%	\$6,135
2005	\$1,376,660	305	20.3%	\$4,514
2006	\$1,849,050	261	17.4%	\$7,084

The information above is a summary of the total annual distribution O&M expenditures for vegetation management work and the number of circuit miles trimmed in the Duke Energy Kentucky service area. The average cost per mile is calculated by dividing the total cost expenditure by the number of miles trimmed.

The 2002 expenditure is significantly lower than other years due to several factors: a change in contractors performing the work, the structure of the contract agreement and an accounting credit adjustment occurring in that year.

**WITNESS RESPONSIBLE: Larry Conrad/Jim Mehring**

**KyPSC Staff First Set Data Requests  
Duke Energy Kentucky  
Case No. 2006-00494  
Date Received: December 12, 2006  
Response Due Date: January 12, 2007**

**KyPSC-DR-01-016**

**REQUEST:**

16. What annual amount of money is included in the current retail rates for distribution easement clearing?

**RESPONSE:**

The Company's current rates were established per the Commission's Order on December 21, 2006, and include approximately \$2.6 million for distribution expenses related to "vegetation management."

**WITNESS RESPONSIBLE: Paul Smith**