STITES & HARBISON PLLC
ATTORNEYS

421 West Main Street
Post Office Box 634
Frankfort, KY 40602-0634
[502] 223-3477
[502] 223-4124 Fax
www.stites.com

March 30, 2012

Mark R. Overstreet
(502) 209-1219
(502) 223-4387 FAX
moverstreet@stites.com

RECEIVED
MAR 30 2012
PUBLIC SERVICE
COMMISSION

HAND DELIVERED

Kimra Cole
Director of Engineering
Public Service Commission of Kentucky
211 Sower Boulevard
Frankfort, Kentucky 40601

RE: Kentucky Power Company – Electric Distribution Utility Annual Reliability Report

Dear Ms. Cole:

Enclosed please find Kentucky Power Company's filing in response to the Commission's October 26, 2006 Order in Case No. 2006-00494.

Please do not hesitate to contact me if you have any questions.

Very truly yours,

Mark R. Overstreet

KENTUCKY PUBLIC SERVICE COMMISSION RECEIVED

MAR 30 2012

PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	Kentucky Power Company
REPORT PREPARED BY	1.2	Everett G. Phillips
E-MAIL ADDRESS OF PREPARER	1.3	egphillips@aep.com
PHONE NUMBER OF PREPARER	1.4	606-929-1463

SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	2011

SECTION 3: MAJOR EVENT DAYS

T_{MED}	3.1	26.855
FIRST DATE USED TO DETERMINE T_{MED}	3.2	1-Jan-06
LAST DATE USED TO DETERMINE T_{MED}	3.3	31-Dec-10
NUMBER OF MED IN REPORT YEAR	3.4	4 days

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	602.8
SAIFI	4.2	3.085
CAIDI	4.3	195.4

Including MED (Optional)

SAIDI	4.4	953.5
SAIFI	4.5	3.542
CAIDI	4.6	269.2

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
Veg Outside R/W	5.1.1	231.98	Veg Outside R/W	5.2.1	0.741
Veg Inside R/W	5.1.2	95.24	Equipment Failure	5.2.2	0.508
Equipment Failure	5.1.3	76.54	Veg Inside R/W	5.2.3	0.419
Station-Distribution	5.1.4	34.06	Scheduled	5.2.4	0.324
Scheduled	5.1.5	31.98	Station-Distribution	5.2.5	0.311
Generation & Transmi	5.1.6	31.12	Generation & Transmi	5.2.6	0.214
Unknowns	5.1.7	29.38	Unknowns	5.2.7	0.180
Lightning	5.1.8	17.17	Lightning	5.2.8	0.091
Vehicle Accident	5.1.9	16.47	Vehicle Accident	5.2.9	0.083
Animal	5.1.10	4.68	Animal	5.2.10	0.050

SECTION 6: WORST PERFORMING CIRCUITS

CIRCUIT IDENTIFIER		SAIDI VALUE	MAJOR OUTAGE CATEGORY
3309902	6.1.1	2034.71	Tree Out of ROW
3411801	6.1.2	1984.98	Tree Out of ROW
3311101	6.1.3	1790.55	Tree Out of ROW
3303903	6.1.4	1747.38	Equipment Failure
3303902	6.1.5	1676.64	Tree Out of ROW
3007906	6.1.6	1624.82	Equipment Failure
3310502	6.1.7	1577.15	Tree Out of ROW
3301101	6.1.8	1568.35	Tree Out of ROW
3200202	6.1.9	1568.05	Tree Out of ROW
3307302	6.1.10	1562.98	Tree Out of ROW

CIRCUIT IDENTIFIER		SAIFI VALUE	MAJOR OUTAGE CATEGORY
3302701	6.2.1	9.568	Scheduled Company
3310502	6.2.2	9.377	Scheduled Company
3303903	6.2.3	9.262	Equipment Failure
3411801	6.2.4	7.965	Tree Out of ROW
3200204	6.2.5	7.818	Tree Out of ROW
3409302	6.2.6	7.606	Tree Out of ROW
3000201	6.2.7	7.219	Tree Out of ROW
3007906	6.2.8	7.156	Equipment Failure
3409303	6.2.9	7.123	Scheduled Company
3307302	6.2.10	6.586	Tree Out of ROW

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

Additional pages may be attached as necessary

SECTION 7: VEGETATION MANAGEMENT PLAN REVIEW

See attachments for details of Kentucky Power's Vegetation Management Plan:
- 2011 Kentucky Power Distribution Vegetation Management Plan & Recap
- 2011 Kentucky Power Forestry Circuit Summary
- 2012 KYPCO Forestry Plan

SECTION 8: UTILITY COMMENTS

System Reliability Results for each of the past 5 years is attached separately:
- System Reliability 5-Year Summary - Kentucky Power - 2011

Worst Performing Circuit (WPC) analysis and plans are attached separately:
- 2011 KPCo WPC Analysis and Plans_Ashland District
- 2011 KPCo WPC Analysis and Plans_Hazard District
- 2011 KPCo WPC Analysis and Plans_Pikeville District

Summary of the 2011 Kentucky Power Distribution Vegetation Management Program

Kentucky Power's 2011 Distribution Vegetation Management (VM) Program continued to migrate from a performance-based maintenance program to a full-circuit maintenance program. Additional resource requirements were provided by the reinforcement of resident contract tree crews, acquisition of outsource tree crews, a lump sum contract for two circuits in the Pikeville District, and unit-price ground spray work.

The 2011 VM Plan projected for 1,092 miles to be recleared (CUT), with 996 miles (91%) completed. The program also planned for 2,006 acres to be sprayed, with 2,064 acres (103%) accomplished. Maintenance work was performed on a total of 1,871 miles of line.

Total O&M expenditures for the VM program were $17,245,255. This slightly exceeded the O&M budget of $17,237,965. Forestry capital expenditures were $1,355,613 bringing the total expenditures for the VM Program to $18,600,868. Costs that were not allocated on a circuit by circuit basis, but that are contained in the $18.6 M include; Internal Labor & Fleet, unscheduled hotspot maintenance, trouble restoration work, tree ticket investigation, contract foresters, tree contractor's field supervision, incentive program for tree contractor's employees, and materials (herbicides for the Spray program).

There were no major alterations to the 2011 program. Most planned work that was unfinished in 2011 will be scheduled for completion in 2012. Service restoration work associated with numerous summer storms hampered our VM program. For example, we were unable to complete some right-of-way widening projects. We also experienced difficulty acquiring additional outsource tree crews due to lack of availability. There were several circuits that the projected reclearing work was underestimated. The underestimations were primarily due to the amount of tree growth encroaching into the primary zone and to the amount of slash cleanup required. Some planned work was deferred because of shifts in priorities caused by changes in circuit reliability performance.

2011 KENTUCKY POWER DISTRIBUTION VEGETATION MANAGEMENT RECAP

AREA	PLANNED MILES	ACTUAL MILES	PLANNED SPRAY ACRES	ACTUAL SPRAY ACRES	FORESTRY CAPITAL FUNDING	FORESTRY CAPITAL EXPENDITURES	UNSCHEDULED REACTIVE O&M FUNDING	UNSCHEDULED REACTIVE O&M EXPENDITURES
HAZARD	385	309	1062	428	$ 900,000	$ 384,994	$ 505,789	$ 235,466
PIKEVILLE	462	371	619	469	$ 1,022,500	$ 416,173	$ 761,301	$ 328,408
ASHLAND	245	316	325	1167	$ 577,500	$ 554,446	$ 324,581	$ 200,123
TOTALS	1092	996	2006	2064	$ 2,500,000	$ 1,355,613	$ 1,591,671	$ 763,997

AREA	SCHEDULED O&M FUNDING	SCHEDULED O&M EXPENDITURES	TOTAL O&M FUNDING	TOTAL O&M EXPENDITURES	TOTAL VMP FUNDING	TOTAL VMP EXPENDITURES
HAZARD	$ 5,519,636	$ 5,696,902	$ 6,025,425	$ 5,932,368	$ 6,925,425	$ 6,317,362
PIKEVILLE	$ 6,491,772	$ 6,914,599	$ 7,253,073	$ 7,243,007	$ 8,275,573	$ 7,659,180
ASHLAND	$ 3,634,886	$ 3,869,757	$ 3,959,467	$ 4,069,880	$ 4,536,967	$ 4,624,326
TOTALS	$ 15,646,294	$ 16,481,258	$ 17,237,965	$ 17,245,255	$ 19,737,965	$ 18,600,868

2011 KY POWER FORESTRY SUMMARY

Circuit #	Circuit Name	Total Cost (O&M and Capital)	Total Line Miles	Miles Planned CUT	Miles Completed CUT	Miles Completed SPRAY	Miles Completed TOTAL	Brush Cut Acres	Brush Spray Acres	Tree Removals	Tree Trims	COMMENTS
2206403	South Neal - Whites Creek Road	$23,171				18.8	18.80	6.30	26.90	1	0	Ground spray application.
3000102	Ashland - 25-29 Street	$356				0.0				3	7	Quality-of-Service Work
3000201	Big Sandy - Fallsburg South	$794,714	156	75	75.0	0.0	75.00	94.24	209.33	12,543	4,522	Full Circuit Reclear. To be completed in 2012
3000202	Big Sandy - Burnaugh North	$6,554				22.3	22.30	0.00	31.80	0	0	Ground spray application.
3000301	Bellefonte - Westwood	$357,923	23	21	23.0	0.0	23.00	6.20	2.00	1,573	1,508	Full Circuit Reclear - COMPLETED
3000303	Bellefonte - Bellefonte	$2,185				0.0				2	2	Quality-of-Service Work
3000701	Graysbranch - Graysbranch	$317,907	66	23	66.0	0.0	66.00	14.85	74.73	3,401	1,296	Full Circuit Reclear - COMPLETED
3000801	Hayward - Halderman	$72,295				0.0				1,518	20	Right-of-Way Widening
3000802	Hayward - Lawton	$56,249				0.0		0.06		1,038		Right-of-Way Widening
3000901	Highland - Russell	$372				0.0						Quality-of-Service Work
3000902	Highland - Flatwoods	$1,946				0.1	0.10		1.26		5	Quality-of-Service Work
3000903	Highland - Wurtland	$4,540				0.0				30	2	Quality-of-Service Work
3001001	Hitchins - Damron Branch	$568				0.0				2	1	Quality-of-Service Work
3001002	Hitchins - Willard	$43,448				80.0	80.00	0.20	112.63	22	11	Ground spray application.
3001003	Hitchins - Grayson	$626				0.0				1	1	Quality-of-Service Work
3001004	Hitchins - EK Road	$3,841				0.0		0.00	0.00	12	0	Quality-of-Service Work
3001101	Hoodscreek - Summitt	$3,312			0.2	0.0	0.20	0.00	0.00	4	3	Quality-of-Service Work
3001102	Hoodscreek - Rural	$962				0.4	0.40		2.97			Ground spray application.
3001201	Howard Collins - 13th St.	$3,780				0.0			2.40	4		Quality-of-Service Work
3001202	Howard Collins - 29th St.	$97,015	13		10.0	0.0	10.00	1.30	0.00	187	570	Full Circuit Reclear. To be completed in 2012
3001203	Howard Collins - Floyd St.	$229				0.0					2	Quality-of-Service Work
3001204	Howard Collins - Summitt	$9,388				8.9	8.90	0.00	12.74	9	0	Ground spray application.
3001401	Louisa - City	$1,713				0.0				4		Quality-of-Service Work
3001402	Louisa - High Bottom	$391				0.0					11	Quality-of-Service Work
3002001	South Shore - Siloam	$9,525				0.0				3	6	Quality-of-Service Work
3002002	South Shore - Distribution	$6,661				0.0			21.60	1	2	Ground spray application.
3003701	Coalton - US 60 W	$9,894				11.4	11.40	0.00	16.22	19	4	Ground spray application.
3003702	Coalton - Cannonsburg	$24,642				17.5	17.50	0.20	23.31	109	79	Ground spray application.
3003703	Coalton - Trace Creek	$7,488				12.3	12.30	0.00	17.52	3	0	Ground spray application.
3007903	Busseyville - Louisa	$17,930			1.9	0.0	1.90	2.40	0.00	73	253	Quality-of-Service Work
3007904	Busseyville - Torchlight	$22,179				36.7	36.70	14.90	52.40	71	12	Ground spray application.
3007905	Busseyville - Mattie	$73,797				23.7	23.70	5.98	29.63	832	987	Ground spray application.
3007906	Busseyville - Walbridge	$107,061				94.0	94.00	0.26	186.01	333	31	Ground spray application.
3008002	47th Street - 39th Street	$111,886	13	11	12.0	0.0	12.00	2.10	2.70	129	353	Full Circuit Reclear - COMPLETED
3008003	47th Street - Catlettsburg	$568				0.0				1	1	Quality-of-Service Work
3008701	Cannonsburg - Cannonsburg	$98,826				15.8	15.80	1.10	22.63	472	361	Ground spray application.
3008702	Cannonsburg - Rt. 3	$286,411				43.3	43.30	3.60	42.29	3,703	888	Ground spray application.
3010601	Russell - Kenwood	$17,774				23.7	23.70	0.00	17.12	18	5	Ground spray application.
3010602	Russell - Bear Run	$6,895				0.0		0.20	6.90	19	1	Quality-of-Service Work
3103101	Olive Hill - Globe	$1,311,042	117	75	109.0	0.0	109.00	35.98	121.00	9,792	6,543	Planned reclearing completed.
3103103	Olive Hill - West Carter Elementary	$16,723				10.2	10.20	0.00	14.41	0	0	Ground spray application.
3110902	Wurtland - Greenup	$18,582			0.2	0.0	0.20	0.80	0.00	289	3	Quality-of-Service Work
3110903	Wurtland - Rt. 503	$509,396	49	40	18.6	0.0	18.60	18.23	16.60	4,239	1,646	Full Circuit Reclear. To be completed in 2012
3116102	Grayson - Dixie Park	$3,706			0.1	0.0	0.10			12	1	Quality-of-Service Work
3116701	Belhaven - Diedrich	$822				0.0				1		Quality-of-Service Work
3116702	Belhaven - Indian Run	$524				0.0				1		Quality-of-Service Work
3116703	Belhaven - Argillite	$1,797				0.0				9	2	Quality-of-Service Work
3117601	Princess - Meade Station	$13,013				27.9	27.90	0.10	39.85	2	1	Ground spray application.
3117602	Princess - Rt. 180	$17,159				23.0	23.00	8.90	50.19	10	0	Ground spray application.

2011 KY POWER FORESTRY SUMMARY

Circuit #	Circuit Name	Total Cost (O&M and Capital)	Total Line Miles	Miles Planned CUT	Miles Completed CUT	Miles Completed SPRAY	Miles Completed TOTAL	Brush Cut Acres	Brush Spray Acres	Tree Removals	Tree Trims	COMMENTS
2150105	Sprigg - Matewan			1	0.0	0.0						Feeder Breaker reclearing deferred
3200201	Barrenshe - Freeburn	$2,489				0.4	0.40		1.70	4		Ground spray application.
3200202	Barrenshe - Vulcan-A	$573,514	49	49	32.9	0.0	32.90	32.69	0.00	9,065	1,841	Full Circuit Reclear. To be completed in 2012
3200204	Barrenshe - Pounding Mill	$5,725			0.3	0.0	0.30	0.30		58	35	Ground spray application.
3200302	Belfry - Toler	$2,510				0.0			0.70	13		Quality-of-Service Work
3201002	Tom Watkins - Distribution-A	$1,711			0.1	0.0	0.10	0.00	0.00	2	0	Quality-of-Service Work
3202201	Lovely - Lovely-A	$16,764			2.9	0.0	2.90	0.60	0.00	133	23	Quality-of-Service Work
3202202	Lovely - Wolf Creek	$5,009			0.4	0.0	0.40	0.30		68	7	Quality-of-Service Work
3300601	Bluegrass - Walkertown	$81,630	28	4	4.0	1.9	5.90	8.50	0.03	1,132	610	2nd Recloser Zone - COMPLETED
3300602	Bluegrass - Hazard	$6,887				0.0		0.27	0.02	144	42	Quality-of-Service Work
3301101	Chavies - Chavies	$7,256				2.7	2.70	2.20	2.49	55	6	Ground spray application.
3301401	Combs - Combs	$88,928	9	9	9.3	1.8	11.10	12.43	6.17	2,136	443	Full Circuit Reclear - COMPLETED
3301402	Combs - Airport Garden	$564,652	41	41	41.0	2.0	43.00	65.13		9,278	1,885	Full Circuit Reclear - COMPLETED
3301701	Daisy - Leatherwood	$2,057				0.0						
3302701	Hazard - Black Gold	$75,319	44	3	2.5	38.8	41.30	11.08	75.64	1,524	265	Quality-of-Service Work & Ground spray application.
3302702	Hazard - Lothair	$994				0.0			0.06			
3302703	Hazard - Hazard	$14,048				12.0	12.00	0.09	30.76	12		Ground spray application.
3302704	Hazard - Kenmont	$9,751				0.0			0.19	53	6	Quality-of-Service Work
3303901	Leslie - Hyden	$10,589				0.6	0.60			273		Ground spray application.
3303902	Leslie - Wooton	$11,068		4	0.3	0.0	0.30	0.75		191	31	Quality-of-Service Work
3303903	Leslie - Hals Fork	$84,455			0.9	0.0	0.90	0.10		3,328	102	Quality-of-Service Work
3307301	Bulan - Ary-Heiner	$5,426				0.6	0.60	0.01	0.74	56	5	Ground spray application.
3307302	Bulan - Ajax-Dwarf	$6,755				1.1	1.10	0.05	6.19	16	2	Ground spray application.
3307303	Bulan - Lotts Creek	$2,280				0.0	0.00	0.00	1.02	0	0	Quality-of-Service Work
3308001	Jackson - South Jackson	$9,248			0.4	0.0	0.40	0.74		66	89	Quality-of-Service Work
3308401	Beckham - Hindman	$934,029	83	75	55.0	3.7	58.70	161.22	9.86	14,866	3,459	Full Circuit Reclear. To be completed in 2012
3308402	Beckham - Carr Creek	$45,446			5.3	0.0	5.30	4.77		1,486	112	Tree work to address reliability issues on Irishman's Ck - COMPLETED
3308502	Bonnyman - Hazard	$17,346				2.5	2.50	1.35	7.86	93	20	Ground spray application.
3308503	Bonnyman - Big Creek	$25,787				3.8	3.80	0.74	9.33	79	28	Ground spray application.
3308601	Collier - Upper Rockhouse	$2,198				0.3	0.30	0.20	0.06	37	9	Ground spray application.
3308602	Collier - Lower Rockhouse	$501,489	70	70	24.8	0.0	24.80	101.14	16.33	7,631	1,832	Full Circuit Reclear. To be completed in 2012
3308603	Collier - Smoot Creek	$3,192				0.1	0.10		1.05	11	2	Ground spray application.
3309001	Jeff - Viper	$113,616		7	7.0	0.4	7.40	19.32	0.07	3,700	474	Tree work to address reliability issues on Mace's Ck - COMPLETED
3309002	Jeff - Jeff	$1,799				0.0				5		Quality-of-Service Work
3309101	Whitesburg - Whitesburg	$10,413				0.0			1.12	57		Quality-of-Service Work
3309102	Whitesburg - Hospital	$52				0.0			0.02			Quality-of-Service Work
3309103	Whitesburg - Cowan	$4,237				1.4	1.40	0.00	2.32	10	4	Ground spray application.
3309104	Whitesburg - Crafts Colley	$415,241	27	15	15.0	0.0	15.00	62.01	0.93	5,274	2,065	Full Circuit Reclear - COMPLETED
3309301	Vicco - Red Fox	$34,717				0.7	0.70	2.35		480	103	Ground spray application.
3309302	Vicco - Jeff	$21,218			2.3	0.0	2.30	7.72		778	66	Quality-of-Service Work
3309901	Slemp - Defeated Cr.	$752				0.0						
3309902	Slemp - Leatherwood	$2,575				0.0				9	16	Quality-of-Service Work
3310501	Haddix - Quicksand	$103,155				91.2	91.20	0.77	152.02	147	15	Ground spray application.
3310502	Haddix - Canoe	$11,715				0.0		0.26		46	12	Quality-of-Service Work
3311101	Stinnett - Redbird	$1,572,314	116	116	106.0	0.1	106.10	255.82	25.99	32,726	7,511	Full Circuit Reclear. To be completed in 2012
3311102	Stinnett - Beech Fork	$190,287	10	10	10.0	0.0	10.00	27.72		5,654	773	Full Circuit Reclear - COMPLETED
3311103	Stinnett - Wendover 35kV	$3,204			0.1	0.0	0.10			4	28	Quality-of-Service Work
3311401	Reedy - Deane	$435,691	59	11	16.0	4.6	20.60	48.59	1.55	5,232	1,267	Full Circuit Reclear. To be completed in 2012
3311701	Shamrock - Shamrock	$2,980				0.3	0.30	1.20		187	15	Ground spray application.

2011 KY POWER FORESTRY SUMMARY

Circuit #	Circuit Name	Total Cost (O&M and Capital)	Total Line Miles	Miles Planned CUT	Miles Completed CUT	Miles Completed SPRAY	Miles Completed TOTAL	Brush Cut Acres	Brush Spray Acres	Tree Removals	Tree Trims	COMMENTS
3312201	Engle - Industrial Park 34.5	$691				0.0						
3312202	Engle - Grapevine 34.5	$25,081				6.1	6.10	3.45	12.47	25	12	Ground spray application.
3312901	Jenkins - Kona	$33,842			0.8	0.0	0.80	3.51		934	92	Began Full Circuit Reclear. To be completed in 2012.
3314401	Mayking - Ermine	$69,124				26.9	26.90	8.65	51.72	234	113	Ground spray application.
3314402	Mayking - Millstone	$375,808	47	8	8.0	3.2	11.20	34.37	1.53	3,885	1,213	Full Circuit Reclear - COMPLETED. Began in 2010.
3400101	Allen - Distribution	$72,417	27	5	5.0	9.2	14.20	9.47	37.50	803	204	Full Circuit Reclear - COMPLETED. Began in 2010.
3400301	Betsy Layne - Mud Creek	$220,153		8	6.9	0.0	6.90	5.77	0.68	2,610	591	Toler Creek conversion project. Tree work COMPLETED
3400302	Betsy Layne - Tram 12 KV	$11,381				8.7	8.70		14.17	14	7	Ground spray application.
3400303	Betsy Layne - Harold	$121,331		3	3.1	6.3	9.40	2.20	9.54	961	238	Penhook conversion project. Tree work COMPLETED
3400601	Burton - Ligon	$256				0.0					1	Quality-of-Service
3400702	Draffin - Yellow Hill	$348,513	12	6	6.0	5.9	11.90	11.66	0.00	3,930	297	Full Circuit Reclear - COMPLETED
3400901	Elkhorn City - City	$6,274				0.2	0.20		0.32	6		Ground spray application.
3400902	Elkhorn City - Grassy	$92,939		2	2.2	0.0	2.20	29.12	0.00	1,759	89	Feeder Breaker Zone reclear - COMPLETED
3401001	Elwood - Dorton	$229,370	44	44	44.0	0.0	44.00	55.21	0.70	461	2,378	BID JOB. Full Circuit Reclear - COMPLETED
3401002	Elwood - Virgie	$325,799	69	69	69.0	0.0	69.00	792.31	0.00	8,136	3,229	BID JOB. Full Circuit Reclear - COMPLETED
3401101	Falcon - Oil Springs	$971				0.0		0.25		41	5	Quality-of-Service Work
3401102	Falcon - Salyersville	$4,133			0.1	0.0	0.10			13	3	Quality-of-Service Work
3401301	Fleming - Neon	$2,564				0.0				8	12	Quality-of-Service Work
3401702	Henry Clay - Regina	$69,951				25.6	25.60	1.20	44.21	531	86	Ground spray application.
3401703	Henry Clay - Ashcamp	$28,136				13.2	13.20		19.95	3		Ground spray application.
3401801	Index - Distribution	$913				0.0				20		Quality-of-Service Work
3401802	Index - Hospital	$916			0.1	0.0	0.10			2	3	Quality-of-Service Work
3402001	Keyser - Mullins	$3,595				0.3	0.30	0.11	0.40	60	1	Ground spray application.
3402002	Keyser - Stonecoal	$20,760				2.1	2.10	0.11	5.30	100	2	Ground spray application.
3402202	McKinney - Gibson	$4,297				1.3	1.30		1.99	18	1	Ground spray application.
3402204	McKinney - Maytown	$7,753				8.7	8.70	1.59	12.98			Ground spray application.
3402802	Paintsville - Nippa	$1,748				0.0				7		Quality-of-Service Work
3403001	Pikeville - City	$786				0.0					2	Quality-of-Service Work
3403003	Pikeville - Cedar Creek	$21,751			0.5	0.0	0.50	0.00		174	30	Quality-of-Service Work
3403201	Beaver Creek - Ligon	$2,710				0.0		0.00		0	0	
3403301	Prestonsburg - City	$456				0.0					2	Quality-of-Service Work
3403701	Russell Fork - Little Beaver	$160,204			4.8	0.0	4.80	8.98	5.01	1,642	201	Rt Fk Little Beaver Ck reconductoring project.
3403801	Second Fork - Distribution	$27,545		1	1.0	1.1	2.10	5.19		716	1	Feeder Breaker Zone - tree work COMPLETED
3404301	Sidney - Big Creek	$2,042				0.0				7		Quality-of-Service
3404302	Sidney - Coburn Mtn.	$220,469	49	15	15.0	29.5	44.50	17.20	66.20	2,862	490	Full Circuit Reclear - COMPLETED. Began in 2010.
3407101	Topmost - Dema	$7,213				4.4	4.40	0.07	7.16	8	7	Ground spray application.
3407103	Topmost - Kite	$346				0.0						
3408103	Salisbury - Martin	$21,091				12.8	12.80		21.55	21		Ground spray application.
3408303	Coleman - Peter Creek	$7,939	72	28	0.0	6.9	6.90		11.50	7	6	Reclearing deferred
3408401	Kimper - Long Fork	$14,706			0.6	0.0	0.60	0.31		113	42	Quality-of-Service Work
3408402	Kimper - Grapevine	$734				0.0				4		Quality-of-Service Work
3409001	W. Paintsville - Paintsville	$787				0.7	0.70		1.18			Ground spray application.
3409002	W. Paintsville - Staffordsville	$5,531				7.6	7.60		12.71			Ground spray application.
3409301	Kenwood - W Van Lear	$1,786				2.5	2.50		4.12			Ground spray application.
3409302	Kenwood - Auxier	$1,528				0.0		0.10		12	4	Quality-of-Service Work
3409303	Kenwood - Hagerhill	$624,831	51	51	46.0	5.0	51.00	69.60	33.27	10,907	2,232	Full Circuit Reclear. To be completed in 2012
3409401	Feds Creek - Feds Creek	$599,073	41	10	9.9	0.0	9.90	35.58	8.91	5,775	712	Full Circuit Reclear - COMPLETED
3409402	Feds Creek - Lick Creek	$848				0.0						
3409502	Burdine - Levisa Stone	$431,270	39	39	16.6	0.0	16.60	90.64	19.91	4,081	1,663	Full Circuit Reclear. To be completed in 2012
3410501	So. Pikeville - Pikeville	$1,162		1	0.0	0.0						Deferred until early 2012
3410502	So. Pikeville - Island Creek	$6,963			0.7	0.0	0.70		1.80	23	2	Quality-of-Service Work
3411401	Dewey - Inez-A	$840,825	169	30	30.0	11.3	41.30	79.20	17.43	12,628	2,843	Lower Rockcastle Ck reliability issues - COMPLETED
3411801	Johns Creek - Meta	$41,148		5		2.9	2.90	0.54	10.58	524	34	Ground spray application.

2011 KY POWER FORESTRY SUMMARY

Circuit #	Circuit Name	Total Cost (O&M and Capital)	Total Line Miles	Miles Planned CUT	Miles Completed CUT	Miles Completed SPRAY	Miles Completed TOTAL	Brush Cut Acres	Brush Spray Acres	Tree Removals	Tree Trims	COMMENTS
3411802	Johns Creek - Raccoon	$27,865		5		0.8	0.80	1.50	0.90	326	79	Ground spray application.Grassy Ck conversion project CANCELED
3411901	Fords Branch - Shelby	$820,759	39	39	31.0	0.0	31.00	48.24	1.37	9,712	1,534	Full Circuit Reclear. To be completed in 2012
3411902	Fords Branch - Robinson Ck	$782,372	56	40	33.3	0.0	33.30	34.74	15.98	8,551	1,695	Full Circuit Reclear. To be completed in 2012
3413401	Garrett - Garrett	$21,197				18.5	18.50	3.28	27.45			Ground spray application.
3413402	Garrett - Lackey	$16,284				12.2	12.20		20.27			Ground spray application.
3414901	Fishtrap - Distribution	$52,334	5	5	3.1	0.0	3.10	5.51		1,569	17	Full Circuit Reclear. To be completed in 2012
3417601	New Camp - South Side	$1,797				0.0				10		Quality-of-Service Work
3417602	New Camp - Arh-W Wmsn.	$1,115				0.0				14	7	Quality-of-Service Work
3420001	Softshell - Vest	$843		9	0.1	0.0	0.10			4	14	Second Zones - tree work DEFERRED
3420002	Softshell - Leburn	$690		3		0.0						Recloser Zone, Possum Trot/Wiley Br - DEFERRED
2970603	Hurley - Race Fork	$130,849	6	6	5.9	0.0	5.90	10.80		1,592	77	Full Circuit Reclear. To be completed in 2012
	Sum:	$17,518,870		1092	996	875	1,871.10	2,418.78	2,012.12	232,457	62,614	

Kentucky Power Company				
2012				
Distribution Vegetation Management O&M Forestry Plan-Summary				
ACTIVITY	*Total O&M*	*Pikeville*	*Hazard*	*Ashland*
RECLEARING	$14,566,100	$6,495,500	$4,974,600	$3,096,000
GROUND SPRAY	$1,143,565	$350,000	$527,565	$266,000
AERIAL SPRAY	$0	$0	$0	$0
AERIAL SAW	$0	$0	$0	$0
Unscheduled/Reactive Maintenance	$818,529	$235,138	$212,655	$370,736
CONTRACT FORESTERS	$270,000	$90,000	$90,000	$90,000
STUMP GRINDING PROGRAM	$4,000	$0	$0	$4,000
TREE REPLACEMENT PROGRAM	$10,000	$0	$6,000	$4,000
KPI INCENTIVE PROGRAM-Asplundh Field Personnel	$221,771	$73,924	$73,924	$73,923
INTERNAL-Existing KY Forestry Staff	$204,000	$68,000	$68,000	$68,000
TOTAL	$17,237,965	$7,312,562	$5,952,744	$3,972,659
September 30, 2009 O&M Test Year Level	$7,237,965			
Settlement O&M Incremental Level	$10,000,000			
Total Annual O&M Distribution Vegetation	$17,237,965			
Forestry Capital	$2,550,000			
Total KYPCO Forestry Budget	$19,787,965			
	Reclearing, Aerial Saw and Spray Miles			
Pikeville	670			
Hazard	887			
Ashland	442			
Total	1,999			

2012 KYPCO DISTRIBUTION VEGETATION MANAGEMENT PLAN

RECLEARING PLAN

DISTRICT	STATION NAME	CIRCUIT NAME	CIRCUIT NUMBER	LINE MILES	MILES PLANNED	O&M	Forestry Capital associated with Reclearing	PROJECTED O&M COST per MILE	TOTAL COST	COMMENTS
PKV	Burton	Wheelwright	3400602	21.0	21.0	$315,000	$53,550	$15,000	$368,550	Full Circuit Reclear
PKV	Weeksbury	Distribution	3412901	30.0	30.0	$540,000	$91,800	$18,000	$631,800	Full Circuit Reclear
PKV	Salisbury	Printer	3408101	20.0	20.0	$300,000	$51,000	$15,000	$351,000	Full Circuit Reclear
PKV	Salisbury	Martin	3408103	46.0	5.5	$82,500	$14,025	$15,000	$96,525	Partial Circuit Reclear - Bucks Branch
PKV	Salisbury	Black Diamond	3408102	1.5	1.5	$16,000	$2,720	$10,333	$18,720	Full Circuit Reclear
PKV	Lovely	Lovely	3202201	41.0	41.0	$738,000	$125,460	$18,000	$863,460	Full Circuit Reclear
PKV	Burdine	Levisa	3409502	39.0	22.0	$330,000	$56,100	$15,000	$386,100	finish Full Circuit Reclear started in 2011
PKV	Draffin	Belcher	3400701	22.0	22.0	$330,000	$56,100	$15,000	$386,100	Full Circuit Reclear
PKV	S. Pikeville	Island Creek	3410502	39.0	39.0	$702,000	$119,340	$18,000	$821,340	Full Circuit Reclear
PKV	Betsy Layne	Mud Creek	3400301	77.0	69.0	$1,035,000	$175,950	$15,000	$1,210,950	Full Circuit Reclear
PKV	Beaver Creek	Ligon	3403201	80.0	21.0	$315,000	$53,550	$15,000	$368,550	begin Full Circuit Reclear (Tinker Fk & Branhams Ck) to be completed in 2013
PKV	Barrenshe	Vulcan	3200202	42.0	9.0	$135,000	$22,950	$15,000	$157,950	finish Full Circuit Reclear started in 2011
PKV	Fords Branch	Shelby	3411901	40.0	9.0	$162,000	$27,540	$18,000	$189,540	finish Full Circuit Reclear started in 2011
PKV	Fords Branch	Robinson Creek	3411902	75.0	20.0	$360,000	$61,200	$18,000	$421,200	finish Full Circuit Reclear started in 2011
PKV	Johns Creek	Meta	3411801	158.0	30.0	$540,000	$91,800	$18,000	$631,800	Hedge Rd. Recloser and Bent Branch Recloser Zones (Includes taps and Joes Crk)
PKV	Burton	Ligon	3400601	21.0	21.0	$315,000	$53,550	$15,000	$368,550	Full Circuit Reclear
PKV	Prestonsburg	University	3403301	14.0	14.0	$252,000	$42,840	$18,000	$294,840	Full Circuit Reclear
PKV	Kenwood	Hagerhill	3409303	53.0	2.0	$28,000	$4,760	$14,000	$32,760	finish Full Circuit Reclear started in 2011
HAZ	Collier	Lower Rockhouse	3308602	70	35	$350,000	$63,000	$10,000	$413,000	Full Circuit Reclear
HAZ	Stinnett	Redbird	3311101	116	15	$150,000	$27,000	$10,000	$177,000	Full Circuit Reclear
HAZ	Beckham	Hindman	3308401	83	20	$200,000	$36,000	$10,000	$236,000	Full Circuit Reclear
HAZ	Stinnett	Wendover	3311103	36	36	$360,000	$64,800	$10,000	$424,800	Full Circuit Reclear
HAZ	Leslie	Hals Fork	3303903	77	77	$770,000	$138,600	$10,000	$908,600	Full Circuit Reclear
HAZ	Bonnyman	Big Creek	3308503	86	86	$850,600	$153,108	$10,000	$1,003,708	Full Circuit Reclear
HAZ	Bulan	Ary Hiner	3307301	45	45	$450,000	$81,000	$10,000	$531,000	Full Circuit Reclear
HAZ	Jenkins	Kona	3312901	30	30	$304,000	$54,720	$10,000	$358,720	Full Circuit Reclear
HAZ	Whitesburg	Whitesburg	3309101	10	10	$95,000	$17,100	$9,500	$112,100	Full Circuit Reclear
HAZ	Hazard	Kenmont	3302704	30	30	$285,000	$51,300	$9,500	$336,300	Full Circuit Reclear
HAZ	Reedy	Deane	3311401	58	40	$380,000	$89,596	$9,500	$469,596	Full Circuit Reclear
HAZ	Beckham	Carr Creek	3308402	103	50	$500,000	$90,000	$10,000	$590,000	begin Full Circuit Reclear - To be completed in 2013
HAZ	Leslie	Wooton	3303902	150	28	$280,000	$71,595	$10,000	$351,595	begin Full Circuit Reclear - To be completed in 2013
ASH	47th Street	49th Street	3008001	26	26	$312,000	$37,440	$12,000	$349,440	Full Circuit Reclear
ASH	47th Street	39th Street	3008002	13	5	$60,000	$7,200	$12,000	$67,200	Full Circuit Reclear - Carry over from 2011
ASH	Howard Collins	29th Street	3001202	13	5	$60,000	$7,200	$12,000	$67,200	Full Circuit Reclear - Carry over from 2011
ASH	Hoods Creek	Summit	3001101	23	23	$276,000	$33,120	$12,000	$309,120	Full Circuit Reclear
ASH	10th Street	West Central	3002107	17	3	$36,000	$4,320	$12,000	$40,320	Full Circuit Reclear - Partial to be completed in 2013
ASH	Wurtland	Route 503	3110903	48	28	$336,000	$40,320	$12,000	$376,320	Full Circuit Reclear - Carry over from 2011
ASH	Wurtland	Greenup	3110902	49	26	$312,000	$37,440	$12,000	$349,440	Full Circuit Reclear - Partial to be completed in 2013
ASH	Cannonsburg	Route 3	3008702	100	70	$840,000	$100,800	$12,000	$940,800	Full Circuit Reclear
ASH	Hayward	Haldeman	3000801	118	10	$120,000	$14,400	$12,000	$134,400	Full Circuit Reclear - Partial to be completed in 2013
ASH	Big Sandy	Fallsburg South	3000201	158	62	$744,000	$89,280	$12,000	$833,280	Full Circuit Reclear - Carry over from 2011
	RECLEARING TOTALS		Totals	2279	1157	$14,566,100	$2,413,574		$16,979,674	

DISTRIBUTION VEGETATION MANAGEMENT SPRAY PLAN
KYPCO 2012

DISTRICT	SPRAY MILES	ACRES	O&M BUDGET
PKV	273	800	$350,000
HAZ	385	1100	$527,565
ASH	184	540	$266,000
Totals	842	2440	$1,143,565

Term Definitions used in Kentucky Power Forestry Summary

Feeder Breaker Zone
Synonymous with Station Zone. Segment of line extending from the circuit station breaker to the first operating device. This zone includes unfused taps, but does not include fused taps.

Full Circuit Reclear
Entire circuit from the station breaker to the end of the circuit.

Recloser Zone
Line segment extending from a specific recloser to the next operating device. This zone includes unfused taps, but does not include fused taps.

Partial Reclear
A portion of the circuit is planned for reclearing.

BID JOB
Planned reclearing work released as an open, lump-sum bid for competing contractors.

Finish Full Circuit Reclear
Reclearing scheduled to complete Full Circuit Reclear that began in the previous year.

2nd Recloser Zone
Line segment beginning at the second operating device beyond the station circuit breaker extending to the next operating device. This zone includes unfused taps, but does not include fused taps.

Quality-of-Service Work
Tree trimming or removal work scheduled for a line segment to address reliability issues. This work does not conform to reclearing specifications (e.g.-Hotspotting).

Kentucky Power Company

5-Year System Performance

(Excluding Major Events as defined by IEEE Std 1366)

Calendar Year	SAIFI	CAIDI	SAIDI
2007	2.276	146.9	334.2
2008	2.904	170.9	496.3
2009	2.556	194.5	497.1
2010	2.470	169.4	418.4
2011	3.085	195.4	602.8

The increase in SAIDI for 2011 is largely attributed to the extraordinary weather experienced during the year. This is evidenced by the fact that 2011 was a record year for precipitation in eastern Kentucky as we experienced a record level of 62.46 inches (NWS at Huntington, WV) or 48% above the average annual precipitation of 43.1 inches.

Since there was plenty of moisture to support tree growth, we did experience an increase of outages and SAIDI for "Vegetation Inside R/W" outage cause. With the additional rain saturating the ground, we also experienced a large increase in trees uprooting and falling into the line as well as trees sliding down the mountain into the line.

In addition, rainy weather has an influence on the failed equipment outages. Cutout failures are the biggest contributor to failed equipment. It has been demonstrated that most defective cutouts will cause outages after rain has dampened the pole and hardware.

Kentucky Power Company
2011 Worst Performing Circuits
Analysis of Causes/Corrective Actions

Ashland District

Big Sandy Station – Fallsburg South 12kV Circuit (3000201 – SAIFI #7)

Over 71% of the Total Customers Interrupted (SAIFI) can be accounted for due to four cause codes for this circuit: Animal – Bird (12.7%), Equipment Failure (15.6%), Tree Out of Right-of-Way (29.7%), and Error – Field (13.9%).

A majority of the SAIFI on this circuit can be attributed to 4 individual outages. These were: a turkey flying into our line; a station regulator failure; an accidental tripping of a circuit by station personnel; and a tree out of the R/W. These four outages alone accounted for 58.8% of this circuit's SAIFI in 2011.

Actions taken: A full circuit R/W re-clear will be completed in 2012. No other reliability work is being undertaken at this time.

Busseyville Station – Walbridge 34.5kV Circuit (3007906 – SAIDI #6, SAIFI #8)

Busseyville/Walbridge circuit had a SAIFI of 7.156, a CAIDI of 227.1, and a SAIDI of 1624.82. The major contributors to these indices are Equipment Failure and Tree Out of Right-of-Way.

Actions taken: In late 2011 several improvements were completed that should improve the reliability for this circuit. All of the three phase main line R/W has been sprayed, except for yard trees and refusals. Additional sectionalizing has been installed at various locations, including the station breaker zone.

In 2012 two additional devices will be added to the Distribution Automation Scheme already in place on this circuit. This will help to reduce the number of customers exposed to any one outage. No other work is presently being planned for this circuit in 2012.

Kentucky Power Company

2011 WORST PERFORMING CIRCUITS

Analysis of Causes/Corrective Actions

Hazard District

Slemp Station – Leatherwood 34.5kV Circuit (3309902 – SAIDI #1)

The Slemp Leatherwood circuit has proven to be fairly reliable in the past, however in 2011, this circuit has experienced a series of not readily anticipated events causing it to be the worst performing circuit for SAIDI. The chart below lists the top three circuit outages based on CMI (customer minutes interrupted).

Date	Cause	Total Duration (min)	Customers Affected	Total CMI
9/6/2011	Tree Out ROW	1462	730	537522
4/25/2011	Weather-High Winds	1062	620	308366
4/20/2011	Vehicle Accident (Non AEP)	416	736	203948

The first outage was caused by a large tree out of ROW, which fell across the line. This caused damage to several poles. Our crews worked around the clock repairing the damage caused by the tree. This outage alone accounts for over 35% of the total CMI accrued by the Slemp Leatherwood circuit in 2011.

The second outage was caused when high winds blew a trampoline into the line, resulting in phase to phase contact. This led to the conductors burning down. The last outage in the chart above resulted when a customer hit one of our poles with their vehicle breaking a double circuit pole. These three outages alone account for almost 70% of the total CMI experienced by the Slemp Leatherwood circuit.

Corrective Actions:
Our work plan for 2012 includes construction of a tie line connecting the Leslie Wooton and the Slemp Leatherwood circuits. When completed this tie line will allow for partial restoration from the other source for many outages and will aid in reducing the SAIDI experienced by this circuit.

Hazard Station – Blackgold 34.5kV Circuit (3302701 – SAIFI #1)

The Hazard Blackgold station has experienced several outages that have occurred in the first breaker zone as well as numerous company scheduled outages. Below is a table showing the top two factors that have impacted the most customers.

Cause	Occurences	Customers Affected	Total CMI
Scheduled Company	5	1231	48318
Unknown (Non Weather)	3	1040	173640

The causes listed above account for a little more than 43% of the Total Customers Affected by outages occurring on the Hazard Blackgold circuit in 2011.

The scheduled outages were performed in order to prevent the customers from experiencing longer forced outages in the future. One instance in particular occurred because the station breaker was opened to perform maintenance on the station. The number of potential outages has been reduced by repairs and upgrades made during scheduled outages on this circuit.

Corrective Actions:
Each of the unknown (non weather) outages occurred within the first recloser zone. It was determined that a sectionalizer was failing to operate when a fault occurred beyond the device. This resulted in a first zone recloser operation that impacted an increased number of customers. This sectionalizer was replaced in late 2011 by an electronic recloser.

Due to the work that has already been completed on this circuit in 2011, there are no plans for future improvements at this time.

Haddix Station – Canoe 34.5kV Circuit (3310502 – SAIFI #2, SAIDI #7)

In 2011 the Haddix Canoe Circuit suffered from six outages that involved either the circuit breaker or the first zone recloser. These outages are summarized in the table below.

Date	Cause	Clearing Device	Customers Affected	Total CMI
5/25/2011	Weather Lightning	Station Breaker	1206	289440
5/26/2011	Scheduled Company	Station Breaker	1203	57744
7/10/2011	Vine	Station Breaker	1199	128164
12/30/2011	Tree Out of ROW	Station Breaker	1196	367858
10/26/2011	Weather Unknown	Station Breaker	1189	147436
1/26/2011	Tree Inside ROW	Recloser	900	245414

The scheduled outage only lasted 48 minutes and was initiated to safely perform work on the line. This was done to prevent a longer outage at a later time. There were also a couple of additional outages resulting from unpredictable weather related situations.

Other events effecting Haddix Canoe included a tree out of ROW and two weather-related events. These three outages account for a little over 41% of the total CMI experienced by this circuit.

Corrective Actions:
A portion of the Haddix Canoe circuit is included in the Hazard district's distribution automation plan for the Buckhorn area. With the aid of precise electronic devices, Chavies Chavies will have the ability to automatically pick up load from the Haddix Canoe circuit in the event that power is lost in particular areas (and vise versa). Customers will only experience a momentary outage during automated switching once this system is on-line. This automation project is in the final steps of implementation and will be on-line in 2012 and will help to reduce both SAIFI and SAIDI.

Vegetation management does implement a plan each year to address vines on all circuits, regardless of scheduled work. During vine growing season, several crews are dedicated to cutting, clearing, and treating known as well as new vine locations. Portions of the Haddix Canoe circuit are included in this plan. No additional improvements are proposed at this time.

Stinnett Station – Redbird 34.2kV Circuit (3311101 – SAIDI #3)

The Stinnett Redbird circuit is a large circuit serving approximately 1400 customers. Within the first mile from Stinnett, there are normally open circuit ties with the Stinnett Wendover 34.5kV circuit. Beyond this point, the Stinnett Redbird circuit is entirely radial. About two thirds of the customers on this circuit branch to the southeast direction, while the remaining customers branch to the south. The table below lists the major causes contributing to this circuit being listed as a worst performing circuit for SAIDI.

Cause	Occurences	Customers Affected	Total CMI
Tree out of ROW	23	2056	1047504
Tree inside ROW	44	3579	929986

Trees out of ROW account for a little over 41% of the total CMI, while Trees inside ROW account for almost 37% of the total CMI experienced by the Stinnett Redbird circuit.

Corrective Actions:
Our work plan for 2012 includes construction of a tie line running approximately 4.3 miles to tie the two main branches of the circuit together. This will give us the ability to quickly restore power to roughly 800 customers, if necessary. This increased potential for a partial restoration will aid in reducing the SAIDI experienced by this circuit.

In 2011, Hazard Forestry began a full circuit re-clear of the Sinnett Redbird circuit. This work is expected to be finished in early 2012. This includes clearing the main line as well as the side taps, and eliminating 'Danger Trees' outside of the ROW that pose a threat of falling onto the power lines. Tree related outages experienced by this circuit will be addressed with this re-clear, and is expected to significantly reduce tree related outages.

Leslie Station – Halsfork 34.5kV Circuit (3303903 -- SAIFI #3, SAIDI #4)

Leslie Halsfork is a fairly large circuit, serving approximately 1100 customers. Within the first few miles from Leslie Station, there are normally open circuit ties with the Leslie Hyden 34.5 circuit. Beyond this point, the Leslie Halsfork circuit is entirely radial. The table below lists the major factors contributing to this circuit being listed as a worst performing circuit on both the SAIDI and the SAIFI lists for 2011.

Cause	Occurences	Customers Affected	Total CMI
Equipment Failure	18	4851	756527
Tree out of ROW	24	1977	712088
Tree inside ROW	13	1263	367374

Of the outages experienced by Leslie Halsfork, five occurred within the first breaker zone and five occurred in the first recloser zone. Equipment failure accounts for almost 48% of the total customers affected, and a little over 39% of the total CMI. Trees out of ROW account for a little over 37% of the total CMI, while Trees inside ROW account for a little over 19% of the total CMI experienced by the Leslie Halsfork Circuit.

Corrective Actions:
Several miles of the Leslie Halsfork circuit was rebuilt due to deteriorating conductors in early to mid 2011. During this rebuild process, several cutouts, insulators, and other devices were replaced or upgraded with newer material. This is expected to eliminate some of the equipment failures experienced by this circuit.

In 2012, Hazard forestry plans to implement a full circuit re-clear on the Leslie Halsfork circuit. A large portion of the tree related outages experienced by this circuit are addressed in this plan, and is expected to significantly reduce tree related outages.

Additionally, more reconductor work will be performed on the Leslie Halsfork circuit. This work will involve replacing roughly 6kF of #4 copper conductor that has been deteriorating due to age. This work will also include replacing or upgrading cutouts, insulators, and other hardware as needed.

Furthermore, we plan to begin work on a distribution automation (DA) system that will automatically switch customers to a different feed in the event of an outage. This DA project will link together the Leslie Halsfork, Leslie Hyden, and the Stinnett Wendover circuits. The DA project will greatly benefit the Leslie Halsfork circuit in the event of a feeder breaker outage. Very few customers will see a long term outage in these events (in which we had five feeder breaker outages in 2011 alone) after this system is implemented. This DA project, which is scheduled to be in service in the fourth quarter of 2012, is expected to greatly reduce the SAIDI and SAIFI for this circuit.

Given that equipment failure accounts for a large number of the outages on the Leslie Halsfork circuit, we will patrol this area in 2012 using our EMI detecting equipment and the infrared camera to help locate potentially failing equipment.

Leslie Station – Wooton 34.5kV Circuit (3303902 -- SAIDI #5)

The Leslie Wooton Circuit is a fairly large circuit serving over 1800 customers. This circuit has experienced multiple tree related outages in 2011. A little under 59% of the CMI can be attributed to trees out of ROW, and a little over 21% can be attributed to trees in ROW. The chart below summarizes these outages.

Cause	Occurences	Customers Affected	Total CMI
Tree out of ROW	42	3175	1794158
Tree inside ROW	43	2323	651313

Corrective Actions:
Our work plan for 2012 includes construction of a tie line connecting the Leslie Wooton and the Slemp Leatherwood circuits. This will give us the potential to restore customers from the Slemp Leatherwood circuit for many outages, thus reducing SAIDI.

Furthermore, in 2012, the Hazard Forestry plans to begin a total circuit re-clear of the Leslie Wooton circuit. This re-clear work will carry over and will be completed in 2013. Tree related outages impacting this circuit will be addressed in this re-clear, and is expected to significantly reduce tree related outages.

Chavies Station – Chavies 12.47kV Circuit (3301101 – SAIDI #8)

The Chavies Chavies circuit is one of our smaller circuits that runs through remote areas. Trees out of ROW and Weather-Lightning are leading factors of outages that impact this circuit. Trees out of ROW contribute to a little less than 47% of the CMI experienced by the Chavies Chavies circuit. Weather-lighting outages contribute to a little less than 23% of the CMI. These outages are unpredictable by nature. The table below summarizes these outages.

Cause	Occurences	Customers Affected	Total CMI
Tree out of ROW	18	1453	533943
Weather Lighting	5	199	260623

Corrective Actions:
The Chavies Chavies circuit is also part of Hazard's distribution automation plan for the Buckhorn area. With the aid of precise electronic devices, the Haddix Canoe circuit will automatically pick up load from the Chavies Chavies circuit in the event that power is lost in particular areas (and vise versa). This quick restoration process will reduce the

customer minutes interrupted, thus reducing the SAIDI for this circuit. This automation project is in its final steps of implementation and will be on-line in 2012.

Bulan Station – Ajax Dwarf 12.47kV Circuit (3307302 – SAIFI #10, SAIDI #10)

Many problems experienced by the Bulan Ajax Dwarf circuit are attributed to a combination of tree related outages and equipment failures. A little over 49% of the CMI result from trees out of ROW and a little over 35% can be attributed to equipment failures. The table below summarizes these outages. Almost half the equipment failure outages experienced by this circuit have been traced back to cutout failures.

Cause	Occurences	Customers Affected	Total CMI
Tree out of ROW	15	1785	663205
Equipment Failure	23	1172	305918

Corrective Actions:
Given that equipment failures account for a large number of the outages on the Bulan Ajax Dwarf circuit, we will patrol this circuit in 2012 using our EMI detecting equipment and the infrared camera to help locate potentially failing equipment. As part of Hazard's cutout replacement plan, we will look at and replace cutouts as needed on this circuit.

In the first couple weeks of January 2012, a tie line was created between the Shamrock Shamrock and the Bulan Ajax Dwarf circuits. This tie line gives us the potential to restore customers in the event of an outage, thus reducing SAIDI.

Hazard forestry has tentatively scheduled this circuit for regular maintenance and full re-clear for 2013.

Kentucky Power Company

2011 WORST PERFORMING CIRCUITS

Analysis of Causes/Corrective Actions

Pikeville District

Johns Creek Station – Meta 34kV Circuit (3411801) (SAIDI #2, SAIFI #4)

The Johns Creek-Meta Circuit is on both the SAIDI and SAIFI worst performing circuits list. This circuit serves 2,172 customers via 183.23 miles of total line. There is only one point where this circuit ties to another circuit and that is close to the station. There were 168 outages on this circuit in 2011 with the major causes being Tree Out of ROW and Tree Inside ROW. These causes contributed 68% of the total Customer Minutes Interrupted (CMI) related to this circuit during 2011.

Corrective Actions

1. The Forestry Department has scheduled 30 miles of line for re-clearing in 2012. This plan will greatly aid in the prevention of tree related outages that have occurred in the feeder breaker zone.
2. A tie-line with the Betsy Layne-Harold Circuit has been proposed as one of our 2012 Reliability projects but will not be completed until 2013. Once completed, this work will help reduce SAIDI since many customers will be able to be transferred to another power source during certain outage situations.
3. In addition, we will continue to use equipment such as the LEAD equipment (a tool which detects electromagnetic interference generally associated with arcing or tracking and thereby enables us to find failing equipment) and infrared (FLIR) camera (used to detect components which are heating up and subject to imminent failure) to inspect the distribution circuit and pro-actively locate deteriorated equipment.

Barrenshe Station – Pounding Mill 12kV Circuit (3200204) (SAIFI #5)

The major contributors to outages for this circuit are Tree Inside of ROW and Equipment Failure. These causes contributed 55% of the total number of Customers Interrupted related to this circuit during 2011.

Corrective Actions

1. No Vegetation Management work is scheduled for this circuit in 2012. Some hotspot issues were addressed on Hatfield Branch in 2011 and are expected to address the tree-related outage issues.

2. In 2012 the LEAD survey tool and FLIR will be utilized to identify deteriorating equipment for replacement.
3. A tie-line with the Sprigg-Matewan Circuit has been proposed as a 2012 project. This will help reduce the length of outages for many customers since we will be able to transfer them to another power source during outage situations.

Barrenshe Station – Vulcan 12kV Circuit (3200202) (SAIDI #9)

The major contributors to outages for this circuit is Tree Out of ROW and Tree Inside ROW. These causes contributed 66% of the total Customer Minutes Interrupted (CMI) related to this circuit during 2011.

Corrective Actions

1. Re-clearing of this circuit should be completed by June 2012.
2. In 2012, the LEAD survey tool and FLIR will be utilized to identify deteriorating equipment for replacement.
3. A tie-line with the Coleman-Calloway Circuit will be constructed in 2012. This will help reduce the length of outages for many customers since we will be able to transfer them to another power source during outage situations.

Kenwood Station – Hager Hill 12kV Circuit (3409303) (SAIFI#9)

Equipment Failure, Scheduled Company, Trees Out of ROW, and Trees Inside ROW contributed 99.4% of the CMI for the Hager Hill circuit in 2011.

Corrective Actions

1. In 2012 the LEAD survey tool and FLIR will be utilized to identify deteriorating equipment for replacement.
2. Also in 2012, 1400 ft of deteriorated Hendrix Cable located in the station breaker zone is schedule to be replaced.
3. This circuit was totally re-cleared in 2011.

Kenwood Station – Auxier 12kV Circuit (3409302) (SAIFI #6)

Scheduled Company and Trees out of ROW accounted for 69% of the total customers affected in 2011. In addition, Animal-Non Bird accounted for 15% of customers affected.

Corrective Actions

1. Install Animal guards in those areas where these outages are being experienced.
2. Deteriorated Hendrix cable located in the station breaker zone is scheduled to be replaced in 2012.
3. This circuit will be evaluated for additional sectionalizing work in 2012.