2006-00494

DUKE ENERGY CORPORATION

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VIA OVERNIGHT MAIL

March 15, 2011

Mr. John A. Rogness III
Director of Engineering
Kentucky Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, KY 40602

Re: **2010 Reliability Report and Vegetation Management Plan Update**
2010 Calendar Year

Dear Mr. Rogness:

Enclosed please find the signed copy of the Duke Energy Kentucky, Inc. 2010 Reliability Report and Vegetation Management Plan Update.

Sincerely,

Kristen Cocanougher

Kristen Cocanougher

Enclosure

401576

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

DUKE ENERGY KENTUCKY, INC.
RELIABILITY REPORT AND VEGETATION MANAGEMENT PLAN UPDATE
FOR CALENDAR YEAR 2010

March 15, 2011

TABLE OF CONTENTS

I. Introduction

On October 26, 2007, the Commission issued its Order requiring all jurisdictional utilities to file annual reliability reports and to develop vegetation management plans.[1] Pursuant to the Order, jurisdictional utilities were required to report a minimum of 5 years of reliability data. The reports are required to be based upon a calendar year (January to December) and filed by the first business day in April in the year immediately following the reporting year.

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company) submits its Reliability Report and Vegetation Management Plan update for Calendar year 2010 as required by the Commission's October 26, 2007 Order in Case No. 2006-00494.

II. Reliability Report Summary

Exhibit A of the reliability report includes measurements of total system performance using the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), and the Customer Average Interruption Duration Index (CAIDI) calculated for each of the preceding five twelve- month periods, including the reporting year.[2] Duke Energy Kentucky uses IEEE Std. 1366 to determine major event days for the purpose of weather-normalizing outage data when calculating the reliability indices SAIFI, SAIDI and CAIDI. Except where noted in the year-end Indices, major event days have been excluded from all reliability measures in this report.

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[1] *In re An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Utilities.. Case No* 2006-00494. (Order at 8)(October 27, 2007).
[2] *Id.*

Exhibit B contains a list of customer interruptions by the ten most significant cause categories for the most recent five twelve- month periods.[3] The cause codes used in Exhibit B are IEEE cause codes.

Exhibit C of the reliability report is an analysis of Duke Energy Kentucky's ten worst performing circuits on the system for the reporting period taking into consideration all three reporting indices.[4] This section includes an analysis of the cause of the poor performance, the circuit, index value, and the major outage category contributing to the circuit's performance. The durations of the reported outages are measured by number of minutes by index for SAIDI and CAIDI. This section also describes the corrective actions planned or already taken to improve circuit performance.

Exhibits D, E, and F of the reliability report comprise a list of the ten worst performing circuits in 2010 as determined by the individual SAIFI, CAIDI, SAIFI indices, respectively. These sections also include the value index and primary cause of the circuit performance.

III. Vegetation Management Plan Update and Summary

Duke Energy Kentucky filed its initial Vegetation Management Plan with this Commission on December 18, 2007 in Case No. 2006-00494.[5] Duke Energy's Midwest Vegetation Management Group is responsible for controlling vegetation growth for 37,000 miles of transmission and distribution overhead electric lines and gas supply lines in Ohio, Indiana and Kentucky.

Exhibit G is a copy of Duke Energy Kentucky's Vegetation Management Plan. There have been no amendments or changes to the plan since it was initially filed with

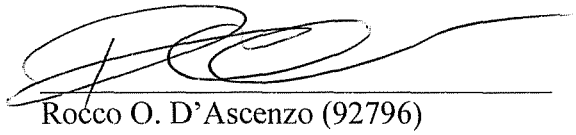
[3] *Id.* at 9, paragraph 6.
[4] *Id.* at 7.

the Commission on December 18, 2007. There are no amendments or changes planned for 2010.

As part of its 2010 scheduled maintenance, Duke Energy Kentucky trimmed trees and vegetation along 407.1 miles of its distribution system. Duke Energy has completed all scheduled trimming for 2010.

As part of its 2011 maintenance schedule, Duke Energy Kentucky will trim trees and maintain vegetation along 394.2 miles of its distribution system. In the first quarter of 2011, Duke Energy Kentucky has experienced extreme weather conditions, including snowfall that has slowed our progress. As of February 28, 2011, Duke Energy Kentucky has completed approximately 7.9 miles (2%) of its scheduled distribution system trimming and maintenance. This leaves approximately 386.3 miles to be trimmed throughout 2011. The Company does not anticipate any difficulty in completing all planned trimming for 2011. The Company will have sufficient crew's coverage throughout the year.

Respectfully submitted,



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Duke Kentucky Year-End Reliability Indices

	Major Event Days Included			Major Event Days Excluded		
Year	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
2006	2.05	141.0	289.7	1.43	81.3	116.5
2007	1.59	179.8	286.7	1.15	94.1	108.3
2008	2.38	741.7	1,762.1	1.28	83.1	106.4
2009	1.58	126.6	199.9	1.13	101.3	114.2
2010	1.48	92.0	136.1	1.30	87.9	114.3

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2010 Duke Energy Kentucky
Reliability Report and Vegetation Management Plan Update
Exhibit B

Sum of Cust Interrupt (CI)		IEEE Cause										
YearPowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Month Totals
2003	1	1	124	2,098	895	92	84	19	8	686	5	4,012
	2	35	19,183		647	3,833	10	30,345	272	161	84	54,570
	3	102	799		42		37	7,691	124	35	52	8,882
	4	479	61		39		220	75	370	4	1,003	2,251
	5	772	1,581		62		680	6,738	7,838	2,358	3,523	23,552
	6	541	3,036		1,890	1	37	1,118	1,947	12,770	1,646	22,986
	7	579	4,551		1,614	12	15	27,467	7,008	2,493	5,849	49,588
	8	346	3,739		1,706	299	199	7,301	5,161	306	676	19,733
	9	497	565		238		36	1,361	2,283	2,386	491	7,857
	10	2,702	2,239		1,394		216	2	579	2,972	592	10,696
	11	538	189		481		3	125	670	405	74	2,485
	12	553	3,523		33	6	2	36	18	319	395	4,885
2004	1	3,010	1,103		1,163	5	126		62	285	617	6,371
	2	474	1,470		4,993	1	358		248	256	36	7,836
	3	518	2,242		157	7	38	420	251	139	210	3,982
	4	443	3,417		30	1	183	16	82	1,082	1,620	6,874
	5	2,511	5,787		79	34	14	4,411	3,989	750	7,751	25,326
	6	1,319	1,196		65	9	314	486	2,678	2,577	352	8,996
	7	897	1,320		364	29	101	4,627	4,423	709	3,702	16,172
	8	641	2,128		51	35	244	2,953	763	1,141	466	8,422
	9	1,244	2,806		28		52	136	1,153	3,553	81	9,053
	10	5,342	2,965		8	1	235	9	880	599	4,339	14,378
	11	671	14,648		44		37		3,543	215	558	19,716
	12	122	4,175		26	139	68	393	2,880	2,267	131	10,201
2005	1	173	2,862		1,082		117	42	347	13	2,124	6,760
	2	2,282	2,896		15	1	125		2,475	139	2,695	10,628
	3	273	28		29		353	1	3,238	94	2,369	6,385
	4	205	4,854		269	2	211	82	3,722	94	2,799	12,238
	5	563	3,524		139	1	575	156	2,214	171	90	7,433
	6	657	5,625		24	45	408	2,008	573	584	3	9,927
	7	631	6,023		324	596	634	1,154	997	9,454	323	20,136
	8	607	4,015	1	65	52	506	4,718	572	400	548	11,484
	9	280	3,688		178	16	296	549	5,336	8,531	96	18,970
	10	908	7,678	1,595	44		133	1	431	184	2,933	13,907
	11	867	3,458		158	127	1,566	1,362	7,278	279	107	15,202

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Sum of Cust Interrupt (CI)		IEEE Cause										
YearPowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Month Totals
	12	187	654		174	1	150		24	240	483	1,913
2006	1	287	11,399		107	3	968	445	4,407	3,156	1,166	21,938
	2	49	574		10	2	19		145	16	9	824
	3	264	5,739		715	1	264	1,670	441	154	2,784	12,032
	4	1,416	2,445		58	10	1,908	2,626	16,813	4,073	2,993	32,342
	5	2,911	659		10	824	272	278	263	1,891	869	7,977
	6	3,186	5,823		7,679	11	1,196	2,749	5,900	1,769	630	28,943
	7	2,473	8,819		216	63	82	8,282	5,222	2,797	775	28,729
	8	513	1,252		274	50	359	180	5,619	1,939	1,971	12,157
	9	1,750	583		67	2	258	1,417	964	752	1,582	7,375
	10	903	208		68		1,017	393	4,362	434	16,066	23,451
	11	3,428	1,168		16	1	679		454	271	5,187	11,204
	12	1,549	1,950		7	1	233	2	57	1	444	4,244
2007	1	1,484	2,943		13	3	39	2	70	6,013	125	10,692
	2	289	2,872		23	36	402	231	4,982	5	58	8,898
	3	740	1,402		76		130	38	2,477	1	36	4,900
	4	668	265		89		118	3,895	3,569	841	2,254	11,699
	5	2,618	1,764		14		151	517	2,611	112	3,735	11,522
	6	2,408	1,703		30	2	261	3,406	6,304	3,303		17,417
	7	1,195	2,889		1,376		1,016	2,211	5,716	796	638	15,837
	8	947	3,637		59	135	544	377	4,315	51	35	10,100
	9	1,808	1,426		419	42	1,501	93	2,216	13,241	321	21,067
	10	1,478	3,643		182		117	1,066	2,234	8,860	281	17,861
	11	1,349	2,583		28		306	34	59	1	46	4,406
	12	310	6,582		85	13	29	197	7,033	5,105	8	19,362
2008	1	65	10,239		2,307	564	69	150	837	88	5,785	20,104
	2	163	2,547		17	19	243	4,584	1,115	4	747	9,439
	3	400	652		331	323	1,131	14	1,010	15	6,810	10,686
	4	563	5,568	955	1,147		377		17	4	137	8,768
	5	1,827	6,050		14		859	941	6,630	13	141	16,475
	6	1,884	1,317		75	15	108	10,081	2,957	225	779	17,441
	7	3,116	2,973		133	29	101	3,080	14,285	290	21	24,028
	8	1,033	6,817		2,036	11	184	817	444	5,772	2,206	19,320
	9	2,643	2,422		232	10	413	194	3,555	57	225	9,751
	10	5,265	877		45		256	2,539	619	327	135	10,063

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Sum of Cust Interrupt (CI)		IEEE Cause										
YearPowerOff	MonthPowerOff	Wildlife	Equipment Failure	Error	Other	Overload	Planned	Weather	Vegetation	Unknown	Public Accident	Month Totals
	11	1,571	1,680		49	660	109		7,759	564	1,381	13,773
	12	223	2,023		2,129	187	197	1,546	529	15	2,332	9,181
2009	1	484	749		128	115	318	4,906	1,016	2	85	7,803
	2	284	5,038		35	239	291	1,171	541	37	137	7,773
	3	889	12,051		393		372	2,095	101	23	136	16,060
	4	517	1,516		632		143	303	1,945	16	966	6,038
	5	15,956	2,674		58	6	265	262	274		2,116	21,611
	6	1,192	17,714		95	126	955	3,898	3,949	1,737	33	29,699
	7	1,722	2,930		74		307	4,026	1,141	63	2,106	12,369
	8	522	3,061		2,679	816	450	412	451	145	438	8,974
	9	1,814	618		36		641	89	1,306	10	27	4,541
	10	1,722	3,098		83	1	564	1	603	178	6	6,256
	11	2,933	2,796		57		232		137	3	1,864	8,022
	12	360	4,009		492	3,428	157	144	678	12,992	825	23,085
2010	1	369	501	5	10	6	480	26	27	14	6760	8,198
	2	315	1760	68	6	4	751	485	149	5	85	3,628
	3	505	2539		237		648	2315	36	15	2123	8,418
	4	158	4966		176		118	159	99	131	7453	13,260
	5	788	849		670		202	2005	275	162	11	4,962
	6	1605	11184		527		297	9502	4327	340	788	28,570
	7	488	1551		294	12	162	85	2610	45	665	5,912
	8	549	2782	1	5494	5	510	236	669	14046	109	24,401
	9	2623	1986	1347	653		288	279	2538	9519	12	19,245
	10	3705	13476		746		631	3	446	23	1401	20,431
	11	991	3233		239		746	31	222	7616	42	13,120
	12	53	20011		426		768	1	2466	120	475	24,320
		125,290	**364,737**	**6,070**	**52,926**	**13,120**	**34,595**	**192,291**	**226,433**	**168,849**	**140,198**	**1,324,509**

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2010 Duke Energy Kentucky
Reliability Report and Vegetation Management Plan Update
Exhibit C

Rank	Sum of Ranks	Circuit Number	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Analysis and Major Contributing Outage Category	Action Taken or Planned
1	6	H9320860041	BEAVER 41	435.2	2	4.92	4	88.4	72	086-41	This circuit is on the worst-10 list because of unknown outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades
2	7	H9323040042	WHITE TOWER 42	374.0	5	5.15	2	72.6	90	304-42	This circuit is on the worst-10 list because of equipment and public accident outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades
3	7	H9320860042	BEAVER 42	360.2	6	6.05	1	59.6	107	086-42	This circuit is on the worst-10 list because of equipment and unknown outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades
4	8	H9323040041	WHITE TOWER 41	411.7	3	4.86	5	84.8	75	304-41	This circuit is on the worst-10 list because of unknown outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmision line upgrades
5	11	H9322990041	DECORSEY 41	283.5	8	4.95	3	57.2	108	299-41	This circuit is on the worst-10 list because of unknown outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades
6	13	H9323040043	WHITE TOWER 43	290.6	7	4.30	6	67.6	102	304-43	This circuit is on the worst-10 list because of unknown outages.	Mostly due to C5967 transmission outages. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades
7	15	H9321990041	RICHWOOD 41	442.6	1	2.67	14	165.9	18	199-41	This circuit is on the worst-10 list because of public accident outages.	Split between C5967 transmission outages and Public accidents. Vegetation Management and Maintenance are in presently working on physical transmission line upgrades. Repairs have been made to the public accidents
8	18	H9320700044	CRESCENT 44	282.2	9	3.20	9	88.2	73	070-44	This circuit is on the worst-10 list because of unknown outages.	Entire circuit is in the progress of physical review and upgrade. Automated circuit sectionalization is being added.

9	20	H9321470041	CLARYVILLE 41	250.4	12	3.20	8	78.2	83	147-44	This circuit is on the worst-10 list because of equipment outages.	Split between C5967 transmission outages and equipment outages. Vegetation Management and Maintenance are in presently working on physical transmision line upgrades. Faulted distributiion line equipment has been replace
10	22	H9320780042	AUGUSTINE 42	264.5	11	2.91	11	90.8	70	078-42	This circuit is on the worst-10 list because of equipment outages.	Failed Jumper has been replaced

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	BEAVER 42	360.2	6	6.05	1	59.6	107	086-42	Equipment Failure
2	WHITE TOWER 42	374.0	5	5.15	2	72.6	90	304-42	Public Accident
3	DECORSEY 41	283.5	8	4.95	3	57.2	108	299-41	Unknown
4	BEAVER 41	435.2	2	4.92	4	88.4	72	086-41	Unknown
5	WHITE TOWER 41	411.7	3	4.86	5	84.8	75	304-41	Unknown
6	WHITE TOWER 43	290.6	7	4.30	6	67.6	102	304-43	Unknown
7	CLARYVILLE 41	250.4	12	3.20	8	78.2	83	147-44	Equipment Failure
8	CRESCENT 44	282.2	9	3.20	9	88.2	73	070-44	Unknown
9	AUGUSTINE 42	264.5	11	2.91	11	90.8	70	078-42	Equipment Failure
10	RICHWOOD 41	442.6	1	2.67	14	165.9	18	199-41	Public Accident

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	RICHWOOD 41	442.6	1	2.67	14	165.9	18	199-41	Vegetation
2	AUGUSTINE 42	264.5	11	2.91	11	90.8	70	078-42	Weather
3	BEAVER 41	435.2	2	4.92	4	88.4	72	086-41	Other
4	CRESCENT 44	282.2	9	3.20	9	88.2	73	070-44	Equipment Failure
5	WHITE TOWER 41	411.7	3	4.86	5	84.8	75	304-41	Weather
6	CLARYVILLE 41	250.4	12	3.20	8	78.2	83	147-44	Weather
7	WHITE TOWER 42	374.0	5	5.15	2	72.6	90	304-42	Weather
8	WHITE TOWER 43	290.6	7	4.30	6	67.6	102	304-43	Vegetation
9	BEAVER 42	360.2	6	6.05	1	59.6	107	086-42	Weather
10	DECORSEY 41	283.5	8	4.95	3	57.2	108	299-41	Weather

Rank	Substation Name-Feeder	Feeder SAIDI	SAIDI Rank	Feeder SAIFI	SAIFI Rank	Feeder CAIDI	CAIDI Rank	SubCirc	Major Outage Category
1	RICHWOOD 41	442.6	1	2.67	14	165.9	18	199-41	Public Accident
2	BEAVER 41	435.2	2	4.92	4	88.4	72	086-41	Equipment Failure
3	WHITE TOWER 41	411.7	3	4.86	5	84.8	75	304-41	Equipment Failure
4	WHITE TOWER 42	374.0	5	5.15	2	72.6	90	304-42	Equipment Failure
5	BEAVER 42	360.2	6	6.05	1	59.6	107	086-42	Equipment Failure
6	WHITE TOWER 43	290.6	7	4.30	6	67.6	102	304-43	Equipment Failure
7	DECORSEY 41	283.5	8	4.95	3	57.2	108	299-41	Unknown
8	CRESCENT 44	282.2	9	3.20	9	88.2	73	070-44	Unknown
9	AUGUSTINE 42	264.5	11	2.91	11	90.8	70	078-42	Equipment Failure
10	CLARYVILLE 41	250.4	12	3.20	8	78.2	83	147-44	Equipment Failure

Duke Energy Kentucky's Vegetation Management Plan

Goals

Duke Energy's goals for its Vegetation Management Operations are to balance the need for reliable utility service with safe and cost-effective vegetation management practices that preserve our local communities' natural surroundings, aesthetics and the environment. Targeted herbicides provide one of the most cost-effective and environmentally friendly means of controlling undesirable vegetation.

Safety

Our goals are to work safely at all times to achieve a zero injury culture and to minimize the safety risk of vegetation and conductor contacts. Serious or fatal shocks can occur when working in trees near power lines. Duke Energy strives to minimize that risk by trimming properly in accordance with industry tree trimming safety standards.

Reliability

Duke Energy's electric service reliability, as measured by SAIFI and SAIDI, has improved in recent years due in part to our more rigorous tree trimming practices. Duke Energy strives to trim its Kentucky distribution circuits every four-and-one-half years and transmission every six years.

Tree Care Standards

Duke Energy requires its employees and contractors to prune trees in accordance with American National Standards Institute ("ANSI") and National Arborist Association ("NAA") standards. The relevant standards are ANSI Z133, Safety in Tree Trimming Operations, and ANSI A300, Safety in Tree Care Operations. These ANSI standards were developed in cooperation with the NAA. Additionally, Duke Energy follows the practices in Field Guide for Qualified Line Clearance Tree Workers by Dr. Alex L. Shigo, former head of the U.S. Forest Service. In rural areas, Duke Energy may authorize its contractors to use mechanized pruning equipment.

Tree Trimming Specifications

69KV and above Transmission Lines

- 15 feet clearance to the side from all conductors.
- 15 feet clearance below the lowest conductor.
- No overhanging/encroaching branches permitted.
- Trim to the previously established widths of our right-of-way and practice established beyond the 15 feet widths.

3 Phase Primary Lines

- 10 feet clearance to the side from all conductors.
- 10 feet clearance below the conductors.
- No overhanging/encroaching branches.

Single Phase and Two Phase Primary lines

- 10 feet clearance to the side from all conductors.
- 10 feet clearance below the conductors.
- Overhang: all live branches above the conductors shall be removed to a minimum height of 15 feet, and at a 45-degree angle. All dead and structurally weak branches overhanging any primary voltage wires shall be removed.
- Underneath the primary: 10 feet clearance from the conductors to the closest limbs beneath the phases.

Secondary Lines

- 5 feet clearance to the side from the secondary line.
- 5 feet clearance above and below the secondary line.

Services Lines

- 1 foot swing clearance from all service lines.

Brush/Wood Removal

- Circuit maintenance - brush is removed, wood cut into movable pieces.
- Customer may request off-cycle maintenance in accordance with the clearance standards above - brush and wood is customer's responsibility.
- Storm Work - no brush or wood removal.

Customer Notification

- Duke Energy customers are notified of tree trimming being done on their property by door hanger cards.
- Duke Energy requires its contractors to contact local government officials prior to beginning work in the community.

Right Tree In The Right Place

- Duke Energy will cooperate in tree removal with local government officials as needed.

Determination of Need to Perform Maintenance/Evaluation of Plan Effectiveness

Duke Energy regularly monitors its SAIFI and SAIDI measures. If SAIFI or SAIDI were to significantly decline, Duke Energy would evaluate whether to modify its vegetation management practices, including its right-of-way clearing cycle, in order to improve SAIFI and SAIDI performance. Duke Energy also monitors the performance of individual circuits. In an individual circuit has a significant number of outages, Duke Energy will perform off-cycle tree trimming as needed. Duke Energy also monitors industry tree trimming standards and modifies its tree trimming practices as necessary to meet or exceed industry standards.