DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

ORIGINAL LIFE TABLE

PLACEMENT BAND 1922-2018 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,542,909		0.0000	1.0000	100.00
0.5	3,526,802	37,981	0.0108	0.9892	100.00
1.5	3,483,527	32,481	0.0093	0.9907	98.92
2.5	3,451,595	45,238	0.0131	0.9869	98.00
3.5	3,416,999	48,647	0.0142	0.9858	96.72
4.5	3,638,401	24,760	0.0068	0.9932	95.34
5.5	3,614,281	32,820	0.0091	0.9909	94.69
6.5	3,556,340	29,254	0.0082	0.9918	93.83
7.5	3,527,086	27,082	0.0077	0.9923	93.06
8.5	3,466,631	33,170	0.0096	0.9904	92.34
9.5	3,377,748	18,029	0.0053	0.9947	91.46
10.5	3,359,596	12,193	0.0036	0.9964	90.97
11.5	3,303,969	15,473	0.0047	0.9953	90.64
12.5	3,088,627	2,703	0.0009	0.9991	90.22
13.5	2,721,917	24,624	0.0090	0.9910	90.14
14.5	2,314,007	6,565	0.0028	0.9972	89.32
15.5	2,307,659	19,123	0.0083	0.9917	89.07
16.5	2,257,301	24,337	0.0108	0.9892	88.33
17.5	2,220,954	5,151	0.0023	0.9977	87.38
18.5	2,080,651	7,580	0.0036	0.9964	87.18
19.5	1,445,000	5,292	0.0037	0.9963	86.86
20.5	1,294,682	4,667	0.0036	0.9964	86.54
21.5	1,144,589	7,078	0.0062	0.9938	86.23
22.5	1,038,620	4,466	0.0043	0.9957	85.70
23.5	921,322	5,340	0.0058	0.9942	85.33
24.5	838,137	5,783	0.0069	0.9931	84.83
25.5	753,227	365	0.0005	0.9995	84.25
26.5	631,195	632	0.0010	0.9990	84.21
27.5	584,792	381	0.0007	0.9993	84.12
28.5	459,849	2,385	0.0052	0.9948	84.07
29.5	387,925	592	0.0015	0.9985	83.63
30.5	316,312	825	0.0026	0.9974	83.50
31.5	257,326	11,149	0.0433	0.9567	83.29
32.5	232,853	2,639	0.0113	0.9887	79.68
33.5	192,899	2,394	0.0124	0.9876	78.77
34.5	177,628	166	0.0009	0.9991	77.80
35.5	175,055	3,653	0.0209	0.9791	77.72
36.5	160,617	4,418	0.0275	0.9725	76.10
37.5	143,406	1,816	0.0127	0.9873	74.01
38.5	124,864	9,291	0.0744	0.9256	73.07

DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1922-2018 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	102,352	1,257	0.0123	0.9877	67.63
40.5	86,344		0.0000	1.0000	66.80
41.5	78,625	2,668	0.0339	0.9661	66.80
42.5	68,630	3,704	0.0540	0.9460	64.54
43.5	60,408	159	0.0026	0.9974	61.05
44.5	41,649		0.0000	1.0000	60.89
45.5	28,024		0.0000	1.0000	60.89
46.5	26,441	124	0.0047	0.9953	60.89
47.5	26,317		0.0000	1.0000	60.61
48.5	25,916		0.0000	1.0000	60.61
49.5	25,916	370	0.0143	0.9857	60.61
50.5	25,546		0.0000	1.0000	59.74
51.5	25,546		0.0000	1.0000	59.74
52.5	25,546		0.0000	1.0000	59.74
53.5	20,629		0.0000	1.0000	59.74
54.5	20,629	2	0.0001	0.9999	59.74
55.5	20,373		0.0000	1.0000	59.74
56.5	20,100		0.0000	1.0000	59.74
57.5	20,071		0.0000	1.0000	59.74
58.5	20,050		0.0000	1.0000	59.74
59.5	19,756		0.0000	1.0000	59.74
60.5	19,247		0.0000	1.0000	59.74
61.5	19,247		0.0000	1.0000	59.74
62.5	18,681		0.0000	1.0000	59.74
63.5	18,320		0.0000	1.0000	59.74
64.5	18,148	14	0.0008	0.9992	59.74
65.5	18,134		0.0000	1.0000	59.69
66.5	18,020		0.0000	1.0000	59.69
67.5	16,762		0.0000	1.0000	59.69
68.5	16,591	71	0.0043	0.9957	59.69
69.5	16,520	104	0.0063	0.9937	59.43
70.5	16,416		0.0000	1.0000	59.06
71.5	16,416	242	0.0147	0.9853	59.06
72.5	16,174		0.0000	1.0000	58.19
73.5	16,174		0.0000	1.0000	58.19
74.5	16,174		0.0000	1.0000	58.19
75.5	15,891	43	0.0027	0.9973	58.19
76.5	15,821		0.0000	1.0000	58.03
77.5	14,372		0.0000	1.0000	58.03
78.5	14,372	106	0.0074	0.9926	58.03

DUKE ENERGY KENTUCKY

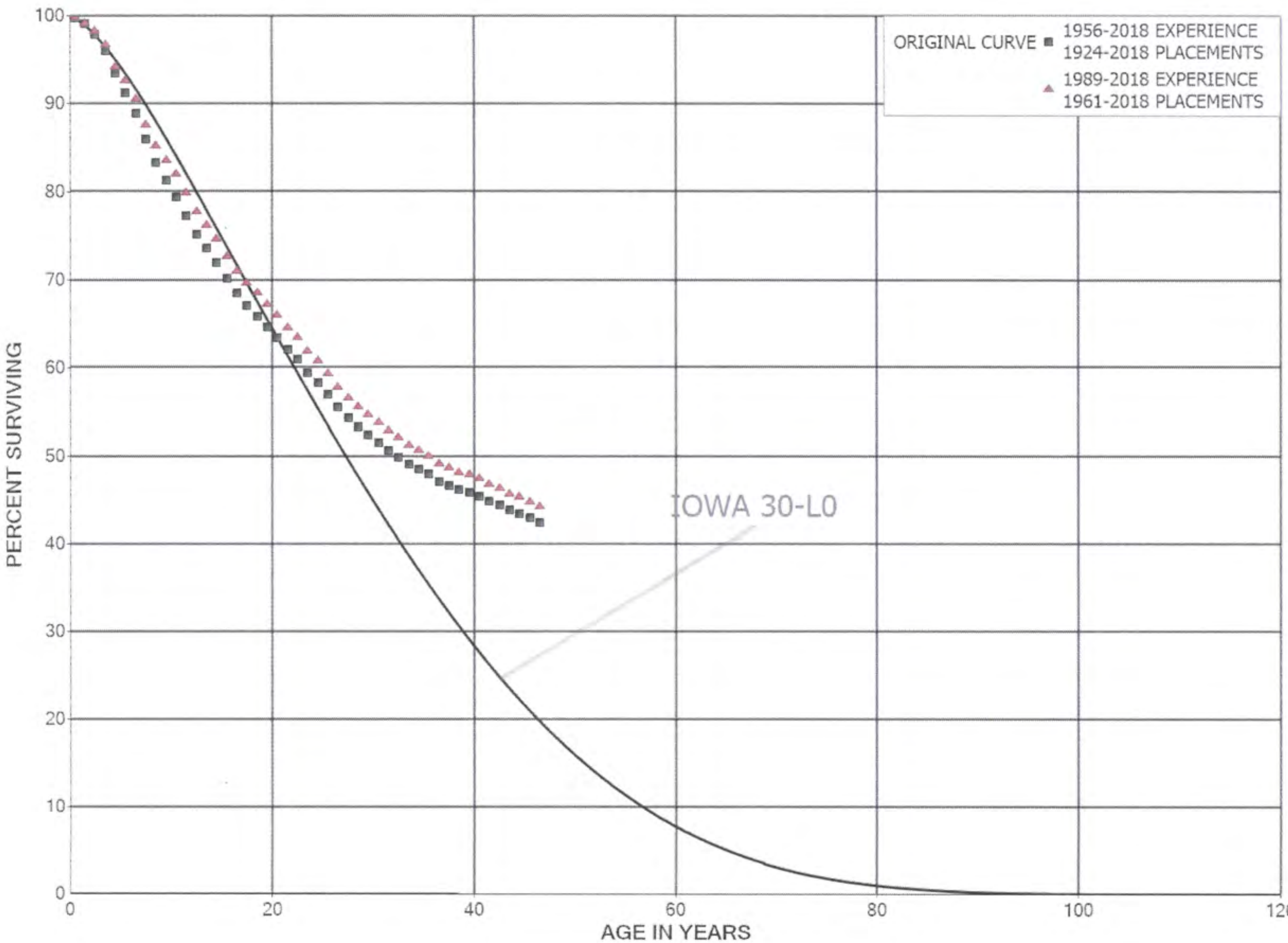
ACCOUNT 3732 STREET LIGHTING - BOULEVARD

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1922-2018 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	14,202		0.0000	1.0000	57.60
80.5	13,911		0.0000	1.0000	57.60
81.5	13,764		0.0000	1.0000	57.60
82.5	13,710		0.0000	1.0000	57.60
83.5	13,710		0.0000	1.0000	57.60
84.5	13,710		0.0000	1.0000	57.60
85.5	13,356		0.0000	1.0000	57.60
86.5	12,753		0.0000	1.0000	57.60
87.5	10,977		0.0000	1.0000	57.60
88.5	10,923		0.0000	1.0000	57.60
89.5	7,199		0.0000	1.0000	57.60
90.5	5,747		0.0000	1.0000	57.60
91.5	3,751		0.0000	1.0000	57.60
92.5	3,751		0.0000	1.0000	57.60
93.5	3,751		0.0000	1.0000	57.60
94.5	3,751		0.0000	1.0000	57.60
95.5	269		0.0000	1.0000	57.60
96.5					57.60

DUKE ENERGY KENTUCKY
ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1924-2018 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,481,547	10,885	0.0024	0.9976	100.00
0.5	4,352,798	31,229	0.0072	0.9928	99.76
1.5	4,182,593	53,060	0.0127	0.9873	99.04
2.5	3,497,753	66,204	0.0189	0.9811	97.78
3.5	3,293,693	86,732	0.0263	0.9737	95.93
4.5	3,167,158	76,086	0.0240	0.9760	93.41
5.5	2,965,235	74,194	0.0250	0.9750	91.16
6.5	2,758,933	91,839	0.0333	0.9667	88.88
7.5	2,667,077	80,293	0.0301	0.9699	85.92
8.5	2,582,891	63,392	0.0245	0.9755	83.34
9.5	2,471,992	57,188	0.0231	0.9769	81.29
10.5	2,328,852	63,568	0.0273	0.9727	79.41
11.5	2,206,658	59,558	0.0270	0.9730	77.24
12.5	2,023,726	41,975	0.0207	0.9793	75.16
13.5	1,931,220	42,669	0.0221	0.9779	73.60
14.5	1,569,973	38,922	0.0248	0.9752	71.97
15.5	1,531,007	36,595	0.0239	0.9761	70.19
16.5	1,494,071	31,693	0.0212	0.9788	68.51
17.5	1,395,697	25,030	0.0179	0.9821	67.06
18.5	1,364,914	25,673	0.0188	0.9812	65.86
19.5	1,311,639	24,080	0.0184	0.9816	64.62
20.5	1,228,472	27,383	0.0223	0.9777	63.43
21.5	1,134,790	19,853	0.0175	0.9825	62.02
22.5	1,065,680	26,877	0.0252	0.9748	60.93
23.5	980,794	17,553	0.0179	0.9821	59.40
24.5	916,107	22,065	0.0241	0.9759	58.33
25.5	840,646	20,752	0.0247	0.9753	56.93
26.5	761,827	16,788	0.0220	0.9780	55.52
27.5	686,841	12,157	0.0177	0.9823	54.30
28.5	624,441	11,661	0.0187	0.9813	53.34
29.5	589,958	9,679	0.0164	0.9836	52.34
30.5	562,833	9,139	0.0162	0.9838	51.48
31.5	535,655	8,193	0.0153	0.9847	50.65
32.5	505,506	7,940	0.0157	0.9843	49.87
33.5	480,683	5,428	0.0113	0.9887	49.09
34.5	460,922	5,612	0.0122	0.9878	48.53
35.5	444,003	8,090	0.0182	0.9818	47.94
36.5	404,904	4,081	0.0101	0.9899	47.07
37.5	363,590	3,545	0.0097	0.9903	46.60
38.5	295,304	1,691	0.0057	0.9943	46.14

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1924-2018 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	246,603	2,362	0.0096	0.9904	45.88
40.5	210,942	2,930	0.0139	0.9861	45.44
41.5	189,127	1,794	0.0095	0.9905	44.81
42.5	159,232	2,148	0.0135	0.9865	44.38
43.5	135,199	1,123	0.0083	0.9917	43.78
44.5	107,168	1,182	0.0110	0.9890	43.42
45.5	86,254	1,142	0.0132	0.9868	42.94
46.5	75,691	1,308	0.0173	0.9827	42.37
47.5	63,114	978	0.0155	0.9845	41.64
48.5	51,627	333	0.0065	0.9935	40.99
49.5	42,254	710	0.0168	0.9832	40.73
50.5	27,842	771	0.0277	0.9723	40.05
51.5	23,592	964	0.0408	0.9592	38.94
52.5	14,850	467	0.0315	0.9685	37.35
53.5	9,718	303	0.0312	0.9688	36.17
54.5	3,666		0.0000	1.0000	35.04
55.5	884		0.0000	1.0000	35.04
56.5	128		0.0000	1.0000	35.04
57.5	128		0.0000	1.0000	35.04
58.5	128		0.0000	1.0000	35.04
59.5	128		0.0000	1.0000	35.04
60.5	128		0.0000	1.0000	35.04
61.5	128		0.0000	1.0000	35.04
62.5	128	128	1.0000		35.04
63.5					

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1961-2018 EXPERIENCE BAND 1989-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,141,329	7,012	0.0022	0.9978	100.00
0.5	3,053,654	22,046	0.0072	0.9928	99.78
1.5	2,930,667	26,085	0.0089	0.9911	99.06
2.5	2,318,520	37,555	0.0162	0.9838	98.17
3.5	2,176,349	56,226	0.0258	0.9742	96.58
4.5	2,110,214	35,320	0.0167	0.9833	94.09
5.5	1,971,764	45,476	0.0231	0.9769	92.51
6.5	1,852,202	59,170	0.0319	0.9681	90.38
7.5	1,847,332	47,835	0.0259	0.9741	87.49
8.5	1,895,137	37,893	0.0200	0.9800	85.23
9.5	1,886,202	35,278	0.0187	0.9813	83.52
10.5	1,823,019	46,838	0.0257	0.9743	81.96
11.5	1,748,950	46,369	0.0265	0.9735	79.86
12.5	1,636,554	33,184	0.0203	0.9797	77.74
13.5	1,593,837	33,498	0.0210	0.9790	76.16
14.5	1,294,231	33,214	0.0257	0.9743	74.56
15.5	1,300,153	30,670	0.0236	0.9764	72.65
16.5	1,290,432	24,436	0.0189	0.9811	70.93
17.5	1,226,479	19,895	0.0162	0.9838	69.59
18.5	1,225,413	22,130	0.0181	0.9819	68.46
19.5	1,200,887	22,419	0.0187	0.9813	67.23
20.5	1,151,143	25,603	0.0222	0.9778	65.97
21.5	1,069,715	18,621	0.0174	0.9826	64.50
22.5	1,020,989	25,437	0.0249	0.9751	63.38
23.5	949,702	17,139	0.0180	0.9820	61.80
24.5	900,996	21,480	0.0238	0.9762	60.69
25.5	834,835	20,752	0.0249	0.9751	59.24
26.5	758,000	16,788	0.0221	0.9779	57.77
27.5	685,271	11,961	0.0175	0.9825	56.49
28.5	623,067	10,503	0.0169	0.9831	55.50
29.5	589,741	9,679	0.0164	0.9836	54.57
30.5	562,617	9,139	0.0162	0.9838	53.67
31.5	535,310	7,976	0.0149	0.9851	52.80
32.5	505,377	7,940	0.0157	0.9843	52.01
33.5	480,555	5,428	0.0113	0.9887	51.19
34.5	460,794	5,612	0.0122	0.9878	50.62
35.5	443,875	8,090	0.0182	0.9818	50.00
36.5	404,776	4,081	0.0101	0.9899	49.09
37.5	363,462	3,545	0.0098	0.9902	48.59
38.5	295,176	1,691	0.0057	0.9943	48.12

DUKE ENERGY KENTUCKY

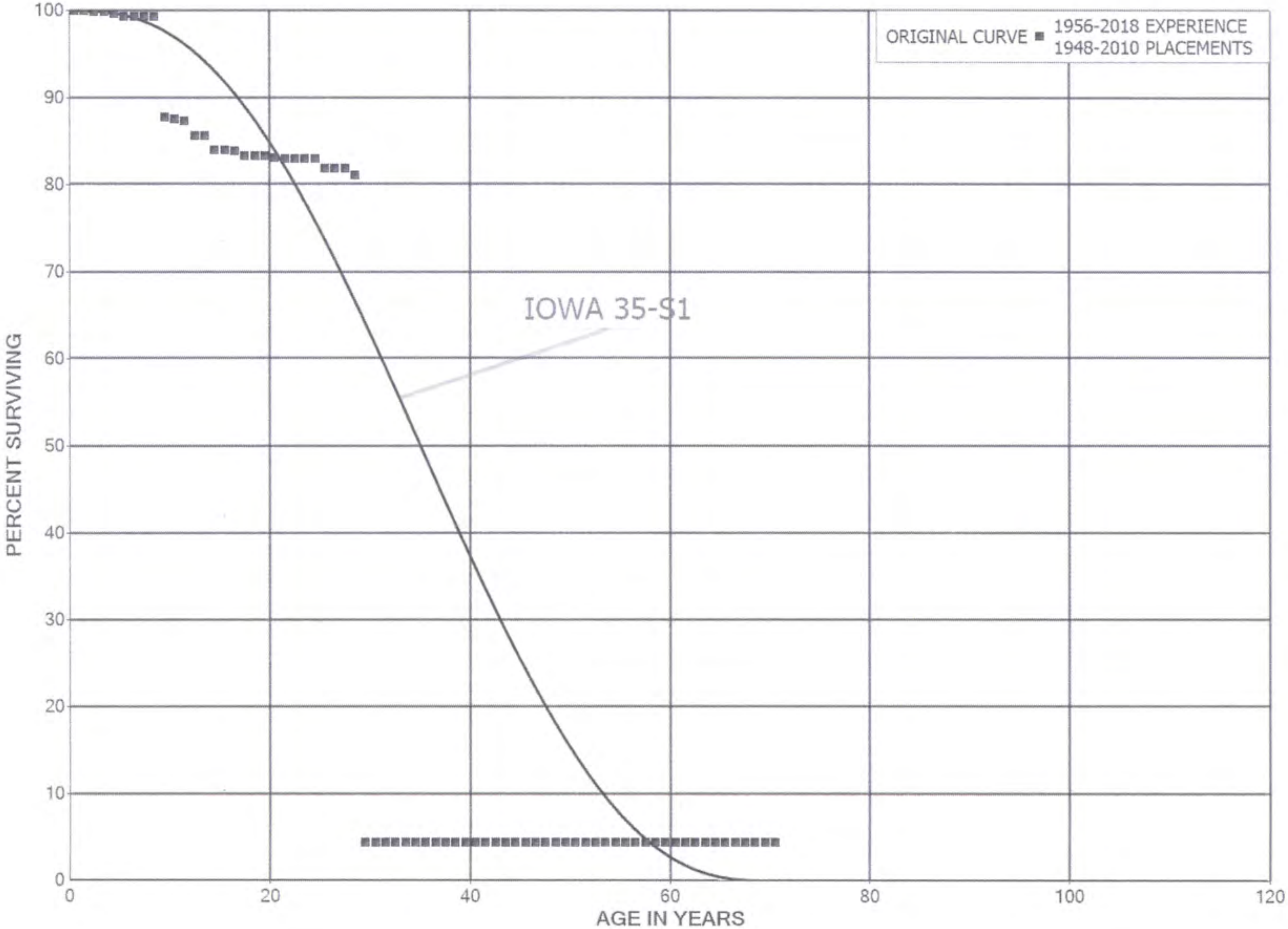
ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1961-2018 EXPERIENCE BAND 1989-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	246,475	2,362	0.0096	0.9904	47.84
40.5	210,814	2,930	0.0139	0.9861	47.39
41.5	188,999	1,794	0.0095	0.9905	46.73
42.5	159,104	2,148	0.0135	0.9865	46.28
43.5	135,071	1,123	0.0083	0.9917	45.66
44.5	107,040	1,182	0.0110	0.9890	45.28
45.5	86,126	1,142	0.0133	0.9867	44.78
46.5	75,563	1,308	0.0173	0.9827	44.19
47.5	62,986	978	0.0155	0.9845	43.42
48.5	51,499	333	0.0065	0.9935	42.75
49.5	42,126	710	0.0168	0.9832	42.47
50.5	27,714	771	0.0278	0.9722	41.75
51.5	23,464	964	0.0411	0.9589	40.59
52.5	14,722	467	0.0317	0.9683	38.93
53.5	9,590	303	0.0316	0.9684	37.69
54.5	3,538		0.0000	1.0000	36.50
55.5	756		0.0000	1.0000	36.50
56.5					36.50

DUKE ENERGY KENTUCKY
ACCOUNT 3900 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY

ACCOUNT 3900 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1948-2010 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	537,874		0.0000	1.0000	100.00
0.5	537,874		0.0000	1.0000	100.00
1.5	538,072	885	0.0016	0.9984	100.00
2.5	537,235		0.0000	1.0000	99.84
3.5	543,078	1,460	0.0027	0.9973	99.84
4.5	541,946	1,349	0.0025	0.9975	99.57
5.5	487,717		0.0000	1.0000	99.32
6.5	487,717		0.0000	1.0000	99.32
7.5	505,837		0.0000	1.0000	99.32
8.5	477,034	55,847	0.1171	0.8829	99.32
9.5	421,187	916	0.0022	0.9978	87.69
10.5	361,037	759	0.0021	0.9979	87.50
11.5	319,618	6,356	0.0199	0.9801	87.32
12.5	313,262		0.0000	1.0000	85.58
13.5	313,262	5,843	0.0187	0.9813	85.58
14.5	307,419		0.0000	1.0000	83.98
15.5	307,419	588	0.0019	0.9981	83.98
16.5	306,831	2,160	0.0070	0.9930	83.82
17.5	304,670		0.0000	1.0000	83.23
18.5	304,670		0.0000	1.0000	83.23
19.5	304,670	760	0.0025	0.9975	83.23
20.5	303,911	459	0.0015	0.9985	83.03
21.5	303,451		0.0000	1.0000	82.90
22.5	303,451		0.0000	1.0000	82.90
23.5	303,451		0.0000	1.0000	82.90
24.5	303,451	3,764	0.0124	0.9876	82.90
25.5	299,687		0.0000	1.0000	81.87
26.5	299,687		0.0000	1.0000	81.87
27.5	299,687	2,935	0.0098	0.9902	81.87
28.5	296,752	280,465	0.9451	0.0549	81.07
29.5	16,286		0.0000	1.0000	4.45
30.5	16,286		0.0000	1.0000	4.45
31.5	16,286		0.0000	1.0000	4.45
32.5	16,286		0.0000	1.0000	4.45
33.5	16,286		0.0000	1.0000	4.45
34.5	16,286		0.0000	1.0000	4.45
35.5	16,286		0.0000	1.0000	4.45
36.5	16,286		0.0000	1.0000	4.45
37.5	16,286		0.0000	1.0000	4.45
38.5	16,286		0.0000	1.0000	4.45

DUKE ENERGY KENTUCKY

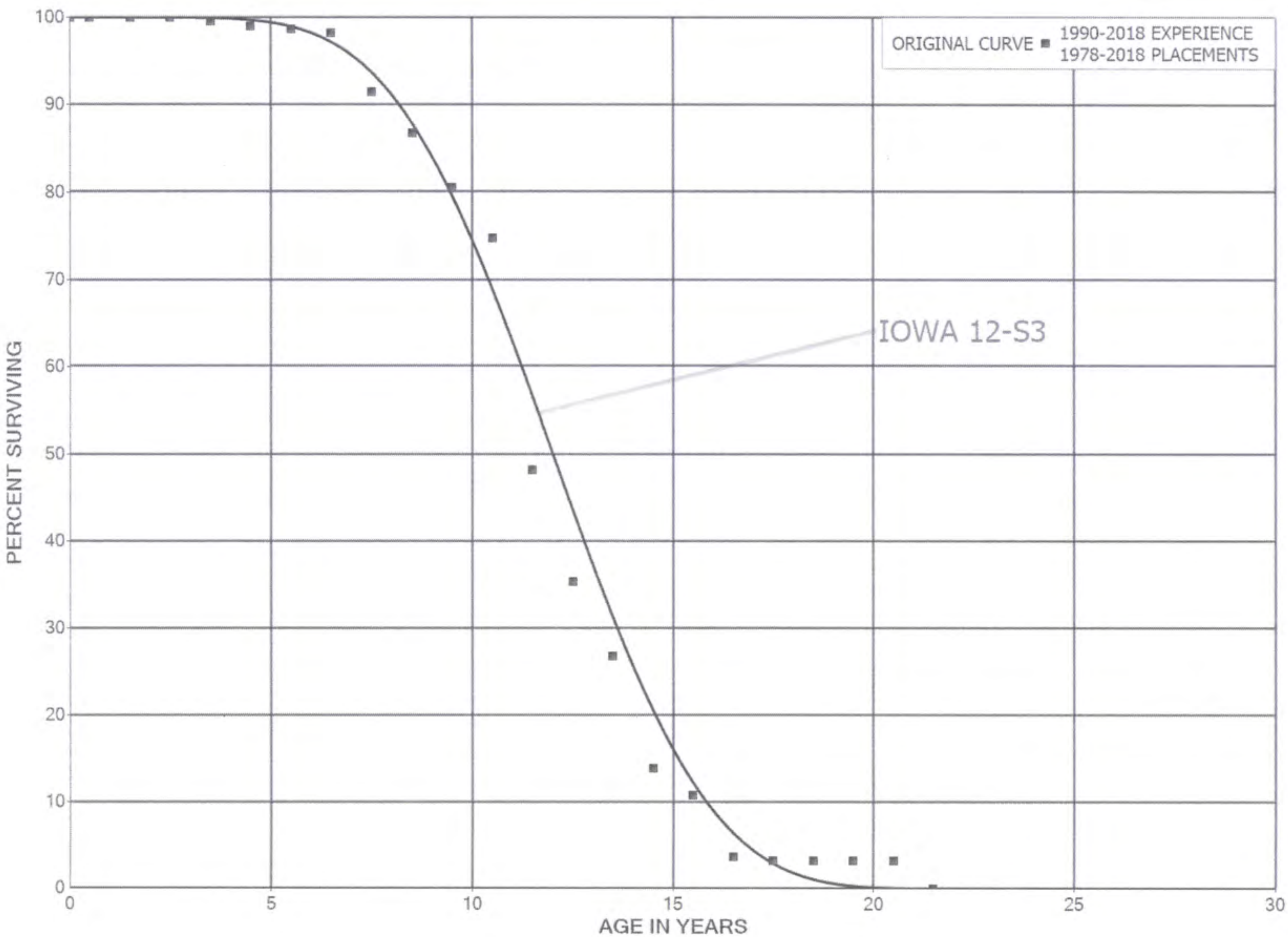
ACCOUNT 3900 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1948-2010 EXPERIENCE BAND 1956-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	16,286		0.0000	1.0000	4.45
40.5	16,286		0.0000	1.0000	4.45
41.5	12,989		0.0000	1.0000	4.45
42.5	12,989		0.0000	1.0000	4.45
43.5	12,989		0.0000	1.0000	4.45
44.5	12,989		0.0000	1.0000	4.45
45.5	12,989		0.0000	1.0000	4.45
46.5	12,989		0.0000	1.0000	4.45
47.5	12,989		0.0000	1.0000	4.45
48.5	12,989		0.0000	1.0000	4.45
49.5	12,989		0.0000	1.0000	4.45
50.5	12,989		0.0000	1.0000	4.45
51.5	12,989		0.0000	1.0000	4.45
52.5	12,989		0.0000	1.0000	4.45
53.5	12,989		0.0000	1.0000	4.45
54.5	12,989		0.0000	1.0000	4.45
55.5	12,989		0.0000	1.0000	4.45
56.5	12,989		0.0000	1.0000	4.45
57.5	12,989		0.0000	1.0000	4.45
58.5	12,989		0.0000	1.0000	4.45
59.5	12,989		0.0000	1.0000	4.45
60.5	12,989		0.0000	1.0000	4.45
61.5	12,989		0.0000	1.0000	4.45
62.5	12,989		0.0000	1.0000	4.45
63.5	12,989		0.0000	1.0000	4.45
64.5	12,989		0.0000	1.0000	4.45
65.5	12,989		0.0000	1.0000	4.45
66.5	12,989		0.0000	1.0000	4.45
67.5	12,661		0.0000	1.0000	4.45
68.5	12,661		0.0000	1.0000	4.45
69.5	12,661		0.0000	1.0000	4.45
70.5					4.45

DUKE ENERGY KENTUCKY
ACCOUNT 3920 TRANSPORTATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY

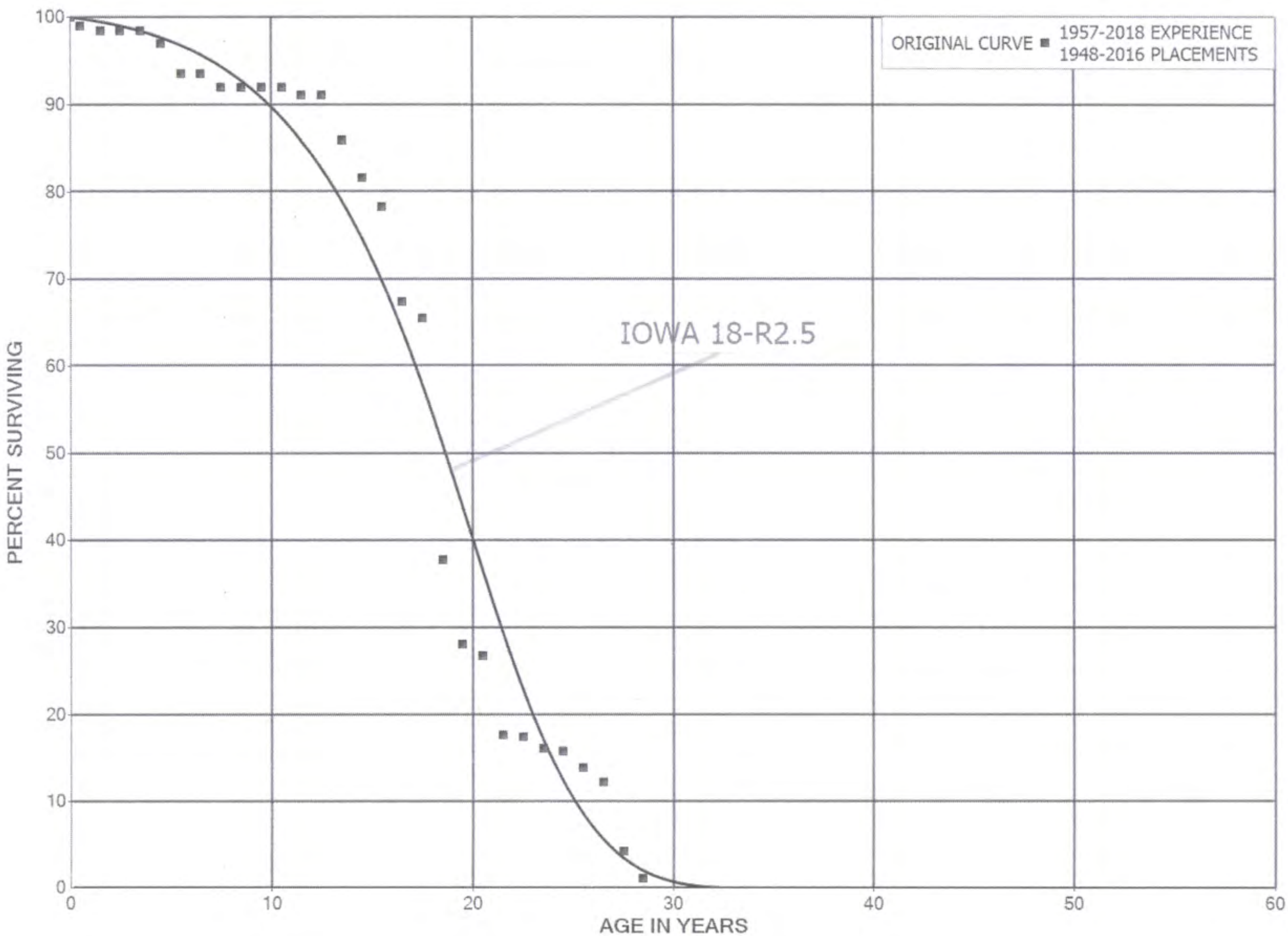
ACCOUNT 3920 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1978-2018 EXPERIENCE BAND 1990-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,651,104		0.0000	1.0000	100.00
0.5	2,317,281		0.0000	1.0000	100.00
1.5	2,595,908		0.0000	1.0000	100.00
2.5	2,914,975	16,029	0.0055	0.9945	100.00
3.5	3,040,364	16,752	0.0055	0.9945	99.45
4.5	3,460,791	10,972	0.0032	0.9968	98.90
5.5	3,641,621	15,415	0.0042	0.9958	98.59
6.5	3,578,272	246,789	0.0690	0.9310	98.17
7.5	3,775,103	192,801	0.0511	0.9489	91.40
8.5	4,128,747	297,268	0.0720	0.9280	86.73
9.5	4,459,194	321,061	0.0720	0.9280	80.49
10.5	4,060,888	1,441,390	0.3549	0.6451	74.69
11.5	2,746,695	732,153	0.2666	0.7334	48.18
12.5	2,036,275	497,909	0.2445	0.7555	35.34
13.5	1,538,365	738,102	0.4798	0.5202	26.70
14.5	800,263	180,803	0.2259	0.7741	13.89
15.5	619,460	412,999	0.6667	0.3333	10.75
16.5	206,462	21,227	0.1028	0.8972	3.58
17.5	185,235		0.0000	1.0000	3.21
18.5	185,235		0.0000	1.0000	3.21
19.5	185,235		0.0000	1.0000	3.21
20.5	185,235	185,235	1.0000		3.21
21.5					

DUKE ENERGY KENTUCKY
ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY

ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1948-2016 EXPERIENCE BAND 1957-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	487,343	5,120	0.0105	0.9895	100.00
0.5	482,223	2,848	0.0059	0.9941	98.95
1.5	479,375		0.0000	1.0000	98.37
2.5	400,807		0.0000	1.0000	98.37
3.5	410,009	5,805	0.0142	0.9858	98.37
4.5	404,859	14,690	0.0363	0.9637	96.97
5.5	392,625		0.0000	1.0000	93.45
6.5	401,173	6,574	0.0164	0.9836	93.45
7.5	394,599		0.0000	1.0000	91.92
8.5	395,004		0.0000	1.0000	91.92
9.5	395,004		0.0000	1.0000	91.92
10.5	395,004	3,452	0.0087	0.9913	91.92
11.5	391,552		0.0000	1.0000	91.12
12.5	299,529	16,932	0.0565	0.9435	91.12
13.5	256,363	12,873	0.0502	0.9498	85.97
14.5	243,489	10,102	0.0415	0.9585	81.65
15.5	219,109	30,566	0.1395	0.8605	78.26
16.5	188,543	5,209	0.0276	0.9724	67.35
17.5	161,571	68,373	0.4232	0.5768	65.49
18.5	87,360	22,513	0.2577	0.7423	37.77
19.5	49,111	2,246	0.0457	0.9543	28.04
20.5	46,865	16,052	0.3425	0.6575	26.76
21.5	30,813	259	0.0084	0.9916	17.59
22.5	30,554	2,336	0.0765	0.9235	17.44
23.5	28,218	733	0.0260	0.9740	16.11
24.5	27,485	3,256	0.1185	0.8815	15.69
25.5	24,229	2,879	0.1188	0.8812	13.83
26.5	21,350	13,967	0.6542	0.3458	12.19
27.5	7,383	5,489	0.7434	0.2566	4.22
28.5	1,894	553	0.2920	0.7080	1.08
29.5	1,341		0.0000	1.0000	0.77
30.5	1,341		0.0000	1.0000	0.77
31.5	1,341		0.0000	1.0000	0.77
32.5	1,341	606	0.4517	0.5483	0.77
33.5	735		0.0000	1.0000	0.42
34.5	735		0.0000	1.0000	0.42
35.5	735		0.0000	1.0000	0.42
36.5	735		0.0000	1.0000	0.42
37.5	735		0.0000	1.0000	0.42
38.5	735		0.0000	1.0000	0.42

DUKE ENERGY KENTUCKY

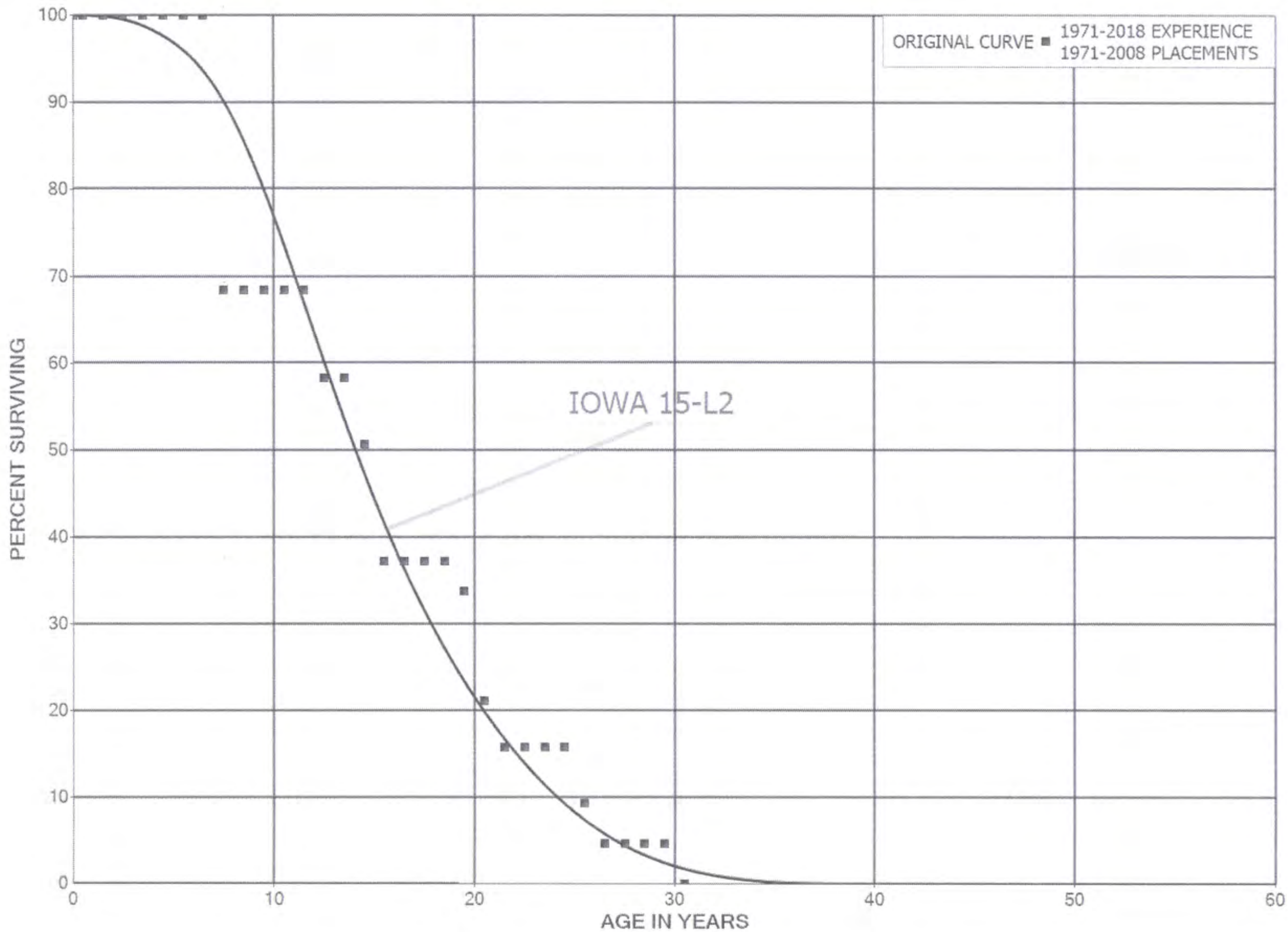
ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1948-2016 EXPERIENCE BAND 1957-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	735		0.0000	1.0000	0.42
40.5	735		0.0000	1.0000	0.42
41.5	735		0.0000	1.0000	0.42
42.5	735		0.0000	1.0000	0.42
43.5	735	560	0.7621	0.2379	0.42
44.5	175		0.0000	1.0000	0.10
45.5	175	175	1.0000		0.10
46.5					

DUKE ENERGY KENTUCKY
ACCOUNT 3960 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY

ACCOUNT 3960 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1971-2008 EXPERIENCE BAND 1971-2018

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	126,051		0.0000	1.0000	100.00
0.5	126,051		0.0000	1.0000	100.00
1.5	185,500		0.0000	1.0000	100.00
2.5	185,500		0.0000	1.0000	100.00
3.5	185,500		0.0000	1.0000	100.00
4.5	185,500		0.0000	1.0000	100.00
5.5	221,774		0.0000	1.0000	100.00
6.5	230,837	72,991	0.3162	0.6838	100.00
7.5	157,846		0.0000	1.0000	68.38
8.5	157,846		0.0000	1.0000	68.38
9.5	157,846		0.0000	1.0000	68.38
10.5	179,163		0.0000	1.0000	68.38
11.5	179,163	26,356	0.1471	0.8529	68.38
12.5	152,807		0.0000	1.0000	58.32
13.5	152,807	20,191	0.1321	0.8679	58.32
14.5	132,617	35,307	0.2662	0.7338	50.61
15.5	97,310		0.0000	1.0000	37.14
16.5	97,310		0.0000	1.0000	37.14
17.5	97,310		0.0000	1.0000	37.14
18.5	97,310	9,064	0.0931	0.9069	37.14
19.5	88,246	33,087	0.3749	0.6251	33.68
20.5	55,159	13,984	0.2535	0.7465	21.05
21.5	41,175		0.0000	1.0000	15.72
22.5	41,175		0.0000	1.0000	15.72
23.5	41,175		0.0000	1.0000	15.72
24.5	41,175	16,943	0.4115	0.5885	15.72
25.5	24,232	12,045	0.4970	0.5030	9.25
26.5	12,188		0.0000	1.0000	4.65
27.5	12,188		0.0000	1.0000	4.65
28.5	12,188		0.0000	1.0000	4.65
29.5	12,188	12,188	1.0000		4.65
30.5					

PART VIII. NET SALVAGE STATISTICS

DUKE ENERGY KENTUCKY

TABLE 1. CALCULATION OF TERMINAL AND INTERIM RETIREMENTS AS A PERCENT OF TOTAL RETIREMENTS

LOCATION	PROJECTED RETIREMENTS TERMINAL	PROJECTED RETIREMENTS INTERIM	TOTAL OF ALL RETIREMENTS	TERMINAL RETIREMENT %	INTERIM RETIREMENT %
(1)	(2)	(3)	(4)=(2)+(3)	(5)=(2)/(4)	(6)=(3)/(4)
STEAM PRODUCTION					
EAST BEND	(586,841,127)	(224,028,578)	(810,869,705)	72.37	27.63
OTHER PRODUCTION					
WOODSDALE	(241,286,089)	(54,316,593)	(295,602,682)	81.63	18.37

DUKE ENERGY KENTUCKY

TABLE 2. CALCULATION OF WEIGHTED NET SALVAGE PERCENT

LOCATION	TERMINAL RETIREMENTS RETIREMENTS (%)	TERMINAL RETIREMENTS NET SALVAGE (%)	INTERIM RETIREMENTS RETIREMENTS (%)	INTERIM RETIREMENTS NET SALVAGE (%)	WEIGHTED AVERAGE NET SALVAGE %
(1)	(2)	(3)	(4)	(5)	(6)=(2)*(3)+(4)*(5)
STEAM PRODUCTION					
EAST BEND	72.37	(13)	27.63	(20)	(15)
OTHER PRODUCTION					
WOODSDALE	81.63	(4)	18.37	(6)	(5)

DUKE ENERGY KENTUCKY

TABLE 3. CALCULATION OF TERMINAL NET SALVAGE PERCENT

UNIT	ESTIMATED RETIREMENT YEAR	MW	TOTAL DECOMMISSIONING COSTS (CURRENT $)	TOTAL DECOMMISSIONING COSTS (FUTURE $)	ESTIMATED TERMINAL RETIREMENTS	TERMINAL NET SALVAGE (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(5)/(6)
STEAM PRODUCTION						
EAST BEND	2041	772	34,334,000	60,586,143	(586,841,127)	(13)
MIAMI FORT UNIT 6				12,996,986		
OTHER PRODUCTION						
WOODSDALE	2032	564	6,267,000	8,855,107	(241,286,089)	(4)

DUKE ENERGY KENTUCKY

ACCOUNT 1900 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990		204,571				204,571-	
1991	10,904	93,952	862	156	1	93,796-	860-
1992	44,601	33,254	75		0	33,254-	75-
1993	3,829	2,179	57		0	2,179-	57-
1994	8,622	107,169			0	107,169-	
1995		46,859				46,859-	
1996	20,300	22,697	112		0	22,697-	112-
1997							
1998	236,952	1,816	1		0	1,816-	1-
1999							
2000							
2001							
2002	466,414	124,993	27		0	124,993-	27-
2003	360,388	117,298	33		0	117,298-	33-
2004	1,563,054	14,188	1		0	14,188-	1-
2005	67,932	23,891	35		0	23,891-	35-
2006	5,259	7,978	152		0	7,978-	152-
2007							
2008	95		0		0		0
2009							
2010							
2011	3,604	184,588			0	184,588-	
2012	32,273		0		0		0
2013	140,504	51,500	37		0	51,500-	37-
2014	60,096	15,414	26		0	15,414-	26-
2015	433,044	75,712	17		0	75,712-	17-
2016	23,642	2,850	12		0	2,850-	12-
2017							
2018	91,541	8,487	9		0	8,487-	9-
TOTAL	3,573,054	1,139,394	32	156	0	1,139,238-	32-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	18,502	110,592	598	52	0	110,540-	597-
91-93	19,778	43,128	218	52	0	43,076-	218-
92-94	19,017	47,534	250		0	47,534-	250-
93-95	4,150	52,069			0	52,069-	
94-96	9,641	58,908	611		0	58,908-	611-
95-97	6,767	23,185	343		0	23,185-	343-
96-98	85,751	8,171	10		0	8,171-	10-
97-99	78,984	605	1		0	605-	1-
98-00	78,984	605	1		0	605-	1-

DUKE ENERGY KENTUCKY

ACCOUNT 1900 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01							
00-02	155,471	41,664	27		0	41,664-	27-
01-03	275,601	80,764	29		0	80,764-	29-
02-04	796,619	85,493	11		0	85,493-	11-
03-05	663,791	51,792	8		0	51,792-	8-
04-06	545,415	15,352	3		0	15,352-	3-
05-07	24,397	10,623	44		0	10,623-	44-
06-08	1,785	2,659	149		0	2,659-	149-
07-09	32		0		0		0
08-10	32		0		0		0
09-11	1,201	61,529			0	61,529-	
10-12	11,959	61,529	514		0	61,529-	514-
11-13	58,794	78,696	134		0	78,696-	134-
12-14	77,624	22,305	29		0	22,305-	29-
13-15	211,215	47,542	23		0	47,542-	23-
14-16	172,260	31,325	18		0	31,325-	18-
15-17	152,228	26,187	17		0	26,187-	17-
16-18	38,394	3,779	10		0	3,779-	10-
FIVE-YEAR AVERAGE							
14-18	121,665	20,493	17		0	20,493-	17-

DUKE ENERGY KENTUCKY

ACCOUNT 3110 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1991	42,371		0		0		0
1992	2,324		0		0		0
1993	106,507		0		0		0
1994	69,982		0		0		0
1995	93,406		0		0		0
1996							
1997	23,706		0		0		0
1998	1,522		0		0		0
1999	30,871		0		0		0
2000							
2001							
2002							
2003	139,027		0		0		0
2004							
2005	35,327		0		0		0
2006	4,577	698	15		0	698-	15-
2007	103,253	4,811	5		0	4,811-	5-
2008	52,248	29,431	56		0	29,431-	56-
2009	164,778	38,462	23		0	38,462-	23-
2010	205,463		0		0		0
2011	133,143		0		0		0
2012	137,116	1,729	1	1,178	1	551-	0
2013	208,790	4,535	2	982	0	3,553-	2-
2014	96,605	84,571	88	184-	0	84,754-	88-
2015	238,901	34,324	14	1-	0	34,325-	14-
2016	387,512	68,004	18		0	68,004-	18-
2017	265,025	68,577	26	68-	0	68,645-	26-
2018	801,022	300,424	38		0	300,424-	38-
TOTAL	3,343,479	635,565	19	1,908	0	633,658-	19-

THREE-YEAR MOVING AVERAGES

91-93	50,401		0		0		0
92-94	59,604		0		0		0
93-95	89,965		0		0		0
94-96	54,463		0		0		0
95-97	39,038		0		0		0
96-98	8,410		0		0		0
97-99	18,700		0		0		0
98-00	10,798		0		0		0
99-01	10,290		0		0		0
00-02							

DUKE ENERGY KENTUCKY

ACCOUNT 3110 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	46,342		0		0		0
02-04	46,342		0		0		0
03-05	58,118		0		0		0
04-06	13,301	233	2		0	233-	2-
05-07	47,719	1,836	4		0	1,836-	4-
06-08	53,359	11,647	22		0	11,647-	22-
07-09	106,760	24,235	23		0	24,235-	23-
08-10	140,830	22,631	16		0	22,631-	16-
09-11	167,795	12,821	8		0	12,821-	8-
10-12	158,574	576	0	393	0	184-	0
11-13	159,683	2,088	1	720	0	1,368-	1-
12-14	147,504	30,278	21	659	0	29,619-	20-
13-15	181,432	41,143	23	266	0	40,877-	23-
14-16	241,006	62,299	26	62-	0	62,361-	26-
15-17	297,146	56,968	19	23-	0	56,991-	19-
16-18	484,520	145,668	30	23-	0	145,691-	30-
FIVE-YEAR AVERAGE							
14-18	357,813	111,180	31	51-	0	111,230-	31-

DUKE ENERGY KENTUCKY

ACCOUNT 3120 BOILER PLANT EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	422,833		0		0		0
1991	1,469,830		0		0		0
1992	1,290,307		0		0		0
1993	707,064		0		0		0
1994	861,329		0		0		0
1995	2,682,145		0		0		0
1996	32,885		0		0		0
1997	161,263		0		0		0
1998	758,949		0		0		0
1999	1,804,001		0		0		0
2000							
2001							
2002							
2003	7,226,804	1,220,923	17	54,200	1	1,166,723-	16-
2004	2,486,903		0		0		0
2005	3,191,937		0		0		0
2006	240,430	40,960	17		0	40,960-	17-
2007	5,469,792	73,271	1		0	73,271-	1-
2008	3,572,224	80,159	2		0	80,159-	2-
2009	924,041	191,354	21		0	191,354-	21-
2010	1,212,900	79,959	7	87,500	7	7,541	1
2011	1,109,358	42,153	4	1,937	0	40,215-	4-
2012	4,914,871	14,746	0	4,744	0	10,001-	0
2013	1,819,921	2,704	0	2,682	0	22-	0
2014	13,802,178	883,055	6	32,201-	0	915,256-	7-
2015	4,903,758	3,524,212	72	80,135	2	3,444,077-	70-
2016	3,405,249	559,727	16	11,773	0	547,954-	16-
2017	2,155,737	912,244	42	46,736	2	865,508-	40-
2018	10,569,964	12,951,712	123	71,725	1	12,879,987-	122-
TOTAL	77,196,671	20,577,179	27	329,232	0	20,247,947-	26-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	1,060,990		0		0		0
91-93	1,155,734		0		0		0
92-94	952,900		0		0		0
93-95	1,416,846		0		0		0
94-96	1,192,120		0		0		0
95-97	958,764		0		0		0
96-98	317,699		0		0		0
97-99	908,071		0		0		0
98-00	854,316		0		0		0

DUKE ENERGY KENTUCKY

ACCOUNT 3120 BOILER PLANT EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	601,334		0		0		0
00-02							
01-03	2,408,935	406,974	17	18,067	1	388,908-	16-
02-04	3,237,902	406,974	13	18,067	1	388,908-	12-
03-05	4,301,881	406,974	9	18,067	0	388,908-	9-
04-06	1,973,090	13,653	1		0	13,653-	1-
05-07	2,967,386	38,077	1		0	38,077-	1-
06-08	3,094,149	64,797	2		0	64,797-	2-
07-09	3,322,019	114,928	3		0	114,928-	3-
08-10	1,903,055	117,158	6	29,167	2	87,991-	5-
09-11	1,082,099	104,489	10	29,812	3	74,676-	7-
10-12	2,412,376	45,619	2	31,394	1	14,225-	1-
11-13	2,614,716	19,868	1	3,121	0	16,746-	1-
12-14	6,845,657	300,168	4	8,258-	0	308,426-	5-
13-15	6,841,952	1,469,990	21	16,872	0	1,453,118-	21-
14-16	7,370,395	1,655,665	22	19,902	0	1,635,762-	22-
15-17	3,488,248	1,665,394	48	46,215	1	1,619,180-	46-
16-18	5,376,983	4,807,895	89	43,412	1	4,764,483-	89-
FIVE-YEAR AVERAGE							
14-18	6,967,377	3,766,190	54	35,634	1	3,730,556-	54-

DUKE ENERGY KENTUCKY

ACCOUNT 3140 TURBOGENERATOR UNITS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1991	847,893		0		0		0
1992	538,297		0		0		0
1993	102,328		0		0		0
1994	555,226		0		0		0
1995	66,228		0		0		0
1996	5,992		0		0		0
1997	229,904		0		0		0
1998	210,493		0		0		0
1999	40,715		0		0		0
2000							
2001							
2002							
2003	311,366	43,075	14		0	43,075-	14-
2004	582,032		0		0		0
2005	850,980		0		0		0
2006	7,944	1,284	16		0	1,284-	16-
2007	1,044,758	9,522	1		0	9,522-	1-
2008	5,669,977	481,747	8	537,424	9	55,677	1
2009	1,787,235	137,589	8		0	137,589-	8-
2010	549,448		0		0		0
2011	16,313-	78,687	482-		0	78,687-	482
2012	689,392	2,218	0	1,511	0	706-	0
2013	205,842	78,030	38		0	78,030-	38-
2014	904,388	48,776	5	538-	0	49,314-	5-
2015	143,768	37,396	26	4-	0	37,399-	26-
2016	1,063,096	230,533	22	83,112	8	147,421-	14-
2017	490,139	270,220	55		0	270,220-	55-
2018	7,334,277	908,932	12	743,314	10	165,618-	2-
TOTAL	24,215,406	2,328,007	10	1,364,819	6	963,188-	4-

THREE-YEAR MOVING AVERAGES

91-93	496,173		0		0		0
92-94	398,617		0		0		0
93-95	241,260		0		0		0
94-96	209,149		0		0		0
95-97	100,708		0		0		0
96-98	148,796		0		0		0
97-99	160,371		0		0		0
98-00	83,736		0		0		0
99-01	13,572		0		0		0
00-02							

DUKE ENERGY KENTUCKY

ACCOUNT 3140 TURBOGENERATOR UNITS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	103,789	14,358	14		0	14,358-	14-
02-04	297,799	14,358	5		0	14,358-	5-
03-05	581,459	14,358	2		0	14,358-	2-
04-06	480,319	428	0		0	428-	0
05-07	634,561	3,602	1		0	3,602-	1-
06-08	2,240,893	164,184	7	179,141	8	14,957	1
07-09	2,833,990	209,619	7	179,141	6	30,478-	1-
08-10	2,668,887	206,445	8	179,141	7	27,304-	1-
09-11	773,456	72,092	9		0	72,092-	9-
10-12	407,509	26,968	7	504	0	26,464-	6-
11-13	292,974	52,978	18	504	0	52,474-	18-
12-14	599,874	43,008	7	324	0	42,683-	7-
13-15	417,999	54,734	13	181-	0	54,914-	13-
14-16	703,751	105,568	15	27,523	4	78,045-	11-
15-17	565,668	179,383	32	27,703	5	151,680-	27-
16-18	2,962,504	469,895	16	275,475	9	194,420-	7-
FIVE-YEAR AVERAGE							
14-18	1,987,134	299,171	15	165,177	8	133,995-	7-

DUKE ENERGY KENTUCKY

ACCOUNT 3150 ACCESSORY ELECTRIC EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	32,390		0		0		0
1991	71,444		0		0		0
1992	32,766		0		0		0
1993							
1994							
1995	259,537		0		0		0
1996	69,143		0		0		0
1997	68,288		0		0		0
1998							
1999							
2000							
2001							
2002							
2003	75,714		0		0		0
2004	729,582		0		0		0
2005	69,401		0		0		0
2006							
2007	201,141	9,407	5		0	9,407-	5-
2008	3,085		0		0		0
2009	43,091	49	0		0	49-	0
2010	109,381		0		0		0
2011	142,864	972	1		0	972-	1-
2012	3,785,797		0		0		0
2013	96,218		0		0		0
2014	7,950	18,667	235	1,000	13	17,667-	222-
2015	23,366	8,386	36		0	8,386-	36-
2016	138,337	174,762	126	3,644	3	171,118-	124-
2017							
2018	2,104	880	42		0	880-	42-
TOTAL	5,961,599	213,123	4	4,644	0	208,479-	3-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	45,533		0		0		0
91-93	34,737		0		0		0
92-94	10,922		0		0		0
93-95	86,512		0		0		0
94-96	109,560		0		0		0
95-97	132,323		0		0		0
96-98	45,810		0		0		0
97-99	22,763		0		0		0
98-00							

DUKE ENERGY KENTUCKY

ACCOUNT 3150 ACCESSORY ELECTRIC EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01							
00-02							
01-03	25,238		0		0		0
02-04	268,432		0		0		0
03-05	291,566		0		0		0
04-06	266,328		0		0		0
05-07	90,181	3,136	3		0	3,136-	3-
06-08	68,075	3,136	5		0	3,136-	5-
07-09	82,439	3,152	4		0	3,152-	4-
08-10	51,852	16	0		0	16-	0
09-11	98,445	340	0		0	340-	0
10-12	1,346,014	324	0		0	324-	0
11-13	1,341,626	324	0		0	324-	0
12-14	1,296,655	6,222	0	333	0	5,889-	0
13-15	42,512	9,018	21	333	1	8,684-	20-
14-16	56,551	67,272	119	1,548	3	65,724-	116-
15-17	53,901	61,049	113	1,215	2	59,834-	111-
16-18	46,814	58,547	125	1,215	3	57,333-	122-
FIVE-YEAR AVERAGE							
14-18	34,351	40,539	118	929	3	39,610-	115-

DUKE ENERGY KENTUCKY

ACCOUNT 3160 MISCELLANEOUS POWER PLANT EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1990	46,577		0		0		0
1991	17,681		0		0		0
1992							
1993							
1994	19,547		0		0		0
1995	13,008		0		0		0
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003	138,740		0		0		0
2004							
2005	113,268	775	1	2,500	2	1,725	2
2006							
2007	36,418	354	1		0	354-	1-
2008							
2009	28,970		0		0		0
2010	1,129,078	13,421	1		0	13,421-	1-
2011	77,470-		0		0		0
2012	29,490		0		0		0
2013	161,855		0		0		0
2014	106,228	6,571	6		0	6,571-	6-
2015	84,021	1,485	2		0	1,485-	2-
2016	123,305	453	0		0	453-	0
2017	243,509	143,623	59		0	143,623-	59-
2018		16,582				16,582-	
TOTAL	2,214,227	183,264	8	2,500	0	180,764-	8-
THREE-YEAR MOVING AVERAGES							
90-92	21,420		0		0		0
91-93	5,894		0		0		0
92-94	6,516		0		0		0
93-95	10,852		0		0		0
94-96	10,852		0		0		0
95-97	4,336		0		0		0
96-98							
97-99							
98-00							

DUKE ENERGY KENTUCKY

ACCOUNT 3160 MISCELLANEOUS POWER PLANT EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01							
00-02							
01-03	46,247		0		0		0
02-04	46,247		0		0		0
03-05	84,003	258	0	833	1	575	1
04-06	37,756	258	1	833	2	575	2
05-07	49,895	376	1	833	2	457	1
06-08	12,139	118	1		0	118-	1-
07-09	21,796	118	1		0	118-	1-
08-10	386,016	4,474	1		0	4,474-	1-
09-11	360,193	4,474	1		0	4,474-	1-
10-12	360,366	4,474	1		0	4,474-	1-
11-13	37,959		0		0		0
12-14	99,191	2,190	2		0	2,190-	2-
13-15	117,368	2,685	2		0	2,685-	2-
14-16	104,518	2,836	3		0	2,836-	3-
15-17	150,279	48,520	32		0	48,520-	32-
16-18	122,272	53,553	44		0	53,553-	44-
FIVE-YEAR AVERAGE							
14-18	111,413	33,743	30		0	33,743-	30-

DUKE ENERGY KENTUCKY

ACCOUNT 3410 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2007	10,618	936	9		0	936-	9-
2008	22,463	5,016	22		0	5,016-	22-
2009							
2010	15,621	4,410	28		0	4,410-	28-
2011							
2012	6,963		0		0		0
2013							
2014	75,984	5,933	8		0	5,933-	8-
2015							
2016	46,566		0		0		0
2017	172,056	37,476	22		0	37,476-	22-
2018	6,687	33,596	502		0	33,596-	502-
TOTAL	356,958	87,367	24		0	87,367-	24-
THREE-YEAR MOVING AVERAGES							
07-09	11,027	1,984	18		0	1,984-	18-
08-10	12,694	3,142	25		0	3,142-	25-
09-11	5,207	1,470	28		0	1,470-	28-
10-12	7,528	1,470	20		0	1,470-	20-
11-13	2,321		0		0		0
12-14	27,649	1,978	7		0	1,978-	7-
13-15	25,328	1,978	8		0	1,978-	8-
14-16	40,850	1,978	5		0	1,978-	5-
15-17	72,874	12,492	17		0	12,492-	17-
16-18	75,103	23,691	32		0	23,691-	32-
FIVE-YEAR AVERAGE							
14-18	60,259	15,401	26		0	15,401-	26-

DUKE ENERGY KENTUCKY

ACCOUNT 3420 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2004	42,403		0		0		0
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	98,945		0		0		0
2013							
2014	21,496	777	4		0	777-	4-
2015	83,669	4,996	6		0	4,996-	6-
2016	70,159	3,042	4		0	3,042-	4-
2017							
2018							
TOTAL	316,671	8,815	3		0	8,815-	3-
THREE-YEAR MOVING AVERAGES							
04-06	14,134		0		0		0
05-07							
06-08							
07-09							
08-10							
09-11							
10-12	32,982		0		0		0
11-13	32,982		0		0		0
12-14	40,147	259	1		0	259-	1-
13-15	35,055	1,924	5		0	1,924-	5-
14-16	58,441	2,938	5		0	2,938-	5-
15-17	51,276	2,679	5		0	2,679-	5-
16-18	23,386	1,014	4		0	1,014-	4-
FIVE-YEAR AVERAGE							
14-18	35,065	1,763	5		0	1,763-	5-

DUKE ENERGY KENTUCKY

ACCOUNT 3440 GENERATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2003	5,187		0		0		0
2004	32,402		0		0		0
2005	8,425,368		0	5,014,886	60	5,014,886	60
2006	4,742		0		0		0
2007	3,708,458		0		0		0
2008	11,539,368	5,444	0		0	5,444-	0
2009	12,561,235		0	2,595,016	21	2,595,016	21
2010	2,460,899		0		0		0
2011	3,261,267		0	786,306	24	786,306	24
2012	6,057,335		0		0		0
2013	199,816		0		0		0
2014	1,410,294-		0		0		0
2015	928,074-	65,681	7-		0	65,681-	7
2016	66,004-	24,500	37-		0	24,500-	37
2017	5,154,293	14,900	0		0	14,900-	0
2018	689,312	15,959	2	2,127,028	309	2,111,069	306
TOTAL	51,695,311	126,484	0	10,523,235	20	10,396,751	20
THREE-YEAR MOVING AVERAGES							
03-05	2,820,986		0	1,671,629	59	1,671,629	59
04-06	2,820,837		0	1,671,629	59	1,671,629	59
05-07	4,046,189		0	1,671,629	41	1,671,629	41
06-08	5,084,189	1,815	0		0	1,815-	0
07-09	9,269,687	1,815	0	865,005	9	863,190	9
08-10	8,853,834	1,815	0	865,005	10	863,190	10
09-11	6,094,467		0	1,127,107	18	1,127,107	18
10-12	3,926,500		0	262,102	7	262,102	7
11-13	3,172,806		0	262,102	8	262,102	8
12-14	1,615,619		0		0		0
13-15	712,851-	21,894	3-		0	21,894-	3
14-16	801,457-	30,060	4-		0	30,060-	4
15-17	1,386,738	35,027	3		0	35,027-	3-
16-18	1,925,867	18,453	1	709,009	37	690,556	36
FIVE-YEAR AVERAGE							
14-18	687,847	24,208	4	425,406	62	401,198	58

DUKE ENERGY KENTUCKY

ACCOUNT 3450 ACCESSORY ELECTRIC EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2003	52,428		0		0		0
2004							
2005							
2006							
2007	6,651	873	13		0	873-	13-
2008	6,268	892	14		0	892-	14-
2009							
2010							
2011	198,105-		0		0		0
2012	1,186,043		0		0		0
2013							
2014	55,185	12,089	22		0	12,089-	22-
2015	1,368,190	17,000	1	8,391	1	8,609-	1-
2016							
2017	146,082	11,870	8		0	11,870-	8-
2018	128,659	2,067	2		0	2,067-	2-
TOTAL	2,751,400	44,791	2	8,391	0	36,400-	1-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
03-05	17,476		0		0		0
04-06							
05-07	2,217	291	13		0	291-	13-
06-08	4,306	588	14		0	588-	14-
07-09	4,306	588	14		0	588-	14-
08-10	2,089	297	14		0	297-	14-
09-11	66,035-		0		0		0
10-12	329,313		0		0		0
11-13	329,313		0		0		0
12-14	413,743	4,030	1		0	4,030-	1-
13-15	474,458	9,696	2	2,797	1	6,899-	1-
14-16	474,458	9,696	2	2,797	1	6,899-	1-
15-17	504,757	9,623	2	2,797	1	6,826-	1-
16-18	91,580	4,646	5		0	4,646-	5-

FIVE-YEAR AVERAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
14-18	339,623	8,605	3	1,678	0	6,927-	2-

DUKE ENERGY KENTUCKY

ACCOUNT 3460 MISCELLANEOUS POWER PLANT EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2003	37,219		0		0		0
2004							
2005	23,673		0		0		0
2006							
2007	82,232	2,907	4		0	2,907-	4-
2008							
2009	146,504		0		0		0
2010	71,076-		0		0		0
2011	90,281	956	1		0	956-	1-
2012							
2013	6,098		0		0		0
2014							
2015							
2016	15,701	2,955	19		0	2,955-	19-
2017	84,101	4,246	5		0	4,246-	5-
2018	7,407	2,358	32		0	2,358-	32-
TOTAL	422,141	13,422	3		0	13,422-	3-
THREE-YEAR MOVING AVERAGES							
03-05	20,297		0		0		0
04-06	7,891		0		0		0
05-07	35,302	969	3		0	969-	3-
06-08	27,411	969	4		0	969-	4-
07-09	76,245	969	1		0	969-	1-
08-10	25,143		0		0		0
09-11	55,237	319	1		0	319-	1-
10-12	6,402	319	5		0	319-	5-
11-13	32,126	319	1		0	319-	1-
12-14	2,032		0		0		0
13-15	2,032		0		0		0
14-16	5,234	985	19		0	985-	19-
15-17	33,268	2,401	7		0	2,401-	7-
16-18	35,736	3,186	9		0	3,186-	9-
FIVE-YEAR AVERAGE							
14-18	21,442	1,912	9		0	1,912-	9-

DUKE ENERGY KENTUCKY

ACCOUNTS 3520 AND 3610 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1992	930	2,208	237		0	2,208-	237-
1993							
1994	1,042		0		0		0
1995							
1996							
1997							
1998	1,925		0		0		0
1999	1,918	370-	19-		0	370	19
2000							
2001							
2002							
2003							
2004							
2005	34,703		0		0		0
2006	6,015	9,055	151		0	9,055-	151-
2007	1,175	39,895			0	39,895-	
2008							
2009							
2010	4,149	2,333	56		0	2,333-	56-
2011	56,262	14,966	27		0	14,966-	27-
2012							
2013							
2014	67,048	44,740	67		0	44,740-	67-
2015	60,906	112,689	185		0	112,689-	185-
2016							
2017	55,722		0		0		0
2018							
TOTAL	291,795	225,515	77		0	225,515-	77-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
92-94	657	736	112		0	736-	112-
93-95	347		0		0		0
94-96	347		0		0		0
95-97							
96-98	642		0		0		0
97-99	1,281	123-	10-		0	123	10
98-00	1,281	123-	10-		0	123	10
99-01	639	123-	19-		0	123	19
00-02							
01-03							
02-04							

DUKE ENERGY KENTUCKY

ACCOUNTS 3520 AND 3610 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
03-05	11,568		0		0		0
04-06	13,573	3,018	22		0	3,018-	22-
05-07	13,964	16,317	117		0	16,317-	117-
06-08	2,397	16,317	681		0	16,317-	681-
07-09	392	13,298			0	13,298-	
08-10	1,383	778	56		0	778-	56-
09-11	20,137	5,766	29		0	5,766-	29-
10-12	20,137	5,766	29		0	5,766-	29-
11-13	18,754	4,989	27		0	4,989-	27-
12-14	22,349	14,913	67		0	14,913-	67-
13-15	42,652	52,476	123		0	52,476-	123-
14-16	42,652	52,476	123		0	52,476-	123-
15-17	38,876	37,563	97		0	37,563-	97-
16-18	18,574		0		0		0
FIVE-YEAR AVERAGE							
14-18	36,735	31,486	86		0	31,486-	86-

DUKE ENERGY KENTUCKY

ACCOUNT 3530 STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1996	5,552	1,770	32		0	1,770-	32-
1997							
1998							
1999	4,924		0		0		0
2000							
2001							
2002							
2003	8,271	971	12		0	971-	12-
2004	28,699		0		0		0
2005	8,525	244	3		0	244-	3-
2006							
2007							
2008	25,000		0		0		0
2009							
2010							
2011							
2012							
2013							
2014	10,106	5,940	59		0	5,940-	59-
2015	251,224	67,833	27		0	67,833-	27-
2016	31,627	5,459	17		0	5,459-	17-
2017	175,264	8,210	5		0	8,210-	5-
2018	268,447	21,551	8		0	21,551-	8-
TOTAL	817,641	111,977	14		0	111,977-	14-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
96-98	1,851	590	32		0	590-	32-
97-99	1,641		0		0		0
98-00	1,641		0		0		0
99-01	1,641		0		0		0
00-02							
01-03	2,757	324	12		0	324-	12-
02-04	12,323	324	3		0	324-	3-
03-05	15,165	405	3		0	405-	3-
04-06	12,408	81	1		0	81-	1-
05-07	2,842	81	3		0	81-	3-
06-08	8,333		0		0		0
07-09	8,333		0		0		0
08-10	8,333		0		0		0
09-11							
10-12							

DUKE ENERGY KENTUCKY

ACCOUNT 3530 STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
11-13							
12-14	3,369	1,980	59		0	1,980-	59-
13-15	87,110	24,591	28		0	24,591-	28-
14-16	97,653	26,410	27		0	26,410-	27-
15-17	152,705	27,167	18		0	27,167-	18-
16-18	158,446	11,740	7		0	11,740-	7-
FIVE-YEAR AVERAGE							
14-18	147,334	21,798	15		0	21,798-	15-

DUKE ENERGY KENTUCKY

ACCOUNT 3532 STATION EQUIPMENT - MAJOR

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2002	40,579		0		0		0
2003	683,187	13,017	2		0	13,017-	2-
2004	60,919	63,346	104		0	63,346-	104-
2005	70,331	3,406	5		0	3,406-	5-
2006							
2007	19,674		0		0		0
2008							
2009							
2010							
2011							
2012							
2013	4,301	16,394	381		0	16,394-	381-
2014							
2015	163,562	12,950	8		0	12,950-	8-
2016							
2017							
2018							
TOTAL	1,042,554	109,113	10		0	109,113-	10-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
02-04	261,562	25,454	10		0	25,454-	10-
03-05	271,479	26,590	10		0	26,590-	10-
04-06	43,750	22,251	51		0	22,251-	51-
05-07	30,002	1,135	4		0	1,135-	4-
06-08	6,558		0		0		0
07-09	6,558		0		0		0
08-10							
09-11							
10-12							
11-13	1,434	5,465	381		0	5,465-	381-
12-14	1,434	5,465	381		0	5,465-	381-
13-15	55,954	9,781	17		0	9,781-	17-
14-16	54,521	4,317	8		0	4,317-	8-
15-17	54,521	4,317	8		0	4,317-	8-
16-18							

FIVE-YEAR AVERAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
14-18	32,712	2,590	8		0	2,590-	8-

DUKE ENERGY KENTUCKY

ACCOUNT 3550 POLES AND FIXTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	763	972	127	1,766	232	794	104
1991	14,549	4,066	28	17,670	121	13,605	94
1992	8,323	6,604	79	1,262	15	5,342-	64-
1993	27,199	4,929	18	12,384	46	7,455	27
1994	83,911	17,032	20	150,518	179	133,486	159
1995	46,396	8,076	17	8,057	17	19-	0
1996	109,925	9,135	8		0	9,135-	8-
1997	4,381	5,437	124	279	6	5,158-	118-
1998	4,211	862	20	5,114	121	4,252	101
1999	50,612	14,338	28	18,395	36	4,057	8
2000	9,767	3,084	32		0	3,084-	32-
2001	117,966	20,992	18		0	20,992-	18-
2002	13,673	6,716	49		0	6,716-	49-
2003	517	1,763	341		0	1,763-	341-
2004	12,902	5,311	41		0	5,311-	41-
2005	36,647	17,279	47	2,000	5	15,279-	42-
2006	47,381	3,638	8		0	3,638-	8-
2007	75,430	45,207	60		0	45,207-	60-
2008	43,933	5,851	13		0	5,851-	13-
2009	19,683	17,472	89		0	17,472-	89-
2010							
2011	69,526	18,700	27		0	18,700-	27-
2012	20,502		0		0		0
2013	9,915		0		0		0
2014	4,760	8,199	172		0	8,199-	172-
2015		3,338				3,338-	
2016	16,021	33,955	212		0	33,955-	212-
2017	45,555	54,776	120		0	54,776-	120-
2018		84,870				84,870-	
TOTAL	894,447	402,602	45	217,445	24	185,157-	21-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	7,878	3,880	49	6,899	88	3,019	38
91-93	16,690	5,200	31	10,439	63	5,239	31
92-94	39,811	9,521	24	54,721	137	45,200	114
93-95	52,502	10,012	19	56,986	109	46,974	89
94-96	80,077	11,414	14	52,858	66	41,444	52
95-97	53,567	7,549	14	2,779	5	4,770-	9-
96-98	39,506	5,145	13	1,798	5	3,347-	8-
97-99	19,735	6,879	35	7,929	40	1,050	5
98-00	21,530	6,095	28	7,836	36	1,741	8

DUKE ENERGY KENTUCKY

ACCOUNT 3550 POLES AND FIXTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	59,448	12,805	22	6,132	10	6,673-	11-
00-02	47,135	10,264	22		0	10,264-	22-
01-03	44,052	9,823	22		0	9,823-	22-
02-04	9,031	4,597	51		0	4,597-	51-
03-05	16,689	8,118	49	667	4	7,451-	45-
04-06	32,310	8,743	27	667	2	8,076-	25-
05-07	53,152	22,041	41	667	1	21,375-	40-
06-08	55,581	18,232	33		0	18,232-	33-
07-09	46,349	22,844	49		0	22,844-	49-
08-10	21,205	7,775	37		0	7,775-	37-
09-11	29,737	12,057	41		0	12,057-	41-
10-12	30,009	6,233	21		0	6,233-	21-
11-13	33,314	6,233	19		0	6,233-	19-
12-14	11,726	2,733	23		0	2,733-	23-
13-15	4,891	3,846	79		0	3,846-	79-
14-16	6,927	15,164	219		0	15,164-	219-
15-17	20,525	30,690	150		0	30,690-	150-
16-18	20,525	57,867	282		0	57,867-	282-
FIVE-YEAR AVERAGE							
14-18	13,267	37,028	279		0	37,028-	279-

DUKE ENERGY KENTUCKY

ACCOUNT 3560 OVERHEAD CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	399	425	107	26	7	399-	100-
1991	5,146	752	15	11,297	220	10,545	205
1992	6,930	5,658	82	584	8	5,074-	73-
1993	10,050	915	9	385	4	530-	5-
1994	74,663	15,269	20		0	15,269-	20-
1995	47,175	6,437	14	7,803	17	1,366	3
1996	115,748		0		0		0
1997							
1998	50		0		0		0
1999	38,345	27,198-	71-	1,288	3	28,486	74
2000							
2001	140,500	13,093	9		0	13,093-	9-
2002	2,879	3,919	136		0	3,919-	136-
2003		1,834				1,834-	
2004	5,376	6,881	128		0	6,881-	128-
2005	20,039		0	2,000	10	2,000	10
2006	71,240	11,817	17		0	11,817-	17-
2007	39,937	6,050	15		0	6,050-	15-
2008	64,045	16,180	25		0	16,180-	25-
2009	456	1,919-	421-		0	1,919	421
2010							
2011		1,563-				1,563	
2012							
2013	13,949		0		0		0
2014	10,588		0		0		0
2015		1,589				1,589-	
2016	4,853	7,125	147		0	7,125-	147-
2017	43	10	24		0	10-	24-
2018	6,523	6,995	107		0	6,995-	107-
TOTAL	678,933	74,269	11	23,383	3	50,885-	7-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	4,158	2,279	55	3,969	95	1,691	41
91-93	7,375	2,442	33	4,089	55	1,647	22
92-94	30,547	7,281	24	323	1	6,958-	23-
93-95	43,963	7,540	17	2,729	6	4,811-	11-
94-96	79,195	7,235	9	2,601	3	4,634-	6-
95-97	54,308	2,146	4	2,601	5	455	1
96-98	38,599		0		0		0
97-99	12,798	9,066-	71-	430	3	9,495	74
98-00	12,798	9,066-	71-	430	3	9,495	74

DUKE ENERGY KENTUCKY

ACCOUNT 3560 OVERHEAD CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01	59,615	4,702-	8-	430	1	5,131	9
00-02	47,793	5,670	12		0	5,670-	12-
01-03	47,793	6,282	13		0	6,282-	13-
02-04	2,752	4,211	153		0	4,211-	153-
03-05	8,472	2,905	34	667	8	2,238-	26-
04-06	32,219	6,233	19	667	2	5,566-	17-
05-07	43,739	5,956	14	667	2	5,289-	12-
06-08	58,407	11,349	19		0	11,349-	19-
07-09	34,812	6,770	19		0	6,770-	19-
08-10	21,500	4,754	22		0	4,754-	22-
09-11	152	1,161-	764-		0	1,161	764
10-12		521-				521	
11-13	4,650	521-	11-		0	521	11
12-14	8,179		0		0		0
13-15	8,179	530	6		0	530-	6-
14-16	5,147	2,905	56		0	2,905-	56-
15-17	1,632	2,908	178		0	2,908-	178-
16-18	3,806	4,710	124		0	4,710-	124-
FIVE-YEAR AVERAGE							
14-18	4,401	3,144	71		0	3,144-	71-

DUKE ENERGY KENTUCKY

ACCOUNT 3620 STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	35,343	23,601	67		0	23,601-	67-
1991		14,827				14,827-	
1992	39,324	3,732	9		0	3,732-	9-
1993	395,717	4,265	1		0	4,265-	1-
1994	608,354	59,357	10	2,449-	0	61,807-	10-
1995	141,231	28,005	20	214	0	27,791-	20-
1996	35,982	13,491	37	16	0	13,476-	37-
1997	63,344	7,053	11	70	0	6,983-	11-
1998	686,272	3,445-	1-		0	3,445	1
1999	181,674-	7,267	4-	5,655	3-	1,612-	1
2000							
2001							
2002							
2003	134,044	50,103	37		0	50,103-	37-
2004	3,033	857	28		0	857-	28-
2005	121,086	25,083	21		0	25,083-	21-
2006	115,429	160,756	139		0	160,756-	139-
2007	45,070	1,576	3		0	1,576-	3-
2008	18,828	864	5		0	864-	5-
2009	511	1,009	197		0	1,009-	197-
2010	59,547	27,855	47		0	27,855-	47-
2011	260,714	62,252	24		0	62,252-	24-
2012							
2013	356,343	67,546	19	16,665	5	50,881-	14-
2014	638,580	204,028	32		0	204,028-	32-
2015	372,145	44,602	12	15,327	4	29,275-	8-
2016	245,385	10,846	4		0	10,846-	4-
2017	534,506	4,715	1		0	4,715-	1-
2018	4,428,923	168,588	4		0	168,588-	4-
TOTAL	9,158,038	988,836	11	35,497	0	953,339-	10-

THREE-YEAR MOVING AVERAGES

90-92	24,889	14,053	56		0	14,053-	56-
91-93	145,014	7,608	5		0	7,608-	5-
92-94	347,799	22,452	6	816-	0	23,268-	7-
93-95	381,768	30,543	8	745-	0	31,288-	8-
94-96	261,856	33,618	13	740-	0	34,358-	13-
95-97	80,186	16,183	20	100	0	16,083-	20-
96-98	261,866	5,700	2	28	0	5,671-	2-
97-99	189,314	3,625	2	1,908	1	1,717-	1-
98-00	168,199	1,274	1	1,885	1	611	0

DUKE ENERGY KENTUCKY

ACCOUNT 3620 STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	60,558-	2,422	4-	1,885	3-	537-	1
00-02							
01-03	44,681	16,701	37		0	16,701-	37-
02-04	45,692	16,987	37		0	16,987-	37-
03-05	86,054	25,348	29		0	25,348-	29-
04-06	79,849	62,232	78		0	62,232-	78-
05-07	93,861	62,472	67		0	62,472-	67-
06-08	59,776	54,399	91		0	54,399-	91-
07-09	21,470	1,150	5		0	1,150-	5-
08-10	26,295	9,909	38		0	9,909-	38-
09-11	106,924	30,372	28		0	30,372-	28-
10-12	106,754	30,036	28		0	30,036-	28-
11-13	205,686	43,266	21	5,555	3	37,711-	18-
12-14	331,641	90,525	27	5,555	2	84,970-	26-
13-15	455,689	105,392	23	10,664	2	94,728-	21-
14-16	418,703	86,492	21	5,109	1	81,383-	19-
15-17	384,012	20,054	5	5,109	1	14,945-	4-
16-18	1,736,272	61,383	4		0	61,383-	4-
FIVE-YEAR AVERAGE							
14-18	1,243,908	86,556	7	3,065	0	83,491-	7-

DUKE ENERGY KENTUCKY

ACCOUNT 3622 STATION EQUIPMENT - MAJOR

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2000	24,335		0		0		0
2001							
2002							
2003							
2004	9,210	2,907	32		0	2,907-	32-
2005	35,537		0		0		0
2006	11,848	5,524	47		0	5,524-	47-
2007	12,477	4,148	33		0	4,148-	33-
2008	154,112	28,695	19	30,651	20	1,956	1
2009	2,241	1,357	61		0	1,357-	61-
2010	109,099	10,604	10		0	10,604-	10-
2011							
2012							
2013							
2014	1,517	1,012	67		0	1,012-	67-
2015	141,607	13,641	10		0	13,641-	10-
2016							
2017							
2018	2,674	1,032	39		0	1,032-	39-
TOTAL	504,657	68,920	14	30,651	6	38,269-	8-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
00-02	8,112		0		0		0
01-03							
02-04	3,070	969	32		0	969-	32-
03-05	14,916	969	6		0	969-	6-
04-06	18,865	2,810	15		0	2,810-	15-
05-07	19,954	3,224	16		0	3,224-	16-
06-08	59,479	12,789	22	10,217	17	2,572-	4-
07-09	56,277	11,400	20	10,217	18	1,183-	2-
08-10	88,484	13,552	15	10,217	12	3,335-	4-
09-11	37,113	3,987	11		0	3,987-	11-
10-12	36,366	3,535	10		0	3,535-	10-
11-13							
12-14	506	337	67		0	337-	67-
13-15	47,708	4,884	10		0	4,884-	10-
14-16	47,708	4,884	10		0	4,884-	10-

DUKE ENERGY KENTUCKY

ACCOUNT 3622 STATION EQUIPMENT - MAJOR

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
15-17	47,202	4,547	10		0	4,547-	10-
16-18	891	344	39		0	344-	39-
FIVE-YEAR AVERAGE							
14-18	29,160	3,137	11		0	3,137-	11-

DUKE ENERGY KENTUCKY

ACCOUNT 3640 POLES, TOWERS AND FIXTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	217,732	98,829	45	151,720	70	52,891	24
1991	220,355	160,349	73	133,244	60	27,105-	12-
1992	838,996	181,086	22	373,355	45	192,269	23
1993	187,297	118,920	63	213,890	114	94,970	51
1994	383,269	194,529	51	144,301	38	50,228-	13-
1995	477,684	171,827	36	380,720	80	208,893	44
1996	174,965	58,850	34	32,929-	19-	91,778-	52-
1997	147,637	45,107-	31-	107,087	73	152,194	103
1998	207,158	27,024	13	20,768	10	6,256-	3-
1999	395,043	108,686	28	7,371	2	101,315-	26-
2000	102,198	7,376-	7-		0	7,376	7
2001	548,586	74,872	14	12,273	2	62,599-	11-
2002	101,028	5,918	6		0	5,918-	6-
2003	138,540	153,817	111		0	153,817-	111-
2004	504,478	3,253	1		0	3,253-	1-
2005	656,916	76,489	12	4	0	76,485-	12-
2006	307,789	6,199	2		0	6,199-	2-
2007	485,951	38,788	8		0	38,788-	8-
2008	406,689	35,745	9		0	35,745-	9-
2009	329,339	191,659	58	46-	0	191,705-	58-
2010	299,289	467,435	156		0	467,435-	156-
2011	270,974	2,001	1		0	2,001-	1-
2012	154,070	72,712	47		0	72,712-	47-
2013	295,418		0		0		0
2014	571,297	392,057	69	272	0	391,785-	69-
2015	15,426	60,190	390	6-	0	60,197-	390-
2016	626,109	314,794	50		0	314,794-	50-
2017	274,754	740,748	270	76,865	28	663,883-	242-
2018	409,478	1,465,094	358	1,989	0	1,463,105-	357-
TOTAL	9,748,465	5,169,388	53	1,590,878	16	3,578,510-	37-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	425,694	146,755	34	219,440	52	72,685	17
91-93	415,549	153,452	37	240,163	58	86,711	21
92-94	469,854	164,845	35	243,849	52	79,004	17
93-95	349,417	161,759	46	246,304	70	84,545	24
94-96	345,306	141,735	41	164,031	48	22,295	6
95-97	266,762	61,857	23	151,626	57	89,769	34
96-98	176,586	13,589	8	31,642	18	18,053	10
97-99	249,946	30,201	12	45,076	18	14,875	6
98-00	234,800	42,778	18	9,380	4	33,398-	14-

DUKE ENERGY KENTUCKY

ACCOUNT 3640 POLES, TOWERS AND FIXTURES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	348,609	58,728	17	6,548	2	52,179-	15-
00-02	250,604	24,471	10	4,091	2	20,380-	8-
01-03	262,718	78,202	30	4,091	2	74,111-	28-
02-04	248,015	54,329	22		0	54,329-	22-
03-05	433,311	77,853	18	1	0	77,851-	18-
04-06	489,728	28,647	6	1	0	28,645-	6-
05-07	483,552	40,492	8	1	0	40,491-	8-
06-08	400,143	26,911	7		0	26,911-	7-
07-09	407,326	88,731	22	15-	0	88,746-	22-
08-10	345,106	231,613	67	15-	0	231,629-	67-
09-11	299,867	220,365	73	15-	0	220,380-	73-
10-12	241,444	180,716	75		0	180,716-	75-
11-13	240,154	24,904	10		0	24,904-	10-
12-14	340,261	154,923	46	91	0	154,832-	46-
13-15	294,047	150,749	51	88	0	150,661-	51-
14-16	404,277	255,680	63	88	0	255,592-	63-
15-17	305,430	371,911	122	25,619	8	346,291-	113-
16-18	436,780	840,212	192	26,284	6	813,927-	186-
FIVE-YEAR AVERAGE							
14-18	379,413	594,577	157	15,824	4	578,753-	153-

DUKE ENERGY KENTUCKY

ACCOUNT 3650 OVERHEAD CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	303,463	136,626	45	75,581	25	61,045-	20-
1991	227,749	147,390	65	155,875	68	8,484	4
1992	313,481	219,476	70	84,048	27	135,428-	43-
1993	240,027	136,014	57	84,089	35	51,925-	22-
1994	611,884	406,780	66	170,730	28	236,049-	39-
1995	596,355	234,379	39	342,025	57	107,646	18
1996	312,145	12,935	4	18,101-	6-	31,036-	10-
1997	80,667	130,365	162	19,621	24	110,744-	137-
1998	138,235	14,622	11	16,660	12	2,038	1
1999	393,713	121,417	31	2,920	1	118,497-	30-
2000	130,205	844	1		0	844-	1-
2001	729,041	196,330	27	45,423	6	150,907-	21-
2002	25,330-	55,995	221-		0	55,995-	221
2003	118,377	362,994	307		0	362,994-	307-
2004	836,373	35,574	4		0	35,574-	4-
2005	813,573	459,814	57	44	0	459,770-	57-
2006	390,352	63,797	16		0	63,797-	16-
2007	973,394	389,352	40		0	389,352-	40-
2008	538,581	224,711	42		0	224,711-	42-
2009	632,125	200,030	32	1,889	0	198,141-	31-
2010	935,685	1,403,092	150		0	1,403,092-	150-
2011	860,354	5,419	1		0	5,419-	1-
2012	1,303,520	352,308	27		0	352,308-	27-
2013	2,705,340		0		0		0
2014	7,116,082	1,161,243	16	7,705	0	1,153,538-	16-
2015	1,436,963-	328,128	23-	110-	0	328,238-	23
2016	3,273,645	989,485	30		0	989,485-	30-
2017	1,314,887	1,074,671	82	112,011	9	962,660-	73-
2018	724,734	1,690,786	233	1,989	0	1,688,797-	233-
TOTAL	25,151,697	10,554,577	42	1,102,399	4	9,452,178-	38-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	281,564	167,831	60	105,168	37	62,663-	22-
91-93	260,419	167,627	64	108,004	41	59,623-	23-
92-94	388,464	254,090	65	112,956	29	141,134-	36-
93-95	482,755	259,057	54	198,948	41	60,109-	12-
94-96	506,795	218,031	43	164,885	33	53,146-	10-
95-97	329,723	125,893	38	114,515	35	11,378-	3-
96-98	177,016	52,641	30	6,060	3	46,581-	26-
97-99	204,205	88,801	43	13,067	6	75,734-	37-
98-00	220,718	45,628	21	6,527	3	39,101-	18-

DUKE ENERGY KENTUCKY

ACCOUNT 3650 OVERHEAD CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	417,653	106,197	25	16,114	4	90,083-	22-
00-02	277,972	84,390	30	15,141	5	69,249-	25-
01-03	274,029	205,106	75	15,141	6	189,966-	69-
02-04	309,807	151,521	49		0	151,521-	49-
03-05	589,441	286,127	49	15	0	286,113-	49-
04-06	680,099	186,395	27	15	0	186,380-	27-
05-07	725,773	304,321	42	15	0	304,307-	42-
06-08	634,109	225,954	36		0	225,954-	36-
07-09	714,700	271,365	38	630	0	270,735-	38-
08-10	702,131	609,278	87	630	0	608,648-	87-
09-11	809,388	536,180	66	630	0	535,551-	66-
10-12	1,033,186	586,940	57		0	586,940-	57-
11-13	1,623,071	119,242	7		0	119,242-	7-
12-14	3,708,314	504,517	14	2,568	0	501,948-	14-
13-15	2,794,820	496,457	18	2,531	0	493,925-	18-
14-16	2,984,255	826,285	28	2,531	0	823,754-	28-
15-17	1,050,523	797,428	76	37,300	4	760,128-	72-
16-18	1,771,089	1,251,647	71	38,000	2	1,213,647-	69-
FIVE-YEAR AVERAGE							
14-18	2,198,477	1,048,862	48	24,319	1	1,024,544-	47-

DUKE ENERGY KENTUCKY

ACCOUNT 3660 UNDERGROUND CONDUIT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	2,240	6,496	290	9,926	443	3,431	153
1991	3,988	2,036	51	3,033-	76-	5,069-	127-
1992	8,711	3,249	37	2,761	32	489-	6-
1993	2,058	1,169	57		0	1,169-	57-
1994	2,013	894	44		0	894-	44-
1995	1,881	1,411	75		0	1,411-	75-
1996							
1997	1,360	217-	16-		0	217	16
1998							
1999	1,518	505	33		0	505-	33-
2000							
2001							
2002	4,609		0		0		0
2003	6,541	1,563	24		0	1,563-	24-
2004	3,222		0		0		0
2005	22,393	5,165	23		0	5,165-	23-
2006	11,712		0		0		0
2007	4,158	45	1		0	45-	1-
2008	5,640	1,135	20		0	1,135-	20-
2009	961	38	4		0	38-	4-
2010	991	74,897			0	74,897-	
2011	375	1	0		0	1-	0
2012	437	11,184			0	11,184-	
2013	44,240		0		0		0
2014	17,399	10,597	61	42	0	10,556-	61-
2015	8,309	149,206		99-	1-	149,305-	
2016	25,192	37	0		0	37-	0
2017		28,474-		6,494		34,967	
2018	41,871	1,623	4		0	1,623-	4-
TOTAL	221,819	242,561	109	16,091	7	226,470-	102-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	4,980	3,927	79	3,218	65	709-	14-
91-93	4,919	2,152	44	90-	2-	2,242-	46-
92-94	4,261	1,771	42	920	22	850-	20-
93-95	1,984	1,158	58		0	1,158-	58-
94-96	1,298	768	59		0	768-	59-
95-97	1,080	398	37		0	398-	37-
96-98	453	72-	16-		0	72	16
97-99	959	96	10		0	96-	10-
98-00	506	168	33		0	168-	33-

DUKE ENERGY KENTUCKY

ACCOUNT 3660 UNDERGROUND CONDUIT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	506	168	33		0	168-	33-
00-02	1,536		0		0		0
01-03	3,717	521	14		0	521-	14-
02-04	4,790	521	11		0	521-	11-
03-05	10,718	2,242	21		0	2,242-	21-
04-06	12,442	1,722	14		0	1,722-	14-
05-07	12,754	1,737	14		0	1,737-	14-
06-08	7,170	393	5		0	393-	5-
07-09	3,586	406	11		0	406-	11-
08-10	2,531	25,357			0	25,357-	
09-11	776	24,979			0	24,979-	
10-12	601	28,694			0	28,694-	
11-13	15,017	3,729	25		0	3,729-	25-
12-14	20,692	7,260	35	14	0	7,247-	35-
13-15	23,316	53,268	228	19-	0	53,287-	229-
14-16	16,967	53,280	314	19-	0	53,299-	314-
15-17	11,167	40,256	360	2,131	19	38,125-	341-
16-18	22,354	8,938-	40-	2,165	10	11,103	50
FIVE-YEAR AVERAGE							
14-18	18,554	26,598	143	1,287	7	25,311-	136-

DUKE ENERGY KENTUCKY

ACCOUNT 3670 UNDERGROUND CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	87,401	30,394	35	23,927	27	6,467-	7-
1991	31,879	17,356	54	36,234	114	18,877	59
1992	42,260	14,850	35	9,879	23	4,971-	12-
1993	69,647	24,244	35	15,918	23	8,326-	12-
1994	97,300	39,946	41	35,687	37	4,259-	4-
1995	75,590	44,001	58	261,764-	346-	305,765-	405-
1996	34,498	3,291	10	1,099	3	2,192-	6-
1997	3,146	11,711-	372-	6,457	205	18,168	577
1998	1,662	5,918	356	2,565	154	3,353-	202-
1999	27,742	5,107	18		0	5,107-	18-
2000							
2001	8,202		0		0		0
2002	29,273		0		0		0
2003	50,583	20,187	40		0	20,187-	40-
2004	221,372	75-	0		0	75	0
2005	199,633	100,118	50	7	0	100,111-	50-
2006	91,793	1,805	2		0	1,805-	2-
2007	186,161	16,972	9		0	16,972-	9-
2008	165,461	57,868	35		0	57,868-	35-
2009	221,383	80,193	36	152-	0	80,345-	36-
2010	94,652	797,328	842		0	797,328-	842-
2011	172,050	167-	0		0	167	0
2012	191,577	55,921	29		0	55,921-	29-
2013	527,957		0		0		0
2014	441,377	68,658	16	481	0	68,177-	15-
2015	23,839-	56,707	238-	16-	0	56,723-	238
2016	236,215	34,154	14		0	34,154-	14-
2017	177,846	49,181	28	3,688-	2-	52,869-	30-
2018	243,960	74,669	31		0	74,669-	31-
TOTAL	3,706,781	1,586,915	43	133,367-	4-	1,720,282-	46-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	53,847	20,867	39	23,347	43	2,480	5
91-93	47,929	18,817	39	20,677	43	1,860	4
92-94	69,736	26,346	38	20,495	29	5,852-	8-
93-95	80,846	36,064	45	70,053-	87-	106,117-	131-
94-96	69,129	29,079	42	74,993-	108-	104,072-	151-
95-97	37,745	11,860	31	84,736-	224-	96,596-	256-
96-98	13,102	834-	6-	3,374	26	4,208	32
97-99	10,850	229-	2-	3,008	28	3,236	30
98-00	9,802	3,675	37	855	9	2,820-	29-

DUKE ENERGY KENTUCKY

ACCOUNT 3670 UNDERGROUND CONDUCTORS AND DEVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	11,982	1,702	14		0	1,702-	14-
00-02	12,492		0		0		0
01-03	29,353	6,729	23		0	6,729-	23-
02-04	100,409	6,704	7		0	6,704-	7-
03-05	157,196	40,077	25	2	0	40,075-	25-
04-06	170,932	33,949	20	2	0	33,947-	20-
05-07	159,196	39,632	25	2	0	39,629-	25-
06-08	147,805	25,548	17		0	25,548-	17-
07-09	191,002	51,678	27	51-	0	51,728-	27-
08-10	160,499	311,797	194	51-	0	311,847-	194-
09-11	162,695	292,451	180	51-	0	292,502-	180-
10-12	152,759	284,361	186		0	284,361-	186-
11-13	297,194	18,585	6		0	18,585-	6-
12-14	386,970	41,526	11	160	0	41,366-	11-
13-15	315,165	41,788	13	155	0	41,633-	13-
14-16	217,918	53,173	24	155	0	53,018-	24-
15-17	130,074	46,681	36	1,235-	1-	47,916-	37-
16-18	219,340	52,668	24	1,229-	1-	53,898-	25-
FIVE-YEAR AVERAGE							
14-18	215,112	56,674	26	645-	0	57,318-	27-

DUKE ENERGY KENTUCKY

ACCOUNT 3680 AND 3682 LINE TRANSFORMERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	362,018	281,670	78	218,313	60	63,357-	18-
1991	266,727	70,694	27	165,931	62	95,237	36
1992	375,952	101,792	27	115,679	31	13,887	4
1993	487,171	39,446	8	170,173	35	130,728	27
1994	574,496	167,718	29	241,011	42	73,293	13
1995	482,193	63,494	13	336,495	70	273,001	57
1996	446,033	16,438	4	148,036	33	131,599	30
1997	265,872	15,936	6	177,691	67	161,755	61
1998	215,514	3,437	2	110,476	51	107,039	50
1999	264,966	21,062	8	110,002	42	88,941	34
2000	13,975	6,880-	49-		0	6,880	49
2001	551,332	14,567	3	1,066	0	13,501-	2-
2002	334,527	2,260	1		0	2,260-	1-
2003	310,036	41,328	13		0	41,328-	13-
2004	376,438	860	0		0	860-	0
2005	563,912	73,053	13		0	73,053-	13-
2006	208,781	3,202	2		0	3,202-	2-
2007	528,209	11,499	2		0	11,499-	2-
2008	197,196	2,225	1		0	2,225-	1-
2009	965,741	31,994	3	77-	0	32,071-	3-
2010	53,216	577,525			0	577,525-	
2011	134,367	737	1		0	737-	1-
2012	180,054	39,145	22		0	39,145-	22-
2013	131,425		0		0		0
2014	477,978	89,621	19	362	0	89,259-	19-
2015	672,040	340,393	51	65,764	10	274,629-	41-
2016	1,829,330	12,300	1		0	12,300-	1-
2017	710,145	442,465	62	26,532	4	415,933-	59-
2018	715,201	1,192,946	167	140	0	1,192,806-	167-
TOTAL	12,694,846	3,650,924	29	1,887,595	15	1,763,329-	14-

THREE-YEAR MOVING AVERAGES

90-92	334,899	151,385	45	166,641	50	15,256	5
91-93	376,616	70,644	19	150,595	40	79,950	21
92-94	479,206	102,985	21	175,621	37	72,636	15
93-95	514,620	90,219	18	249,227	48	159,007	31
94-96	500,908	82,550	16	241,848	48	159,298	32
95-97	398,033	31,956	8	220,741	55	188,785	47
96-98	309,140	11,937	4	145,401	47	133,465	43
97-99	248,784	13,478	5	132,723	53	119,245	48
98-00	164,818	5,873	4	73,493	45	67,620	41

DUKE ENERGY KENTUCKY

ACCOUNT 3680 AND 3682 LINE TRANSFORMERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	276,758	9,583	3	37,023	13	27,440	10
00-02	299,945	3,315	1	355	0	2,960-	1-
01-03	398,632	19,385	5	355	0	19,030-	5-
02-04	340,334	14,816	4		0	14,816-	4-
03-05	416,795	38,414	9		0	38,414-	9-
04-06	383,044	25,705	7		0	25,705-	7-
05-07	433,634	29,251	7		0	29,251-	7-
06-08	311,395	5,642	2		0	5,642-	2-
07-09	563,715	15,239	3	26-	0	15,265-	3-
08-10	405,384	203,915	50	26-	0	203,940-	50-
09-11	384,441	203,419	53	26-	0	203,444-	53-
10-12	122,546	205,802	168		0	205,802-	168-
11-13	148,616	13,294	9		0	13,294-	9-
12-14	263,153	42,922	16	121	0	42,801-	16-
13-15	427,148	143,338	34	22,042	5	121,296-	28-
14-16	993,116	147,438	15	22,042	2	125,396-	13-
15-17	1,070,505	265,053	25	30,765	3	234,287-	22-
16-18	1,084,892	549,237	51	8,891	1	540,346-	50-
FIVE-YEAR AVERAGE							
14-18	880,939	415,545	47	18,559	2	396,985-	45-

DUKE ENERGY KENTUCKY

ACCOUNT 3691 SERVICES - UNDERGROUND

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
1990	85	73	86	78	91	5	6
1991				39		39	
1992							
1993							
1994	39	14	37	1	3	13-	34-
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005	17	123	742		0	123-	742-
2006	64		0		0		0
2007	17,630		0		0		0
2008							
2009	30	249	826		0	249-	826-
2010		94				94-	
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
TOTAL	17,865	553	3	118	1	435-	2-

THREE-YEAR MOVING AVERAGES

90-92	28	24	86	39	137	15	51
91-93				13		13	
92-94	13	5	37		3	4-	34-
93-95	13	5	37		3	4-	34-
94-96	13	5	37		3	4-	34-
95-97							
96-98							
97-99							
98-00							

DUKE ENERGY KENTUCKY

ACCOUNT 3691 SERVICES - UNDERGROUND

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01							
00-02							
01-03							
02-04							
03-05	6	41	742		0	41-	742-
04-06	27	41	152		0	41-	152-
05-07	5,904	41	1		0	41-	1-
06-08	5,898		0		0		0
07-09	5,887	83	1		0	83-	1-
08-10	10	114			0	114-	
09-11	10	114			0	114-	
10-12		31				31-	
11-13							
12-14							
13-15							
14-16							
15-17							
16-18							
FIVE-YEAR AVERAGE							
14-18							

DUKE ENERGY KENTUCKY

ACCOUNT 3692 SERVICES - OVERHEAD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	53,435	55,343	104	12,488	23	42,855-	80-
1991	67,772	63,859	94		0	63,859-	94-
1992	52,070	46,374	89	8,328	16	38,046-	73-
1993	57,132	54,546	95	8,066	14	46,480-	81-
1994	62,625	37,267	60	11,629	19	25,638-	41-
1995	68,188	31,387	46	34,873	51	3,486	5
1996	56,475	33,400	59	2,906	5	30,493-	54-
1997	49,435	5,919	12	6,259	13	340	1
1998	72,403	41,964	58	7,514	10	34,451-	48-
1999	68,815	19,196	28		0	19,196-	28-
2000	2,737	3,885-	142-		0	3,885	142
2001	77,480	13,283	17	308	0	12,975-	17-
2002	10,930		0		0		0
2003	47,881	3,299	7		0	3,299-	7-
2004	262,044		0		0		0
2005	146,306	115,846	79		0	115,845-	79-
2006	189,723	16	0		0	16-	0
2007	415,769	339	0		0	339-	0
2008	238,365	8,308	3		0	8,308-	3-
2009	152,194	34,277	23	57-	0	34,334-	23-
2010	10,643	254,300			0	254,300-	
2011	29,666		0		0		0
2012	12,427	11,184	90		0	11,184-	90-
2013	10,233		0		0		0
2014	126,074	4,963	4	24	0	4,939-	4-
2015	4,862-	5,045	104-		0	5,045-	104
2016	26,336	4,937	19		0	4,937-	19-
2017	22,550	21,020-	93-	3,352	15	24,372	108
2018	10,932	28,452	260		0	28,452-	260-
TOTAL	2,395,780	848,600	35	95,690	4	752,909-	31-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	57,759	55,192	96	6,939	12	48,253-	84-
91-93	58,991	54,926	93	5,465	9	49,462-	84-
92-94	57,276	46,062	80	9,341	16	36,721-	64-
93-95	62,648	41,066	66	18,189	29	22,877-	37-
94-96	62,430	34,018	54	16,469	26	17,548-	28-
95-97	58,033	23,568	41	14,679	25	8,889-	15-
96-98	59,438	27,094	46	5,560	9	21,535-	36-
97-99	63,551	22,360	35	4,591	7	17,769-	28-
98-00	47,985	19,092	40	2,505	5	16,587-	35-

DUKE ENERGY KENTUCKY

ACCOUNT 3692 SERVICES - OVERHEAD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01	49,678	9,531	19	103	0	9,429-	19-
00-02	30,383	3,133	10	103	0	3,030-	10-
01-03	45,430	5,527	12	103	0	5,425-	12-
02-04	106,952	1,100	1		0	1,100-	1-
03-05	152,077	39,715	26		0	39,715-	26-
04-06	199,358	38,621	19		0	38,621-	19-
05-07	250,600	38,734	15		0	38,734-	15-
06-08	281,286	2,888	1		0	2,888-	1-
07-09	268,776	14,308	5	19-	0	14,327-	5-
08-10	133,734	98,962	74	19-	0	98,981-	74-
09-11	64,168	96,193	150	19-	0	96,212-	150-
10-12	17,579	88,495	503		0	88,495-	503-
11-13	17,442	3,728	21		0	3,728-	21-
12-14	49,578	5,382	11	8	0	5,374-	11-
13-15	43,815	3,336	8	8	0	3,328-	8-
14-16	49,182	4,981	10	8	0	4,973-	10-
15-17	14,675	3,679-	25-	1,117	8	4,797	33
16-18	19,939	4,123	21	1,117	6	3,006-	15-
FIVE-YEAR AVERAGE							
14-18	36,206	4,475	12	675	2	3,800-	10-

DUKE ENERGY KENTUCKY

ACCOUNTS 3700 METERS AND METERING EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	93,976	11,420	12	81,341	87	69,921	74
1991	90,291	7,855	9	89,564	99	81,709	90
1992	255,062	9,174	4	84,464	33	75,290	30
1993	329,246	8,920	3	89,303	27	80,383	24
1994	283,205	15,510	5	59,032	21	43,523	15
1995	155,278	13,244	9	49,500	32	36,257	23
1996	240,095	10,670	4	64,189	27	53,520	22
1997	239,605	19,453	8	75,142	31	55,690	23
1998	329,257	19,083	6	61,248	19	42,165	13
1999	670,128	2,766	0	11,691	2	8,925	1
2000							
2001	447,957		0		0		0
2002							
2003	387,642	104,633	27	25,649	7	78,984-	20-
2004	297,843	17	0		0	17-	0
2005	576,514		0		0		0
2006	653,849		0		0		0
2007	590,455		0		0		0
2008	1,366,259		0		0		0
2009	276,416		0		0		0
2010		645-				645	
2011	811,880	76,497	9		0	76,497-	9-
2012	600,159	60,900	10		0	60,900-	10-
2013	65,697		0		0		0
2014	320,832	24,788	8		0	24,788-	8-
2015							
2016	3,055,318		0		0		0
2017	3,177,659		0		0		0
2018	6,053,662	193,192	3		0	193,192-	3-
TOTAL	21,368,284	577,475	3	691,123	3	113,648	1

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	146,443	9,483	6	85,123	58	75,640	52
91-93	224,866	8,649	4	87,777	39	79,128	35
92-94	289,171	11,201	4	77,600	27	66,399	23
93-95	255,909	12,558	5	65,945	26	53,387	21
94-96	226,193	13,141	6	57,574	25	44,433	20
95-97	211,659	14,455	7	62,944	30	48,489	23
96-98	269,653	16,402	6	66,860	25	50,458	19
97-99	412,997	13,767	3	49,360	12	35,593	9
98-00	333,128	7,283	2	24,313	7	17,030	5

DUKE ENERGY KENTUCKY

ACCOUNTS 3700 METERS AND METERING EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	372,695	922	0	3,897	1	2,975	1
00-02	149,319		0		0		0
01-03	278,533	34,878	13	8,550	3	26,328-	9-
02-04	228,495	34,883	15	8,550	4	26,334-	12-
03-05	420,666	34,883	8	8,550	2	26,334-	6-
04-06	509,402	6	0		0	6-	0
05-07	606,939		0		0		0
06-08	870,188		0		0		0
07-09	744,377		0		0		0
08-10	547,558	215-	0		0	215	0
09-11	362,765	25,284	7		0	25,284-	7-
10-12	470,680	45,584	10		0	45,584-	10-
11-13	492,578	45,799	9		0	45,799-	9-
12-14	328,896	28,563	9		0	28,563-	9-
13-15	128,843	8,263	6		0	8,263-	6-
14-16	1,125,383	8,263	1		0	8,263-	1-
15-17	2,077,659		0		0		0
16-18	4,095,546	64,397	2		0	64,397-	2-
FIVE-YEAR AVERAGE							
14-18	2,521,494	43,596	2		0	43,596-	2-

DUKE ENERGY KENTUCKY

ACCOUNT 3712 COMPANY-OWNED OUTDOOR LIGHTING

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
2011	1,579-		0		0		0
2012	389-	5,592			0	5,592-	
2013							
2014							
2015							
2016							
2017	102,165	4,769-	5-	675	1	5,444	5
2018	44,527	52,597	118		0	52,597-	118-
TOTAL	144,724	53,421	37	675	0	52,746-	36-
THREE-YEAR MOVING AVERAGES							
11-13	656-	1,864	284-		0	1,864-	284
12-14	130-	1,864			0	1,864-	
13-15							
14-16							
15-17	34,055	1,590-	5-	225	1	1,814	5
16-18	48,897	15,943	33	225	0	15,718-	32-
FIVE-YEAR AVERAGE							
14-18	29,338	9,566	33	135	0	9,431-	32-

DUKE ENERGY KENTUCKY

ACCOUNT 3731 STREET LIGHTING - OVERHEAD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	20,216	7,522	37	4,336	21	3,187-	16-
1991	9,619	6,948	72	3,286	34	3,662-	38-
1992	9,688	4,726	49	1,156	12	3,570-	37-
1993	16,190	4,106	25	1,333	8	2,773-	17-
1994	28,579	5,619	20	13,033	46	7,413	26
1995	29,964	6,883	23	46,611	156	39,728	133
1996	18,284	4,333	24	7	0	4,326-	24-
1997	5,424	1,902-	35-	108	2	2,010	37
1998	13,430	2,834	21	8	0	2,826-	21-
1999	29,130	5,860	20		0	5,860-	20-
2000	5,110	1,868-	37-		0	1,868	37
2001	512,299	6,338	1	234	0	6,104-	1-
2002	10,538	461	4		0	461-	4-
2003	14,022	105	1		0	105-	1-
2004	77,153	288	0		0	288-	0
2005	121,631	29,975	25	14	0	29,961-	25-
2006	43,772	119	0		0	119-	0
2007	39,262	2,090	5		0	2,090-	5-
2008	40,843	401	1		0	401-	1-
2009	55,463	6,831	12	1-	0	6,832-	12-
2010	4,469	16,355	366		0	16,355-	366-
2011	4,784	7-	0		0	7	0
2012	7,687	11,581	151		0	11,581-	151-
2013	47,445		0		0		0
2014	78,900	5,364	7	55	0	5,308-	7-
2015	78,784-	699	1-		0	699-	1
2016	122,126	744	1		0	744-	1-
2017	190,772	137,937	72	220	0	137,717-	72-
2018		32,303				32,303-	
TOTAL	1,478,014	296,646	20	70,399	5	226,247-	15-

THREE-YEAR MOVING AVERAGES

90-92	13,174	6,399	49	2,926	22	3,473-	26-
91-93	11,832	5,260	44	1,925	16	3,335-	28-
92-94	18,152	4,817	27	5,174	29	357	2
93-95	24,911	5,536	22	20,326	82	14,790	59
94-96	25,609	5,612	22	19,883	78	14,272	56
95-97	17,891	3,104	17	15,575	87	12,471	70
96-98	12,379	1,755	14	41	0	1,714-	14-
97-99	15,994	2,264	14	39	0	2,225-	14-
98-00	15,890	2,275	14	3	0	2,273-	14-

DUKE ENERGY KENTUCKY

ACCOUNT 3731 STREET LIGHTING - OVERHEAD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	182,179	3,443	2	78	0	3,365-	2-
00-02	175,982	1,644	1	78	0	1,566-	1-
01-03	178,953	2,302	1	78	0	2,224-	1-
02-04	33,904	285	1		0	285-	1-
03-05	70,935	10,123	14	5	0	10,118-	14-
04-06	80,852	10,127	13	5	0	10,123-	13-
05-07	68,222	10,728	16	5	0	10,723-	16-
06-08	41,292	870	2		0	870-	2-
07-09	45,189	3,107	7		0	3,108-	7-
08-10	33,591	7,862	23		0	7,863-	23-
09-11	21,572	7,726	36		0	7,727-	36-
10-12	5,646	9,310	165		0	9,310-	165-
11-13	19,972	3,858	19		0	3,858-	19-
12-14	44,677	5,648	13	18	0	5,630-	13-
13-15	15,853	2,021	13	18	0	2,002-	13-
14-16	40,747	2,269	6	18	0	2,251-	6-
15-17	78,038	46,460	60	73	0	46,387-	59-
16-18	104,299	56,995	55	73	0	56,922-	55-
FIVE-YEAR AVERAGE							
14-18	62,603	35,409	57	55	0	35,354-	56-

DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	3,523	2,720	77	6,087	173	3,367	96
1991	15,833	5,713	36	4,585	29	1,129-	7-
1992	18,138	7,473	41	11,314	62	3,842	21
1993	9,699	2,227	23	9,587	99	7,360	76
1994	6,263	3,760	60	6,179	99	2,419	39
1995	11,168	1,070	10	1,952	17	882	8
1996	15,106	4,906	32		0	4,906-	32-
1997	9,535	761-	8-		0	761	8
1998	29,706	703	2		0	703-	2-
1999	24,055	3,273	14		0	3,273-	14-
2000							
2001	10,627		0		0		0
2002	22,424		0		0		0
2003	3,503	1,182	34		0	1,182-	34-
2004	20,786		0		0		0
2005	30,122	3,362	11		0	3,362-	11-
2006	25,595		0		0		0
2007	48,101		0		0		0
2008	18,175	491	3		0	491-	3-
2009	27,543	2,369	9		0	2,369-	9-
2010	14,568	88,454	607		0	88,454-	607-
2011	27,464	6	0		0	6-	0
2012	13,982	40	0		0	40-	0
2013	23,915		0		0		0
2014	2,248	204	9		0	204-	9-
2015	11,573-		0		0		0
2016	15,664	27	0		0	27-	0
2017	12,829		0		0		0
2018		13,393				13,393-	
TOTAL	448,997	140,614	31	39,704	9	100,909-	22-
THREE-YEAR MOVING AVERAGES							
90-92	12,498	5,302	42	7,329	59	2,027	16
91-93	14,557	5,138	35	8,495	58	3,358	23
92-94	11,367	4,486	39	9,027	79	4,540	40
93-95	9,043	2,352	26	5,906	65	3,554	39
94-96	10,845	3,245	30	2,710	25	535-	5-
95-97	11,936	1,738	15	651	5	1,088-	9-
96-98	18,116	1,616	9		0	1,616-	9-
97-99	21,098	1,072	5		0	1,072-	5-
98-00	17,920	1,326	7		0	1,326-	7-

DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01	11,561	1,091	9		0	1,091-	9-
00-02	11,017		0		0		0
01-03	12,185	394	3		0	394-	3-
02-04	15,571	394	3		0	394-	3-
03-05	18,137	1,515	8		0	1,515-	8-
04-06	25,501	1,121	4		0	1,121-	4-
05-07	34,606	1,121	3		0	1,121-	3-
06-08	30,624	164	1		0	164-	1-
07-09	31,273	953	3		0	953-	3-
08-10	20,095	30,438	151		0	30,438-	151-
09-11	23,192	30,277	131		0	30,277-	131-
10-12	18,671	29,500	158		0	29,500-	158-
11-13	21,787	16	0		0	16-	0
12-14	13,382	82	1		0	82-	1-
13-15	4,863	68	1		0	68-	1-
14-16	2,113	77	4		0	77-	4-
15-17	5,640	9	0		0	9-	0
16-18	9,498	4,473	47		0	4,473-	47-
FIVE-YEAR AVERAGE							
14-18	3,833	2,725	71		0	2,725-	71-

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	50,637	8,814	17	3,300	7	5,514-	11-
1991	27,156	15,496	57	11,821	44	3,675-	14-
1992	23,087	13,123	57	5,159	22	7,964-	34-
1993	23,870	9,722	41	2,151	9	7,572-	32-
1994	28,547	10,620	37	2,667	9	7,954-	28-
1995	30,221	14,882	49	2,433	8	12,449-	41-
1996	26,883	7,686	29	37	0	7,649-	28-
1997	32,974	300-	1-	5-	0	296	1
1998	38,832	7,785	20	421	1	7,364-	19-
1999	29,017	10,110	35		0	10,110-	35-
2000	359	53-	15-		0	53	15
2001	177,694	8,915	5		0	8,915-	5-
2002	6,178		0		0		0
2003	10,245	122	1		0	122-	1-
2004	49,285	13-	0		0	13	0
2005	89,573	39,459	44	162	0	39,297-	44-
2006	52,577		0		0		0
2007	37,824	125	0		0	125-	0
2008	23,212	188	1		0	188-	1-
2009	38,423	2,354	6		0	2,354-	6-
2010	10,419	56,752	545		0	56,752-	545-
2011	44,849	245	1		0	245-	1-
2012	1,917	54	3		0	54-	3-
2013	3,978		0		0		0
2014	1,029		0		0		0
2015	1,776-	6	0		0	6-	0
2016	21,779	197	1		0	197-	1-
2017	24,850	459	2		0	459-	2-
2018	64,022	85,984	134	3,539	6	82,445-	129-
TOTAL	967,662	292,731	30	31,683	3	261,048-	27-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	33,627	12,478	37	6,760	20	5,718-	17-
91-93	24,704	12,781	52	6,377	26	6,404-	26-
92-94	25,168	11,155	44	3,325	13	7,830-	31-
93-95	27,546	11,742	43	2,417	9	9,325-	34-
94-96	28,550	11,063	39	1,712	6	9,351-	33-
95-97	30,026	7,422	25	822	3	6,601-	22-
96-98	32,897	5,057	15	151	0	4,906-	15-
97-99	33,608	5,865	17	139	0	5,726-	17-
98-00	22,736	5,947	26	140	1	5,807-	26-

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
99-01	69,023	6,324	9		0	6,324-	9-
00-02	61,410	2,954	5		0	2,954-	5-
01-03	64,706	3,012	5		0	3,012-	5-
02-04	21,902	36	0		0	36-	0
03-05	49,701	13,189	27	54	0	13,135-	26-
04-06	63,812	13,149	21	54	0	13,095-	21-
05-07	59,992	13,195	22	54	0	13,141-	22-
06-08	37,871	104	0		0	104-	0
07-09	33,153	889	3		0	889-	3-
08-10	24,018	19,764	82		0	19,764-	82-
09-11	31,230	19,784	63		0	19,784-	63-
10-12	19,062	19,017	100		0	19,017-	100-
11-13	16,915	100	1		0	100-	1-
12-14	2,308	18	1		0	18-	1-
13-15	1,077	2	0		0	2-	0
14-16	7,010	68	1		0	68-	1-
15-17	14,951	221	1		0	221-	1-
16-18	36,884	28,880	78	1,180	3	27,700-	75-
FIVE-YEAR AVERAGE							
14-18	21,981	17,329	79	708	3	16,621-	76-

DUKE ENERGY KENTUCKY

ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1990	605		0		0		0
1991	5,340	40	1	735	14	695	13
1992	8,212		0	3,910	48	3,910	48
1993							
1994							
1995	10,407	309	3	323	3	14	0
1996							
1997	44,002		0		0		0
1998	18,745		0		0		0
1999	23,244		0		0		0
2000							
2001	8,635		0	160	2	160	2
2002	10,236		0		0		0
2003	20,304		0		0		0
2004	1,820		0	20-	1-	20-	1-
2005							
2006							
2007							
2008							
2009							
2010							
2011	9,374		0	990	11	990	11
2012							
2013							
2014							
2015							
2016	32,610		0		0		0
2017		5,433-		1,907		7,340	
2018							
TOTAL	193,534	5,084-	3-	8,005	4	13,089	7

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
90-92	4,719	13	0	1,548	33	1,535	33
91-93	4,517	13	0	1,548	34	1,535	34
92-94	2,737		0	1,303	48	1,303	48
93-95	3,469	103	3	108	3	5	0
94-96	3,469	103	3	108	3	5	0
95-97	18,136	103	1	108	1	5	0
96-98	20,916		0		0		0
97-99	28,664		0		0		0
98-00	13,996		0		0		0

DUKE ENERGY KENTUCKY

ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
99-01	10,626		0	53	1	53	1
00-02	6,290		0	53	1	53	1
01-03	13,058		0	53	0	53	0
02-04	10,787		0	7-	0	7-	0
03-05	7,375		0	7-	0	7-	0
04-06	607		0	7-	1-	7-	1-
05-07							
06-08							
07-09							
08-10							
09-11	3,125		0	330	11	330	11
10-12	3,125		0	330	11	330	11
11-13	3,125		0	330	11	330	11
12-14							
13-15							
14-16	10,870		0		0		0
15-17	10,870	1,811-	17-	636	6	2,447	23
16-18	10,870	1,811-	17-	636	6	2,447	23
FIVE-YEAR AVERAGE							
14-18	6,522	1,087-	17-	381	6	1,468	23

DUKE ENERGY KENTUCKY

ACCOUNT 3960 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1991	26,356	132	1	10,350	39	10,218	39
1992	13,984		0	3,405	24	3,405	24
1993	72,991		0	21,640	30	21,640	30
1994	8,093	101	1	852	11	751	9
1995							
1996							
1997							
1998	16,943		0	1,030	6	1,030	6
1999							
2000							
2001	33,087		0	4,880	15	4,880	15
2002							
2003							
2004	33,349		0		0		0
2005	35,306		0	17,765	50	17,765	50
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
TOTAL	240,110	233	0	59,922	25	59,689	25

THREE-YEAR MOVING AVERAGES

91-93	37,777	44	0	11,798	31	11,754	31
92-94	31,689	34	0	8,632	27	8,599	27
93-95	27,028	34	0	7,497	28	7,464	28
94-96	2,698	34	1	284	11	250	9
95-97							
96-98	5,648		0	343	6	343	6
97-99	5,648		0	343	6	343	6
98-00	5,648		0	343	6	343	6
99-01	11,029		0	1,627	15	1,627	15
00-02	11,029		0	1,627	15	1,627	15

DUKE ENERGY KENTUCKY

ACCOUNT 3960 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	COST OF REMOVAL PCT	GROSS SALVAGE AMOUNT	GROSS SALVAGE PCT	NET SALVAGE AMOUNT	NET SALVAGE PCT
THREE-YEAR MOVING AVERAGES							
01-03	11,029		0	1,627	15	1,627	15
02-04	11,116		0		0		0
03-05	22,885		0	5,922	26	5,922	26
04-06	22,885		0	5,922	26	5,922	26
05-07	11,769		0	5,922	50	5,922	50
06-08							
07-09							
08-10							
09-11							
10-12							
11-13							
12-14							
13-15							
14-16							
15-17							
16-18							
FIVE-YEAR AVERAGE							
14-18							

PART IX. DETAILED DEPRECIATION CALCULATIONS

DUKE ENERGY KENTUCKY

ACCOUNT 1900 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ERLANGER OPERATIONS CENTER						
INTERIM SURVIVOR CURVE.. IOWA 90-R1						
PROBABLE RETIREMENT YEAR.. 6-2065						
NET SALVAGE PERCENT.. 0						
2005	1,329,372.71	285,842	829,983	499,390	41.80	11,947
2006	2,087,225.32	422,621	1,227,140	860,086	41.87	20,542
2007	2,121,579.00	401,848	1,166,822	954,757	41.94	22,765
2008	45,579.78	8,027	23,308	22,272	42.01	530
2009	17,038.06	2,762	8,020	9,018	42.08	214
2010	62,574.42	9,237	26,821	35,753	42.15	848
2012	38,073.81	4,460	12,950	25,124	42.28	594
2015	126,443.00	8,474	24,605	101,838	42.46	2,398
2016	33,000.00	1,609	4,672	28,328	42.53	666
2018	6,116,616.74	62,451	181,335	5,935,281	42.65	139,163
	11,977,502.84	1,207,331	3,505,656	8,471,847		199,667
KENTUCKY SERVICE BUILDING - 19TH AND AUGUSTINE						
INTERIM SURVIVOR CURVE.. IOWA 90-R1						
PROBABLE RETIREMENT YEAR.. 6-2042						
NET SALVAGE PERCENT.. 0						
1939	29.40	22	29			
1947	378,142.98	275,371	378,143			
1949	7,874.04	5,693	7,874			
1950	2,833.13	2,041	2,833			
1951	610.66	438	611			
1953	4,989.45	3,551	4,989			
1955	121.96	86	122			
1956	313.02	220	313			
1957	1,480.66	1,036	1,481			
1958	91.02	63	91			
1959	1,905.03	1,320	1,905			
1961	3,761.02	2,581	3,761			
1964	1,660.34	1,121	1,660			
1965	2,410.30	1,619	2,410			
1966	478.18	319	478			
1967	8,188.75	5,435	8,189			
1969	4,337.05	2,842	4,337			
1970	1,925.44	1,254	1,925			
1972	4,634.39	2,976	4,634			
1973	8,585.30	5,473	8,585			
1974	6,637.72	4,199	6,638			
1975	6,319.85	3,967	6,320			

DUKE ENERGY KENTUCKY

ACCOUNT 1900 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

KENTUCKY SERVICE BUILDING - 19TH AND AUGUSTINE
INTERIM SURVIVOR CURVE.. IOWA 90-R1
PROBABLE RETIREMENT YEAR.. 6-2042
NET SALVAGE PERCENT.. 0

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1976	337.18	210	337			
1977	975.57	602	976			
1978	23,626.36	14,454	23,626			
1979	39,938.23	24,208	39,938			
1980	11,560.66	6,940	11,561			
1981	33,194.05	19,730	33,194			
1982	12,516.21	7,362	12,516			
1983	14,035.96	8,165	14,036			
1984	42,353.87	24,361	42,354			
1985	24,798.14	14,094	24,798			
1986	443.45	249	443			
1987	12,451.85	6,897	12,452			
1988	593.39	324	593			
1989	35,301.47	19,011	35,301			
1990	3,340.07	1,771	3,340			
1991	38,025.34	19,838	38,025			
1992	58,847.35	30,180	58,847			
1993	59,866.03	30,154	59,866			
1994	230,910.34	114,088	230,910			
1995	12,489.98	6,046	12,490			
1996	5,130.73	2,430	5,131			
1998	26,943.53	12,155	26,944			
1999	105,835.05	46,506	105,835			
2000	208,595.64	89,031	208,596			
2001	104,267.18	43,130	104,267			
2002	11,191.29	4,473	11,191			
2003	57,780.29	22,261	57,780			
2004	11,087.97	4,103	11,088			
2005	32,681.20	11,563	32,681			
2006	10,536.72	3,550	10,537			
2008	83,669.17	25,054	83,669			
2009	37,271.38	10,412	37,271			
2017	89,715.62	5,236	39,397	50,319	22.59	2,227
2018	137,434.02	2,798	21,053	116,381	22.61	5,147
	2,025,074.98	953,013	1,858,375	166,700		7,374

DUKE ENERGY KENTUCKY

ACCOUNT 1900 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MINOR STRUCTURES						
SURVIVOR CURVE.. IOWA 40-R1						
NET SALVAGE PERCENT.. -10						
2009	122,757.28	23,023	66,851	68,182	33.18	2,055
2010	104,123.82	17,524	50,883	63,653	33.88	1,879
2011	271,579.95	40,479	117,536	181,201	34.58	5,240
2012	1,791,285.70	232,509	675,122	1,295,292	35.28	36,715
2013	155,103.94	17,061	49,539	121,075	36.00	3,363
2014	528,705.64	47,835	138,896	442,681	36.71	12,059
2015	88,164.24	6,231	18,093	78,888	37.43	2,108
2016	13,354.46	676	1,963	12,727	38.16	334
2018	91,681.10	933	2,709	98,140	39.63	2,476
	3,166,756.13	386,271	1,121,592	2,361,840		66,229
	17,169,333.95	2,546,615	6,485,623	11,000,387		273,270

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 40.3 1.59

DUKE ENERGY KENTUCKY

ACCOUNT 1910 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	2,405.95	1,023	1,021	1,385	11.50	120
2013	20,895.34	5,746	5,733	15,162	14.50	1,046
2014	43,997.73	9,899	9,876	34,122	15.50	2,201
2017	687,664.25	51,575	51,455	636,209	18.50	34,390
2018	2,999.36	75	74	2,925	19.50	150
	757,962.63	68,318	68,159	689,803		37,907

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.2 5.00

DUKE ENERGY KENTUCKY

ACCOUNT 1911 ELECTRONIC DATA PROCESSING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2015	9,131.10	6,392	6,391	2,740	1.50	1,827
2016	26,226.47	13,113	13,111	13,115	2.50	5,246
2017	5,177.15	1,553	1,553	3,624	3.50	1,035
	40,534.72	21,058	21,055	19,480		8,108

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.4 20.00

DUKE ENERGY KENTUCKY

ACCOUNT 1940 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1994	2,647.12	2,594	2,575	72	0.50	72
1996	2,992.80	2,694	2,674	319	2.50	128
1999	5,371.46	4,190	4,159	1,212	5.50	220
2004	37,038.55	21,482	21,322	15,717	10.50	1,497
2005	2,964.11	1,601	1,589	1,375	11.50	120
2006	2,287.17	1,144	1,135	1,152	12.50	92
2007	17,796.89	8,187	8,126	9,671	13.50	716
2010	1,150.51	391	388	763	16.50	46
2014	10,220.00	1,840	1,826	8,394	20.50	409
2015	37,021.21	5,183	5,145	31,876	21.50	1,483
	119,489.82	49,306	48,939	70,551		4,783

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.8 4.00

DUKE ENERGY KENTUCKY

ACCOUNT 1970 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	1,639,190.13	1,365,986	1,365,856	273,334	2.50	109,334
2007	2,111,432.41	1,618,772	1,618,619	492,813	3.50	140,804
2008	1,080,334.10	756,234	756,162	324,172	4.50	72,038
2009	145,687.05	92,268	92,259	53,428	5.50	9,714
2010	203,089.96	115,085	115,074	88,016	6.50	13,541
2011	708,177.65	354,089	354,056	354,122	7.50	47,216
2012	525,145.64	227,561	227,539	297,607	8.50	35,013
2013	1,417.96	520	520	898	9.50	95
2014	141,883.83	42,565	42,561	99,323	10.50	9,459
2015	485,705.76	113,330	113,319	372,387	11.50	32,381
2016	603,244.17	100,543	100,534	502,710	12.50	40,217
2017	411,282.85	41,128	41,124	370,159	13.50	27,419
	8,056,591.51	4,828,081	4,827,623	3,228,969		537,231

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.0 6.67

DUKE ENERGY KENTUCKY

ACCOUNT 1980 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	24,647.40	13,967	13,964	10,683	6.50	1,644
2011	3,561.95	1,781	1,781	1,781	7.50	237
2012	13,294.66	5,761	5,760	7,535	8.50	886
	41,504.01	21,509	21,505	19,999		2,767

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.2 6.67

DUKE ENERGY KENTUCKY

ACCOUNT 3110 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 85-S1						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
1981	29,925,484.13	21,632,833	28,189,639	6,224,668	20.65	301,437
1982	208,863.68	149,547	194,874	45,319	20.70	2,189
1983	67,223.88	47,631	62,068	15,240	20.76	734
1985	370,433.88	256,639	334,425	91,574	20.88	4,386
1986	56,946.12	38,992	50,810	14,678	20.93	701
1987	25,699.44	17,374	22,640	6,914	20.99	329
1988	7,679.70	5,122	6,674	2,157	21.05	102
1990	248,748.12	161,178	210,030	76,030	21.16	3,593
1991	7,244.23	4,622	6,023	2,308	21.21	109
1992	214,519.73	134,630	175,436	71,262	21.26	3,352
1993	106,959.72	65,932	85,916	37,088	21.32	1,740
1994	208,985.68	126,454	164,782	75,552	21.37	3,535
1999	70,010.31	37,765	49,211	31,300	21.62	1,448
2001	242,930.51	123,462	160,883	118,487	21.72	5,455
2002	231,816.95	113,903	148,426	118,163	21.77	5,428
2003	103,526.01	49,066	63,938	55,117	21.81	2,527
2004	228,372.86	103,948	135,454	127,175	21.86	5,818
2005	151,399.00	65,970	85,965	88,144	21.90	4,025
2006	3,134,043.42	1,300,774	1,695,032	1,909,118	21.94	87,015
2007	236,076.01	92,691	120,785	150,702	21.99	6,853
2008	168,425.07	62,236	81,099	112,589	22.03	5,111
2009	512,631.92	176,616	230,147	359,379	22.07	16,284
2010	450,707.51	143,609	187,136	331,177	22.10	14,985
2011	484,241.10	140,489	183,071	373,807	22.14	16,884
2012	637,062.52	165,646	215,852	516,769	22.18	23,299
2013	508,877.34	115,983	151,137	434,072	22.21	19,544
2014	824,503.51	159,569	207,934	740,245	22.24	33,284
2015	19,663,993.25	3,071,378	4,002,298	18,611,295	22.27	835,711
2016	11,308,182.70	1,310,975	1,708,325	11,296,085	22.30	506,551
2017	42,106,431.70	3,048,190	3,972,081	44,450,315	22.33	1,990,610
2018	13,108,054.55	329,825	429,793	14,644,469	22.35	655,234
	125,620,074.55	33,253,049	43,331,885	101,131,200		4,558,273

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 22.2   3.63

DUKE ENERGY KENTUCKY

ACCOUNT 3120 BOILER PLANT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 45-S0.5						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
1980	756,874.16	558,321	870,405			
1981	127,037,317.94	92,761,697	146,092,916			
1982	155,686.95	112,489	179,040			
1983	726,613.04	519,412	833,197	2,408	15.87	152
1984	1,025,483.09	724,577	1,162,306	16,999	16.06	1,058
1985	951,054.04	664,168	1,065,403	28,309	16.24	1,743
1986	487,013.90	335,933	538,876	21,190	16.42	1,290
1987	686,061.71	467,371	749,718	39,253	16.59	2,366
1988	140,298.01	94,287	151,247	10,095	16.77	602
1989	262,772.03	174,148	279,354	22,834	16.94	1,348
1990	806,533.22	526,763	844,989	82,524	17.11	4,823
1991	496,923.30	319,487	512,494	58,967	17.28	3,412
1992	1,809,647.08	1,144,956	1,836,643	244,451	17.44	14,017
1993	325,255.36	202,242	324,420	49,624	17.61	2,818
1994	4,462,075.43	2,724,202	4,369,938	761,449	17.77	42,850
1995	330,362.55	197,830	317,342	62,575	17.93	3,490
1996	109,055.99	63,964	102,606	22,809	18.09	1,261
1998	1,554,131.73	870,213	1,395,923	391,328	18.41	21,256
1999	4,568,625.22	2,494,666	4,001,735	1,252,184	18.56	67,467
2000	1,036,770.86	550,359	882,840	309,446	18.72	16,530
2001	171,357.39	88,299	141,642	55,419	18.87	2,937
2002	46,497,198.54	23,186,967	37,194,602	16,277,177	19.03	855,343
2003	612,393.49	294,687	472,712	231,540	19.18	12,072
2004	2,009,650.85	930,148	1,492,066	819,033	19.33	42,371
2005	14,080,374.66	6,242,020	10,012,929	6,179,502	19.48	317,223
2006	525,805.73	222,152	356,358	248,319	19.63	12,650
2007	2,893,255.15	1,158,779	1,858,817	1,468,427	19.78	74,238
2008	1,628,627.97	614,618	985,919	887,003	19.92	44,528
2009	3,735,950.66	1,316,829	2,112,347	2,183,996	20.07	108,819
2010	2,060,536.32	672,000	1,077,966	1,291,650	20.21	63,911
2011	326,067.74	96,954	155,526	219,452	20.36	10,779
2012	9,949,081.35	2,656,818	4,261,846	7,179,597	20.50	350,224
2013	1,221,410.71	286,122	458,973	945,649	20.64	45,816
2014	36,613,397.00	7,288,446	11,691,518	30,413,888	20.78	1,463,613
2015	130,914,486.32	21,101,321	33,848,982	116,702,677	20.92	5,578,522

DUKE ENERGY KENTUCKY

ACCOUNT 3120 BOILER PLANT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 45-S0.5						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
2016	12,075,972.74	1,447,203	2,321,483	11,565,886	21.06	549,187
2017	6,278,285.43	471,179	755,826	6,464,202	21.20	304,915
2018	91,999,759.96	2,422,814	3,886,476	101,913,247	21.33	4,777,930
	511,322,167.62	176,004,441	279,597,381	308,423,112		14,801,561

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.8 2.89

DUKE ENERGY KENTUCKY

ACCOUNT 3123 BOILER PLANT EQUIPMENT - SCR CATALYST

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 10-S2.5						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. 0						
2002	2,230,486.31	2,085,505	2,230,486			
2013	536,263.68	277,785	536,264			
2015	2,653,930.47	915,606	2,442,043	211,887	6.55	32,349
	5,420,680.46	3,278,896	5,208,793	211,887		32,349

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.6 0.60

DUKE ENERGY KENTUCKY

ACCOUNT 3140 TURBOGENERATOR UNITS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 40-S0.5						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
1981	16,964,940.34	12,671,538	18,648,001	861,680	13.68	62,988
1982	58,061.01	42,865	63,082	3,688	13.92	265
1983	15,183.01	11,073	16,296	1,165	14.16	82
1984	10,207.91	7,352	10,820	920	14.40	64
1985	20,496,632.97	14,576,621	21,451,606	2,119,522	14.63	144,875
1986	463,905.17	325,579	479,137	54,354	14.86	3,658
1987	636,364.46	440,636	648,460	83,360	15.08	5,528
1989	54,725.97	36,819	54,184	8,750	15.52	564
1990	158,093.76	104,765	154,177	27,631	15.73	1,757
1991	198,456.18	129,387	190,412	37,813	15.95	2,371
1992	640,896.37	410,806	604,560	132,470	16.16	8,197
1993	66,699.95	42,021	61,840	14,865	16.36	909
1994	88,755.33	54,866	80,743	21,325	16.57	1,287
1996	96,612.68	57,327	84,365	26,740	16.97	1,576
1997	96,476.91	55,970	82,368	28,580	17.17	1,665
1999	2,355.17	1,300	1,913	795	17.56	45
2000	341,306.00	183,169	269,560	122,942	17.76	6,922
2001	206,777.67	107,699	158,495	79,300	17.95	4,418
2003	409,131.79	199,041	292,918	177,584	18.33	9,688
2004	89,271.54	41,762	61,459	41,203	18.52	2,225
2005	9,210,975.37	4,126,462	6,072,686	4,519,936	18.71	241,579
2006	77,714.53	33,210	48,873	40,498	18.89	2,144
2007	4,430,931.89	1,794,253	2,640,503	2,455,069	19.08	128,672
2008	12,485.43	4,766	7,014	7,344	19.26	381
2009	1,689,702.44	601,971	885,887	1,057,270	19.45	54,358
2010	957,122.23	315,282	463,983	636,707	19.63	32,435
2011	276,330.25	83,147	122,363	195,417	19.81	9,865
2012	943,595.69	254,670	374,784	710,351	19.99	35,535
2013	875,927.28	207,809	305,821	701,495	20.16	34,796
2014	2,639,226.76	531,691	782,460	2,252,651	20.34	110,750
2015	30,674,980.44	4,988,764	7,341,688	27,934,540	20.52	1,361,332
2016	1,338,736.61	162,407	239,005	1,300,542	20.69	62,858
2017	867,983.97	66,130	97,320	900,862	20.86	43,186
2018	12,240,464.42	320,382	471,488	13,605,046	21.04	646,628
	107,331,031.50	42,991,540	63,268,270	60,162,417		3,023,603

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.9 2.82

DUKE ENERGY KENTUCKY

ACCOUNT 3150 ACCESSORY ELECTRIC EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 60-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
1980	600,888.76	445,481	636,872	54,150	18.74	2,890
1981	21,334,433.31	15,637,372	22,355,624	2,178,974	18.93	115,107
1982	258,626.65	187,321	267,799	29,621	19.12	1,549
1983	48,933.57	35,022	50,068	6,205	19.29	322
1984	276,234.86	195,208	279,075	38,595	19.46	1,983
1985	24,050.59	16,782	23,992	3,666	19.61	187
1986	25,758.88	17,735	25,354	4,268	19.76	216
1987	32,911.68	22,340	31,938	5,911	19.91	297
1989	61,628.68	40,612	58,060	12,813	20.17	635
1990	146,081.85	94,754	135,463	32,531	20.29	1,603
1992	284,827.83	178,519	255,216	72,336	20.52	3,525
1995	1,290.00	762	1,089	394	20.82	19
2001	1,971,382.61	994,391	1,421,609	845,481	21.31	39,675
2002	129,665.97	63,206	90,361	58,755	21.38	2,748
2004	87,558.37	39,520	56,499	44,193	21.50	2,055
2005	423,653.63	182,910	261,493	225,708	21.56	10,469
2006	50,031.42	20,575	29,415	28,122	21.61	1,301
2009	106,920.20	36,510	52,196	70,763	21.76	3,252
2010	308,549.41	97,213	138,978	215,853	21.81	9,897
2011	195,647.63	56,228	80,385	144,610	21.85	6,618
2012	4,537,211.10	1,168,942	1,671,152	3,546,641	21.89	162,021
2013	380,227.18	85,751	122,592	314,669	21.93	14,349
2014	133,522.10	25,581	36,571	116,979	21.96	5,327
2015	12,011,588.32	1,853,748	2,650,170	11,163,157	22.00	507,416
2016	1,303,052.03	149,416	213,609	1,284,901	22.03	58,325
2018	276,820.70	6,908	9,876	308,468	22.09	13,964
	45,011,497.33	21,652,807	30,955,458	20,807,764		965,750

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.5 2.15

DUKE ENERGY KENTUCKY

ACCOUNT 3160 MISCELLANEOUS POWER PLANT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST BEND						
INTERIM SURVIVOR CURVE.. IOWA 50-S0						
PROBABLE RETIREMENT YEAR.. 6-2041						
NET SALVAGE PERCENT.. -15						
1981	2,756,671.87	1,931,269	2,716,292	453,881	17.34	26,175
1982	235,379.13	163,272	229,639	41,047	17.46	2,351
1983	113,761.60	78,129	109,887	20,939	17.57	1,192
1984	157,554.25	107,069	150,590	30,597	17.68	1,731
1985	101,065.69	67,927	95,538	20,688	17.79	1,163
1986	113,063.57	75,118	105,652	24,371	17.90	1,362
1987	121,651.98	79,838	112,291	27,609	18.01	1,533
1988	81,696.88	52,929	74,444	19,508	18.12	1,077
1989	160,311.26	102,490	144,150	40,208	18.22	2,207
1990	108,479.70	68,390	96,189	28,562	18.32	1,559
1991	420,109.15	260,980	367,063	116,062	18.42	6,301
1992	141,502.92	86,528	121,700	41,028	18.52	2,215
1993	49,356.38	29,681	41,746	15,014	18.62	806
1994	217,002.50	128,213	180,329	69,224	18.72	3,698
1995	20,672.44	11,984	16,855	6,918	18.82	368
1996	6,611.10	3,756	5,283	2,320	18.92	123
1997	108,562.36	60,371	84,911	39,936	19.01	2,101
1999	643,219.54	340,781	479,302	260,401	19.21	13,555
2000	90,906.69	46,895	65,957	38,586	19.30	1,999
2001	417,408.83	209,073	294,057	185,963	19.40	9,586
2002	280,411.23	136,084	191,399	131,073	19.49	6,725
2003	41,468.35	19,439	27,341	20,348	19.59	1,039
2004	251,997.55	113,771	160,017	129,780	19.68	6,595
2005	546,553.86	236,468	332,588	295,949	19.78	14,962
2006	60,770.89	25,084	35,280	34,606	19.88	1,741
2007	49,419.39	19,375	27,251	29,582	19.97	1,481
2008	523,455.62	193,535	272,203	329,771	20.07	16,431
2009	783,973.60	271,030	381,198	520,371	20.17	25,799
2010	257,396.74	82,482	116,009	179,997	20.27	8,880
2011	1,530,106.05	447,947	630,029	1,129,593	20.38	55,427
2012	852,050.71	224,309	315,486	664,372	20.48	32,440
2013	346,768.32	80,283	112,916	285,867	20.59	13,884
2014	564,500.93	111,230	156,443	492,733	20.70	23,804
2015	4,911,906.26	785,281	1,104,482	4,544,210	20.81	218,367
2016	2,258,420.70	269,172	378,585	2,218,599	20.93	106,001
2017	1,741,502.07	130,738	183,880	1,818,847	21.05	86,406
2018	519,237.91	13,770	19,367	577,756	21.18	27,278
	21,584,928.02	7,064,691	9,936,350	14,886,317		728,362

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.4   3.37

DUKE ENERGY KENTUCKY

ACCOUNT 3401 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 40-SQUARE						
NET SALVAGE PERCENT.. 0						
1992	651,684.00	431,741	298,887	352,797	13.50	26,133
2017	776,981.32	29,137	20,171	756,811	38.50	19,657
	1,428,665.32	460,878	319,058	1,109,608		45,790

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.2 3.21

DUKE ENERGY KENTUCKY

ACCOUNT 3410 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WOODSDALE						
INTERIM SURVIVOR CURVE.. IOWA 60-R4						
PROBABLE RETIREMENT YEAR.. 6-2032						
NET SALVAGE PERCENT.. -5						
1992	33,307,928.01	23,285,939	24,307,690	10,665,634	13.19	808,615
1994	32,271.08	21,935	22,897	10,987	13.26	829
1995	28,624.96	19,165	20,006	10,050	13.28	757
2006	13,755.09	6,949	7,254	7,189	13.46	534
2007	77,734.54	37,588	39,237	42,384	13.46	3,149
2008	28,902.54	13,287	13,870	16,478	13.47	1,223
2011	1,013,820.32	380,542	397,240	667,272	13.48	49,501
2012	201,932.54	68,979	72,006	140,023	13.48	10,387
2013	216,117.23	65,638	68,518	158,405	13.49	11,742
2014	1,026,692.75	269,658	281,490	796,537	13.49	59,046
2015	78,301.70	16,937	17,680	64,537	13.49	4,784
2016	153,786.34	25,247	26,355	135,121	13.49	10,016
2017	266,829.12	28,037	29,267	250,903	13.49	18,599
2018	23,643.54	887	926	23,900	13.50	1,770
	36,470,339.76	24,240,788	25,304,437	12,989,420		980,952

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.2 2.69

DUKE ENERGY KENTUCKY

ACCOUNT 3420 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WOODSDALE						
INTERIM SURVIVOR CURVE.. IOWA 50-S1.5						
PROBABLE RETIREMENT YEAR.. 6-2032						
NET SALVAGE PERCENT.. -5						
1992	14,954,246.53	10,520,626	11,660,648	4,041,311	12.14	332,892
1995	65,235.72	43,989	48,756	19,742	12.38	1,595
1996	83,608.04	55,490	61,503	26,286	12.45	2,111
1999	58,404.03	36,639	40,609	20,715	12.66	1,636
2001	55,528.10	33,264	36,869	21,436	12.79	1,676
2012	407,248.25	140,085	155,265	272,346	13.30	20,477
2014	144,698.20	38,217	42,358	109,575	13.36	8,202
2017	166,943.69	17,611	19,519	155,772	13.43	11,599
	15,935,912.56	10,885,921	12,065,526	4,667,182		380,188

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.3 2.39

DUKE ENERGY KENTUCKY

ACCOUNT 3440 GENERATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WOODSDALE						
INTERIM SURVIVOR CURVE.. IOWA 45-S0						
PROBABLE RETIREMENT YEAR.. 6-2032						
NET SALVAGE PERCENT.. -5						
1992	121,602,163.60	82,441,889	83,329,701	44,352,570	11.82	3,752,332
1995	44,071.41	28,739	29,048	17,226	11.96	1,440
1996	75,066.53	48,214	48,733	30,087	12.01	2,505
1999	289,576.93	176,447	178,347	125,709	12.15	10,346
2000	2,221,406.76	1,326,363	1,340,647	991,831	12.19	81,364
2001	12,551,711.26	7,326,108	7,405,002	5,774,294	12.24	471,756
2003	421,505.59	233,581	236,096	206,484	12.33	16,746
2004	13,649.50	7,341	7,420	6,912	12.37	559
2005	10,461,096.18	5,438,473	5,497,040	5,487,111	12.42	441,796
2006	10,833,651.11	5,427,513	5,485,962	5,889,372	12.46	472,662
2007	170,201.58	81,677	82,557	96,155	12.51	7,686
2008	301,113.37	137,613	139,095	177,074	12.56	14,098
2009	15,814,499.03	6,842,016	6,915,697	9,689,527	12.60	769,010
2010	7,960,271.15	3,225,629	3,260,366	5,097,919	12.65	402,998
2011	9,801,985.07	3,680,552	3,720,188	6,571,897	12.70	517,472
2012	8,483,807.09	2,904,987	2,936,271	5,971,727	12.75	468,371
2013	2,798,083.81	854,543	863,746	2,074,242	12.80	162,050
2014	175,950.78	46,564	47,065	137,683	12.85	10,715
2015	254,485.19	55,737	56,337	210,872	12.90	16,347
2017	11,077,059.85	1,187,167	1,199,952	10,430,961	13.02	801,149
2018	1,548,117.36	58,649	59,281	1,566,243	13.09	119,652
	216,899,473.15	121,529,802	122,838,550	104,905,897		8,541,054

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.3   3.94

DUKE ENERGY KENTUCKY

ACCOUNT 3446 GENERATORS - SOLAR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CRITTENDEN						
INTERIM SURVIVOR CURVE.. IOWA 25-S2.5						
PROBABLE RETIREMENT YEAR.. 6-2042						
NET SALVAGE PERCENT.. -5						
2017	4,168,275.61	295,996	192,246	4,184,443	20.68	202,343
	4,168,275.61	295,996	192,246	4,184,443		202,343
WALTON						
INTERIM SURVIVOR CURVE.. IOWA 25-S2.5						
PROBABLE RETIREMENT YEAR.. 6-2042						
NET SALVAGE PERCENT.. -5						
2017	5,747,433.47	408,134	269,653	5,765,152	20.68	278,779
	5,747,433.47	408,134	269,653	5,765,152		278,779
	9,915,709.08	704,130	461,899	9,949,595		481,122

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.7 4.85

DUKE ENERGY KENTUCKY

ACCOUNT 3450 ACCESSORY ELECTRIC EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WOODSDALE						
INTERIM SURVIVOR CURVE.. IOWA 40-R2						
PROBABLE RETIREMENT YEAR.. 6-2032						
NET SALVAGE PERCENT.. -5						
1992	14,118,041.00	9,834,649	9,439,372	5,384,571	11.45	470,268
1996	13,528.24	8,857	8,501	5,704	11.92	479
1999	2,218.96	1,370	1,315	1,015	12.21	83
2000	23,116.79	13,965	13,404	10,869	12.29	884
2001	6,287.18	3,707	3,558	3,044	12.37	246
2002	42,708.77	24,520	23,534	21,310	12.45	1,712
2006	8,616.82	4,321	4,147	4,900	12.70	386
2007	8,047.88	3,858	3,703	4,747	12.76	372
2008	5,782.47	2,636	2,530	3,542	12.81	277
2009	7,263.33	3,129	3,003	4,623	12.85	360
2011	3,017,940.84	1,123,702	1,078,538	2,090,300	12.94	161,538
2012	2,183,025.81	739,342	709,626	1,582,551	12.98	121,922
2013	28,395.09	8,568	8,224	21,591	13.02	1,658
2014	273,443.75	71,282	68,417	218,699	13.05	16,759
2015	381,598.18	81,843	78,554	322,125	13.09	24,608
2016	899,297.00	146,021	140,152	804,110	13.12	61,289
2017	261,347.40	27,085	25,996	248,418	13.15	18,891
2018	227,115.00	8,554	8,210	230,261	13.17	17,484
	21,507,774.51	12,107,409	11,620,785	10,962,378		899,216

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.2 4.18

DUKE ENERGY KENTUCKY

ACCOUNT 3456 ACCESSORY ELECTRIC EQUIPMENT - SOLAR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CRITTENDEN INTERIM SURVIVOR CURVE.. IOWA 20-S2.5 PROBABLE RETIREMENT YEAR.. 6-2042 NET SALVAGE PERCENT.. -5						
2017	425,603.19	34,499	18,087	428,796	17.93	23,915
	425,603.19	34,499	18,087	428,796		23,915
WALTON INTERIM SURVIVOR CURVE.. IOWA 20-S2.5 PROBABLE RETIREMENT YEAR.. 6-2042 NET SALVAGE PERCENT.. -5						
2017	631,334.26	51,176	27,569	635,332	17.93	35,434
	631,334.26	51,176	27,569	635,332		35,434
	1,056,937.45	85,675	45,656	1,064,128		59,349

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.9 5.62

DUKE ENERGY KENTUCKY

ACCOUNT 3460 MISCELLANEOUS POWER PLANT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WOODSDALE						
INTERIM SURVIVOR CURVE.. IOWA 40-R1.5						
PROBABLE RETIREMENT YEAR.. 6-2032						
NET SALVAGE PERCENT.. -5						
1978	328.64	260	281	64	9.51	7
1980	79.14	61	66	17	9.86	2
1983	295.20	223	241	69	10.35	7
1985	45.98	34	37	12	10.65	1
1990	3,120.43	2,191	2,365	912	11.31	81
1991	7,513.55	5,209	5,622	2,268	11.43	198
1992	2,257,362.05	1,544,632	1,666,957	703,273	11.54	60,942
1993	34,369.04	23,195	25,032	11,056	11.64	950
1994	100,337.16	66,714	71,997	33,357	11.74	2,841
1995	4,753.17	3,111	3,357	1,633	11.84	138
1996	2,433.34	1,566	1,690	865	11.93	73
1997	2,275.15	1,439	1,553	836	12.01	70
1998	10,984.58	6,813	7,353	4,181	12.09	346
1999	442,562.37	268,805	290,093	174,598	12.17	14,347
2000	104,739.76	62,225	67,153	42,824	12.24	3,499
2001	339,750.08	197,119	212,730	144,008	12.30	11,708
2002	6,606.83	3,732	4,028	2,910	12.37	235
2003	8,642.89	4,741	5,116	3,959	12.43	319
2006	55,668.70	27,478	29,654	28,798	12.58	2,289
2007	124,222.33	58,621	63,263	67,170	12.63	5,318
2008	97,485.48	43,782	47,249	55,111	12.67	4,350
2009	44,814.03	19,003	20,508	26,547	12.71	2,089
2010	32,464.25	12,877	13,897	20,191	12.75	1,584
2011	304,314.34	111,609	120,448	199,082	12.78	15,578
2012	10,342.52	3,450	3,723	7,136	12.82	557
2013	107,732.99	32,049	34,587	78,533	12.85	6,112
2014	226,212.63	58,091	62,691	174,832	12.88	13,574
2015	111,410.90	23,585	25,453	91,529	12.91	7,090
2016	279,438.43	44,771	48,317	245,094	12.94	18,941
2017	17,072.66	1,747	1,885	16,041	12.97	1,237
2018	51,798.17	1,899	2,049	52,339	12.99	4,029
	4,789,176.79	2,631,032	2,839,393	2,189,243		178,512

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.3 3.73

DUKE ENERGY KENTUCKY

ACCOUNT 3501 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1950	1,695.10	1,429	1,695			
1956	2,703.51	2,148	2,582	122	14.38	8
1957	363.17	285	343	20	15.02	1
1958	79,809.09	61,943	74,472	5,337	15.67	341
1959	1,962.52	1,505	1,809	154	16.33	9
1960	2,355.33	1,783	2,144	211	17.01	12
1961	50,047.85	37,393	44,956	5,092	17.70	288
1962	235.12	173	208	27	18.39	1
1963	22,089.15	16,062	19,311	2,778	19.10	145
1965	75,275.56	53,187	63,945	11,331	20.54	552
1966	3,845.27	2,676	3,217	628	21.28	30
1967	86,314.17	59,150	71,114	15,200	22.03	690
1968	4,755.68	3,208	3,857	899	22.78	39
1969	1,091.55	724	870	222	23.55	9
1970	46.30	30	36	10	24.33	
1971	8,895.38	5,703	6,857	2,038	25.12	81
1972	25,173.18	15,848	19,054	6,119	25.93	236
1973	34,776.92	21,492	25,839	8,938	26.74	334
1974	26,321.38	15,958	19,186	7,135	27.56	259
1975	1,578.60	938	1,128	451	28.39	16
1976	14,597.75	8,502	10,222	4,376	29.23	150
1977	275.20	157	189	86	30.09	3
1981	85,664.62	44,558	53,570	32,095	33.59	955
1983	346,750.92	171,444	206,121	140,630	35.39	3,974
1988	18,297.90	7,839	9,425	8,873	40.01	222
1989	7,057.21	2,929	3,521	3,536	40.95	86
1992	3,991.58	1,493	1,795	2,197	43.81	50
2006	124,268.34	22,120	26,594	97,674	57.54	1,697
2011	0.14		0			
	1,030,238.49	560,677	674,060	356,178		10,188

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 35.0 0.99

DUKE ENERGY KENTUCKY

ACCOUNT 3520 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -10						
1955	48,873.53	40,329	27,363	26,398	16.24	1,625
1958	49,503.38	39,600	26,868	27,586	17.73	1,556
1960	71,981.46	56,278	38,184	40,996	18.80	2,181
1965	1,230.56	902	612	742	21.67	34
1967	2,611.13	1,860	1,262	1,610	22.90	70
1968	1,911.98	1,342	911	1,192	23.53	51
1971	2,028.33	1,357	921	1,310	25.48	51
1976	146,306.73	89,307	60,593	100,344	28.93	3,469
1993	21,996.24	8,521	5,781	18,415	42.11	437
2006	124,869.08	24,449	16,588	120,768	53.43	2,260
2007	419,838.40	75,808	51,435	410,387	54.33	7,554
2012	351,875.96	36,264	24,605	362,459	58.91	6,153
2013	222,849.40	19,459	13,203	231,931	59.84	3,876
2016	14,537.12	581	394	15,597	62.64	249
	1,480,413.30	396,057	268,720	1,359,735		29,566

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.0 2.00

DUKE ENERGY KENTUCKY

ACCOUNT 3530 STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2						
NET SALVAGE PERCENT.. -15						
1943	3,293.63	3,426	3,712	76	4.78	16
1951	9,826.78	9,685	10,494	807	7.15	113
1955	2,189.30	2,093	2,268	250	8.43	30
1956	1,851.20	1,755	1,902	227	8.77	26
1958	295,584.96	275,541	298,552	41,371	9.47	4,369
1960	36,455.14	33,363	36,149	5,774	10.21	566
1961	2,469.79	2,239	2,426	414	10.59	39
1965	196,086.84	170,297	184,519	40,981	12.24	3,348
1966	2,963.34	2,544	2,756	652	12.68	51
1967	328.00	278	301	76	13.13	6
1968	3,968.30	3,322	3,599	965	13.60	71
1971	47,835.24	38,441	41,651	13,360	15.06	887
1973	43,511.89	33,936	36,770	13,269	16.09	825
1974	405.33	311	337	129	16.63	8
1975	2,643.23	1,996	2,163	877	17.17	51
1976	337,022.79	250,142	271,032	116,544	17.73	6,573
1978	1,802.57	1,290	1,398	675	18.88	36
1979	4,367.57	3,066	3,322	1,701	19.48	87
1982	41,891.16	27,633	29,941	18,234	21.32	855
1983	297,904.01	192,124	208,168	134,422	21.96	6,121
1985	68,343.54	42,033	45,543	33,052	23.26	1,421
1986	16,570.42	9,936	10,766	8,290	23.93	346
1991	143,913.25	74,806	81,053	84,447	27.40	3,082
1992	850,876.82	428,000	463,743	514,765	28.13	18,300
1995	507,033.94	229,154	248,291	334,798	30.35	11,031
1996	3,883.17	1,688	1,829	2,637	31.10	85
1998	103,358.56	41,269	44,715	74,147	32.64	2,272
1999	17,894.19	6,824	7,394	13,184	33.42	394
2000	729,754.52	265,025	287,157	552,061	34.21	16,137
2002	746,962.85	243,786	264,145	594,862	35.81	16,612
2003	1,507,393.44	463,885	502,624	1,230,878	36.62	33,612
2005	448,512.09	121,107	131,221	384,568	38.26	10,051
2006	390,458.68	97,978	106,160	342,867	39.09	8,771
2007	3,290,475.00	762,107	825,751	2,958,295	39.93	74,087
2009	11,679.10	2,248	2,436	10,995	41.63	264
2011	144,883.15	22,160	24,011	142,605	43.35	3,290
2012	666,914.68	88,660	96,064	670,888	44.22	15,172
2013	528,670.94	59,703	64,689	543,283	45.09	12,049
2014	1,319,749.91	122,328	132,544	1,385,168	45.97	30,132

DUKE ENERGY KENTUCKY

ACCOUNT 3530 STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2						
NET SALVAGE PERCENT.. -15						
2015	3,384,776.81	244,449	264,863	3,627,630	46.86	77,414
2016	90,306.23	4,673	5,063	98,789	47.75	2,069
2017	1,345,147.15	41,767	45,255	1,501,664	48.65	30,867
	17,649,959.51	4,427,068	4,796,777	15,500,677		391,536

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.6 2.22

DUKE ENERGY KENTUCKY

ACCOUNT 3531 STATION EQUIPMENT - STEP UP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2.5						
NET SALVAGE PERCENT.. 0						
1992	8,405,252.90	3,889,951	3,774,513	4,630,740	26.86	172,403
1996	968,381.08	386,965	375,481	592,900	30.02	19,750
2017	73,031.10	2,059	1,998	71,033	48.59	1,462
	9,446,665.08	4,278,975	4,151,992	5,294,673		193,615

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.3 2.05

DUKE ENERGY KENTUCKY

ACCOUNT 3532 STATION EQUIPMENT - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -10						
1950	10,834.19	9,349	11,420	498	14.01	36
1954	222,862.54	185,710	226,854	18,295	15.76	1,161
1958	261,300.93	209,028	255,338	32,093	17.73	1,810
1965	65,041.15	47,694	58,261	13,284	21.67	613
1971	4,093.09	2,737	3,343	1,159	25.48	45
1973	11,683.92	7,545	9,217	3,635	26.84	135
1976	40,615.59	24,792	30,285	14,392	28.93	497
1978	26,247.29	15,382	18,790	10,082	30.37	332
1983	111,783.06	58,453	71,403	51,558	34.10	1,512
1985	122,679.77	60,934	74,434	60,514	35.65	1,697
1992	34,444.03	13,826	16,889	20,999	41.28	509
2000	264,762.57	75,722	92,498	198,741	48.10	4,132
2001	125,472.82	34,039	41,580	96,440	48.97	1,969
2002	780,656.67	200,151	244,494	614,228	49.85	12,322
2003	1,011,825.94	244,172	298,268	814,741	50.74	16,057
2005	219,078.16	46,233	56,476	184,510	52.53	3,512
2006	134,369.73	26,310	32,139	115,668	53.43	2,165
2007	1,788,006.76	322,851	394,379	1,572,428	54.33	28,942
2011	82,257.49	9,759	11,921	78,562	57.99	1,355
2014	61,020.46	4,368	5,336	61,787	60.77	1,017
2015	447,333.73	24,908	30,426	461,641	61.71	7,481
	5,826,369.89	1,623,963	1,983,751	4,425,256		87,299

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 50.7 1.50

DUKE ENERGY KENTUCKY

ACCOUNT 3534 STATION EQUIPMENT - STEP UP EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-R2.5						
NET SALVAGE PERCENT.. 0						
1992	1,218,688.02	761,851	498,204	720,484	13.12	54,915
2012	5,838,602.22	1,004,240	656,711	5,181,891	28.98	178,809
	7,057,290.24	1,766,091	1,154,915	5,902,375		233,724

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.3 3.31

DUKE ENERGY KENTUCKY

ACCOUNT 3550 POLES AND FIXTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1.5						
NET SALVAGE PERCENT.. -25						
1946	11.95	12	15			
1949	188.79	185	236			
1955	2,132.91	1,986	2,666			
1956	1,211.65	1,117	1,515			
1958	58,440.56	52,809	73,051			
1959	10,120.34	9,048	12,650			
1960	6,560.37	5,800	8,200			
1961	75,304.17	65,822	94,130			
1962	617.69	534	772			
1963	8,644.65	7,377	10,806			
1964	151,441.09	127,623	187,976	1,325	17.92	74
1965	38,572.63	32,085	47,258	958	18.40	52
1966	12,917.74	10,604	15,619	528	18.88	28
1967	6,370.24	5,157	7,596	367	19.38	19
1968	172.95	138	203	13	19.89	1
1969	20,950.94	16,470	24,259	1,930	20.41	95
1970	5,391.71	4,175	6,149	591	20.93	28
1971	110,445.40	84,165	123,967	14,090	21.47	656
1972	23,958.02	17,958	26,450	3,498	22.02	159
1973	149,698.22	110,335	162,512	24,611	22.57	1,090
1974	221,528.51	160,456	236,335	40,576	23.13	1,754
1975	32,294.54	22,973	33,837	6,531	23.70	276
1976	89,853.36	62,713	92,370	19,947	24.29	821
1977	9,351.54	6,402	9,429	2,260	24.88	91
1978	3,226.63	2,166	3,190	843	25.47	33
1979	23,953.72	15,744	23,189	6,753	26.08	259
1980	23,517.99	15,132	22,288	7,109	26.69	266
1981	201,617.15	126,835	186,815	65,206	27.32	2,387
1982	9,552.41	5,873	8,650	3,291	27.95	118
1983	465,807.21	279,589	411,807	170,452	28.59	5,962
1984	13,696.33	8,022	11,816	5,304	29.23	181
1985	57,425.89	32,772	48,270	23,512	29.89	787
1986	9,305.68	5,171	7,616	4,016	30.55	131
1987	35,705.50	19,306	28,436	16,196	31.21	519
1988	357,860.17	187,957	276,842	170,483	31.89	5,346
1989	42,349.92	21,589	31,798	21,139	32.57	649
1990	64,278.15	31,759	46,778	33,570	33.26	1,009
1991	78,881.67	37,738	55,584	43,018	33.95	1,267
1992	222,284.57	102,807	151,424	126,432	34.65	3,649
1993	103,548.84	46,220	68,077	61,359	35.36	1,735
1994	82,285.68	35,401	52,142	50,715	36.07	1,406
1995	251,112.28	103,926	153,073	160,817	36.79	4,371
1996	60,944.39	24,225	35,681	40,499	37.51	1,080

DUKE ENERGY KENTUCKY

ACCOUNT 3550 POLES AND FIXTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1.5						
NET SALVAGE PERCENT.. -25						
1997	161,512.37	61,522	90,616	111,274	38.24	2,910
1998	46,675.33	16,994	25,030	33,314	38.98	855
1999	92,968.08	32,306	47,584	68,626	39.71	1,728
2000	38,071.84	12,581	18,531	29,059	40.46	718
2001	12,097.42	3,791	5,584	9,538	41.21	231
2002	50,479.02	14,960	22,035	41,064	41.96	979
2003	201,329.38	56,189	82,761	168,901	42.72	3,954
2004	629,404.52	164,786	242,713	544,043	43.48	12,512
2005	247,472.05	60,519	89,138	220,202	44.24	4,977
2006	63,338.81	14,381	21,182	57,992	45.01	1,288
2007	679,936.90	142,319	209,621	640,300	45.79	13,983
2008	157,419.04	30,160	44,423	152,351	46.57	3,271
2009	126,497.20	21,993	32,393	125,728	47.35	2,655
2010	387,293.43	60,384	88,939	395,178	48.14	8,209
2011	119,564.93	16,494	24,294	125,162	48.93	2,558
2012	292,800.93	35,136	51,752	314,249	49.72	6,320
2013	124,219.76	12,647	18,628	136,647	50.52	2,705
2014	257,561.98	21,484	31,644	290,308	51.33	5,656
2015	369,345.08	24,007	35,360	426,321	52.14	8,176
2016	167,022.01	7,781	11,461	197,317	52.95	3,726
2017	891,485.18	24,917	36,700	1,077,656	53.77	20,042
2018	406,959.49	3,790	5,582	503,118	54.59	9,216
	8,666,988.90	2,747,317	4,037,448	6,796,288		152,968

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 44.4 1.76

DUKE ENERGY KENTUCKY

ACCOUNT 3560 OVERHEAD CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1						
NET SALVAGE PERCENT.. -15						
1925	280.14	290	322			
1949	1,293.58	1,115	1,488			
1955	3,174.60	2,570	3,651			
1957	86.61	69	100			
1958	111,810.29	87,389	128,582			
1959	7,404.07	5,717	8,515			
1960	17,541.17	13,376	20,172			
1961	81,711.20	61,507	93,968			
1962	868.93	645	999			
1963	11,575.31	8,481	13,312			
1964	239,968.79	173,405	275,964			
1965	69,418.67	49,452	79,831			
1966	20,350.38	14,284	23,403			
1967	7,397.04	5,113	8,507			
1968	92.24	63	106			
1969	29,121.97	19,503	33,490			
1970	1,109.10	731	1,275			
1971	79,375.36	51,416	90,283	999	24.02	42
1972	9,561.42	6,086	10,687	309	24.56	13
1973	134,218.00	83,911	147,342	7,009	25.10	279
1974	169,991.60	104,321	183,181	12,309	25.65	480
1975	21,566.92	12,987	22,804	1,998	26.20	76
1976	102,691.51	60,615	106,436	11,659	26.77	436
1977	22,958.18	13,283	23,324	3,078	27.33	113
1979	6,773.92	3,755	6,594	1,196	28.49	42
1980	11,081.80	6,008	10,550	2,194	29.07	75
1981	232,145.82	122,952	215,896	51,072	29.67	1,721
1983	599,822.48	302,634	531,405	158,391	30.87	5,131
1985	37,203.41	17,814	31,280	11,504	32.10	358
1986	3,438.51	1,602	2,813	1,141	32.72	35
1987	601.20	272	478	213	33.34	6
1988	411,271.36	180,842	317,547	155,415	33.97	4,575
1990	66,623.64	27,512	48,309	28,308	35.25	803
1991	60,376.06	24,112	42,339	27,093	35.90	755
1992	331,091.44	127,724	224,275	156,480	36.55	4,281
1993	51,429.93	19,141	33,610	25,534	37.20	686
1994	6,558.39	2,350	4,126	3,416	37.86	90
1995	227,830.32	78,507	137,853	124,152	38.52	3,223
1996	71,059.45	23,490	41,247	40,471	39.19	1,033
1997	107,612.68	34,066	59,818	63,937	39.86	1,604
1998	2,370.50	717	1,259	1,467	40.53	36
1999	115,323.43	33,252	58,388	74,234	41.21	1,801
2000	72,507.89	19,891	34,927	48,457	41.88	1,157

DUKE ENERGY KENTUCKY

ACCOUNT 3560 OVERHEAD CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1						
NET SALVAGE PERCENT.. -15						
2001	34,962.87	9,087	15,956	24,251	42.57	570
2002	39,365.05	9,671	16,982	28,288	43.25	654
2003	195,380.43	45,182	79,337	145,350	43.94	3,308
2004	304,122.13	65,944	115,793	233,947	44.63	5,242
2005	48,616.30	9,840	17,278	38,631	45.32	852
2006	68,382.99	12,854	22,571	56,069	46.01	1,219
2007	815,753.51	141,402	248,293	689,824	46.71	14,768
2008	29,479.85	4,678	8,214	25,688	47.41	542
2009	14,549.92	2,093	3,675	13,057	48.12	271
2010	223,994.43	28,897	50,742	206,852	48.83	4,236
2011	116,312.28	13,278	23,315	110,444	49.54	2,229
2012	156,420.97	15,535	27,279	152,605	50.25	3,037
2013	70,454.07	5,936	10,423	70,599	50.97	1,385
2014	35,912.52	2,478	4,351	36,948	51.70	715
2015	30,527.76	1,647	2,892	32,215	52.42	615
2016	85,264.44	3,299	5,793	92,261	53.15	1,736
2017	76,229.08	1,769	3,106	84,557	53.89	1,569
2018	331,418.92	2,565	4,504	376,627	54.63	6,894
	6,235,836.83	2,179,125	3,740,960	3,430,252		78,693

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 43.6 1.26

DUKE ENERGY KENTUCKY

ACCOUNT 3561 OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND RIGHT OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R3						
NET SALVAGE PERCENT.. 0						
2007	4,273.99	794	524	3,750	48.85	77
2008	678.77	115	76	603	49.80	12
2009	6,650.00	1,025	676	5,974	50.75	118
2010	8,002.00	1,106	730	7,272	51.71	141
2011	17,292.00	2,110	1,392	15,900	52.68	302
2012	44,728.00	4,741	3,129	41,599	53.64	776
2013	18,513.00	1,660	1,095	17,418	54.62	319
2014	35,273.00	2,593	1,711	33,562	55.59	604
2015	36,833.00	2,112	1,394	35,439	56.56	627
2016	40,997.56	1,681	1,109	39,889	57.54	693
2017	319,570.27	7,884	5,203	314,367	58.52	5,372
2018	48,225.37	394	260	47,965	59.51	806
	581,036.96	26,215	17,299	563,738		9,847

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 57.2 1.69

DUKE ENERGY KENTUCKY

ACCOUNT 3601 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1937	21,090.83	19,262	21,091			
1938	4,555.53	4,141	4,556			
1939	566.88	513	567			
1940	3,030.65	2,728	3,031			
1941	1,573.96	1,410	1,574			
1942	5,164.10	4,600	5,164			
1943	4,897.52	4,338	4,898			
1944	462.34	407	462			
1945	330.67	289	331			
1946	781.58	679	782			
1947	1,799.58	1,554	1,800			
1948	3,349.38	2,870	3,349			
1949	8,676.40	7,377	8,676			
1950	1,737.77	1,465	1,738			
1951	8,346.55	6,978	8,347			
1952	12,726.87	10,543	12,727			
1953	2,603.56	2,136	2,604			
1954	9,502.50	7,717	9,502			
1955	4,760.79	3,825	4,761			
1956	14,044.62	11,159	14,045			
1957	13,905.05	10,921	13,905			
1958	14,105.17	10,948	14,105			
1959	11,597.81	8,892	11,598			
1960	17,228.28	13,042	17,228			
1961	35,962.20	26,869	35,962			
1962	30,065.96	22,167	30,066			
1963	23,589.95	17,153	23,590			
1964	21,297.85	15,271	21,298			
1965	47,056.95	33,249	47,057			
1966	28,568.21	19,883	28,255	313	21.28	15
1967	37,661.09	25,809	36,677	984	22.03	45
1968	34,610.71	23,347	33,178	1,433	22.78	63
1969	31,018.91	20,583	29,250	1,769	23.55	75
1970	47,115.95	30,740	43,684	3,432	24.33	141
1971	45,736.43	29,323	41,670	4,066	25.12	162
1972	67,572.03	42,541	60,454	7,118	25.93	275
1973	78,177.44	48,314	68,658	9,519	26.74	356
1974	140,806.04	85,369	121,317	19,489	27.56	707
1975	61,888.66	36,788	52,279	9,610	28.39	338
1976	75,551.33	44,003	62,532	13,019	29.23	445
1977	52,602.82	29,991	42,620	9,983	30.09	332
1978	62,310.29	34,760	49,397	12,913	30.95	417
1979	71,128.25	38,795	55,131	15,997	31.82	503

DUKE ENERGY KENTUCKY

ACCOUNT 3601 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1980	120,456.92	64,187	91,215	29,242	32.70	894
1981	123,971.39	64,482	91,634	32,337	33.59	963
1982	114,830.29	58,268	82,804	32,026	34.48	929
1983	238,309.31	117,827	167,442	70,867	35.39	2,002
1984	140,617.91	67,698	96,205	44,413	36.30	1,223
1985	222,229.32	104,068	147,889	74,340	37.22	1,997
1986	226,881.50	103,263	146,745	80,136	38.14	2,101
1987	374,182.90	165,336	234,957	139,226	39.07	3,564
1988	162,262.39	69,518	98,791	63,471	40.01	1,586
1989	273,358.16	113,444	161,214	112,144	40.95	2,739
1990	238,355.78	95,683	135,974	102,382	41.90	2,443
1991	284,100.23	110,149	156,531	127,569	42.86	2,976
1992	206,935.37	77,423	110,024	96,911	43.81	2,212
1993	166,625.11	60,033	85,312	81,313	44.78	1,816
1994	142,883.92	49,519	70,371	72,513	45.74	1,585
1995	178,950.56	59,539	84,610	94,341	46.71	2,020
1996	66,778.64	21,293	30,259	36,520	47.68	766
2000	18,278.20	4,805	6,828	11,450	51.60	222
2017	19,994.03	428	608	19,386	68.50	283
2018	4,241.02	30	43	4,198	69.50	60
	4,483,802.41	2,169,742	3,049,372	1,434,431		36,255

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.6 0.81

DUKE ENERGY KENTUCKY

ACCOUNT 3610 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -10						
1939	28,162.98	26,113	4,856	26,123	10.21	2,559
1942	1,442.09	1,315	245	1,341	11.11	121
1946	489.50	435	81	457	12.46	37
1953	87.01	73	14	82	15.30	5
1955	712.42	588	109	675	16.24	42
1964	2,437.39	1,812	337	2,344	21.07	111
1969	2,537.77	1,754	326	2,466	24.17	102
1974	89,989.01	57,063	10,612	88,376	27.53	3,210
1975	92.07	57	11	90	28.22	3
2007	9,895.03	1,787	332	10,553	54.33	194
2008	139,083.74	22,972	4,272	148,720	55.24	2,692
2010	17,274.85	2,318	431	18,571	57.07	325
2011	6,025.99	715	133	6,496	57.99	112
2013	50,295.06	4,392	817	54,508	59.84	911
2014	688,781.68	49,309	9,171	748,489	60.77	12,317
2015	374,535.69	20,855	3,879	408,110	61.71	6,613
2016	1,220.48	49	9	1,334	62.64	21
2018	5,706.47	45	8	6,269	64.53	97
	1,418,769.23	191,652	35,643	1,525,003		29,472

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 51.7 2.08

DUKE ENERGY KENTUCKY

ACCOUNT 3620 STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 40-R1.5
NET SALVAGE PERCENT.. -10

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1966	50,268.26	44,305	29,203	26,092	7.95	3,282
1967	50,676.50	44,205	29,138	26,606	8.28	3,213
1969	97,702.62	83,372	54,954	52,519	8.97	5,855
1970	46,286.32	39,039	25,732	25,183	9.33	2,699
1971	128,236.89	106,853	70,432	70,629	9.70	7,281
1972	29,958.25	24,650	16,248	16,706	10.08	1,657
1973	17,984.57	14,605	9,627	10,156	10.47	970
1974	211,137.61	169,079	111,448	120,803	10.88	11,103
1975	982.45	775	511	570	11.30	50
1976	495,340.61	385,090	253,830	291,045	11.73	24,812
1977	19,413.10	14,857	9,793	11,561	12.17	950
1979	52,134.14	38,566	25,421	31,927	13.10	2,437
1980	198,169.43	143,980	94,904	123,082	13.58	9,063
1981	122,422.19	87,296	57,541	77,123	14.07	5,481
1982	329,184.82	230,117	151,680	210,423	14.58	14,432
1983	423,118.28	289,730	190,974	274,456	15.10	18,176
1984	304,376.76	203,902	134,401	200,413	15.64	12,814
1985	10,842.97	7,100	4,680	7,247	16.19	448
1986	9,853.93	6,300	4,153	6,686	16.75	399
1987	104,939.08	65,451	43,142	72,291	17.32	4,174
1988	802,786.57	487,894	321,593	561,472	17.90	31,367
1990	63,749.26	36,622	24,139	45,985	19.11	2,406
1991	1,304,049.96	727,269	479,376	955,079	19.72	48,432
1992	749,121.48	404,807	266,826	557,208	20.35	27,381
1993	847,978.42	443,302	292,200	640,576	20.99	30,518
1994	3,376.58	1,704	1,123	2,591	21.65	120
1995	703,274.93	342,126	225,511	548,091	22.31	24,567
1996	73,195.14	34,259	22,582	57,933	22.98	2,521
1997	226,089.02	101,593	66,964	181,734	23.66	7,681
1998	15,883.21	6,836	4,506	12,966	24.35	532
1999	15,522.93	6,386	4,209	12,866	25.04	514
2000	19,858.45	7,782	5,129	16,715	25.75	649
2001	1,339,684.76	498,832	328,803	1,144,850	26.46	43,267
2002	846,805.20	298,541	196,782	734,704	27.18	27,031
2003	852,516.01	283,440	186,828	750,940	27.91	26,906
2004	1,101,611.42	343,840	226,640	985,133	28.65	34,385
2005	1,826,278.69	532,862	351,233	1,657,674	29.39	56,403
2006	1,270,855.72	344,593	227,137	1,170,804	30.14	38,846
2007	1,005,447.83	251,890	166,032	939,961	30.89	30,429
2008	1,579,397.80	362,669	239,051	1,498,287	31.65	47,339
2009	576,582.95	120,189	79,222	555,019	32.42	17,120
2010	112,539.33	21,076	13,892	109,901	33.19	3,311
2011	237,317.98	39,353	25,939	235,111	33.97	6,921

DUKE ENERGY KENTUCKY

ACCOUNT 3620 STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R1.5						
NET SALVAGE PERCENT.. -10						
2012	2,050,712.22	295,508	194,783	2,061,000	34.76	59,292
2013	2,853,823.80	349,237	230,198	2,909,008	35.55	81,829
2014	3,607,474.71	363,092	239,330	3,728,892	36.34	102,611
2015	1,129,266.41	88,506	58,338	1,183,855	37.15	31,867
2016	2,801,435.44	157,931	104,100	2,977,479	37.95	78,458
2017	3,361,474.64	113,702	74,946	3,622,676	38.77	93,440
2018	7,981,689.67	89,994	59,320	8,720,539	39.59	220,271
	42,062,829.31	9,155,107	6,034,544	40,234,569		1,305,710

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.8 3.10

DUKE ENERGY KENTUCKY

ACCOUNT 3622 STATION EQUIPMENT - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -10						
1955	100,164.11	82,652	110,181			
1958	14,414.37	11,531	15,856			
1960	40,318.83	31,523	44,351			
1962	55,641.28	42,458	60,189	1,016	19.91	51
1963	10,431.35	7,859	11,141	333	20.48	16
1964	121,289.95	90,171	127,827	5,592	21.07	265
1966	270,347.76	195,449	277,069	20,314	22.28	912
1967	15,812.04	11,265	15,969	1,424	22.90	62
1969	98,484.53	68,049	96,467	11,866	24.17	491
1970	9,366.59	6,369	9,029	1,274	24.82	51
1971	197,034.12	131,776	186,806	29,932	25.48	1,175
1972	36,687.24	24,114	34,184	6,172	26.16	236
1973	37,552.07	24,251	34,378	6,929	26.84	258
1974	136,571.00	86,600	122,765	27,463	27.53	998
1976	605,863.16	369,826	524,267	142,182	28.93	4,915
1977	396,237.94	237,109	336,127	99,735	29.64	3,365
1979	196,503.71	112,733	159,811	56,343	31.10	1,812
1980	374,456.65	210,132	297,884	114,018	31.84	3,581
1981	150,376.13	82,479	116,923	48,491	32.59	1,488
1982	353,461.57	189,380	268,466	120,342	33.34	3,610
1983	682,230.76	356,751	505,732	244,722	34.10	7,177
1984	401,128.70	204,533	289,947	151,295	34.87	4,339
1986	41,970.00	20,285	28,756	17,411	36.44	478
1987	38,565.91	18,124	25,693	16,730	37.23	449
1988	83,800.96	38,263	54,242	37,939	38.02	998
1989	101,133.92	44,790	63,495	47,752	38.83	1,230
1990	34,368.83	14,750	20,910	16,896	39.64	426
1991	1,100,145.56	456,884	647,681	562,479	40.46	13,902
1992	377,796.58	151,652	214,983	200,593	41.28	4,859
1993	939,635.95	363,982	515,983	517,617	42.11	12,292
1995	202,678.25	72,750	103,131	119,815	43.79	2,736
2000	1,228,111.88	351,240	497,919	853,004	48.10	17,734
2001	3,468,305.07	940,889	1,333,808	2,481,328	48.97	50,670
2002	509,919.85	130,737	185,333	375,579	49.85	7,534
2003	643,994.24	155,407	220,306	488,088	50.74	9,619
2004	948,700.00	214,652	304,292	739,278	51.63	14,319
2005	1,161,829.09	245,187	347,578	930,434	52.53	17,712
2006	1,457,748.51	285,427	404,623	1,198,900	53.43	22,439
2007	1,360,135.34	245,593	348,154	1,147,995	54.33	21,130
2008	2,385,236.08	393,958	558,477	2,065,283	55.24	37,387
2009	904,783.53	135,505	192,092	803,170	56.15	14,304
2010	2,036,293.53	273,271	387,390	1,852,533	57.07	32,461

DUKE ENERGY KENTUCKY

ACCOUNT 3622 STATION EQUIPMENT - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -10						
2014	900,058.89	64,433	91,341	898,724	60.77	14,789
2015	896,309.88	49,908	70,750	915,191	61.71	14,831
2018	3,630,897.45	28,877	40,936	3,953,052	64.53	61,259
	28,756,793.16	7,273,574	10,303,242	21,329,231		408,360

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 52.2 1.42

DUKE ENERGY KENTUCKY

ACCOUNT 3640 POLES, TOWERS AND FIXTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 54-R0.5
NET SALVAGE PERCENT.. -40

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1915	25.45	34	36			
1917	21.03	28	29			
1918	21.10	28	30			
1919	20.30	26	28			
1920	4.26	5	6			
1921	35.81	46	50			
1922	39.73	50	56			
1923	36.32	45	51			
1924	83.08	103	116			
1925	734.78	902	1,029			
1926	480.50	585	673			
1927	548.64	661	768			
1928	909.56	1,087	1,273			
1929	1,196.00	1,417	1,674			
1930	1,869.44	2,195	2,617			
1931	6,663.42	7,755	9,329			
1932	4,687.11	5,406	6,562			
1933	8,338.49	9,534	11,674			
1934	8,831.25	10,005	12,364			
1935	7,593.79	8,525	10,631			
1936	2,262.66	2,517	3,168			
1937	8,452.52	9,316	11,834			
1938	8,439.96	9,216	11,816			
1939	6,970.89	7,540	9,759			
1940	12,667.05	13,570	17,734			
1941	9,770.29	10,365	13,678			
1942	15,301.55	16,075	21,422			
1943	3,035.80	3,157	4,250			
1944	5,231.48	5,386	7,324			
1945	10,711.31	10,914	14,996			
1946	8,237.59	8,306	11,533			
1947	21,805.94	21,749	30,528			
1948	17,907.76	17,670	25,071			
1949	32,150.40	31,374	45,011			
1950	45,969.38	44,359	64,357			
1951	49,699.61	47,404	69,579			
1952	69,845.28	65,840	97,783			
1953	65,719.88	61,219	92,008			
1954	70,094.61	64,495	98,132			
1955	92,138.96	83,726	128,995			
1956	76,221.01	68,393	106,709			
1957	91,059.06	80,644	127,483			
1958	96,621.07	84,443	135,269			

DUKE ENERGY KENTUCKY

ACCOUNT 3640 POLES, TOWERS AND FIXTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 54-R0.5						
NET SALVAGE PERCENT.. -40						
1959	105,792.49	91,225	148,109			
1960	89,574.59	76,172	125,404			
1961	143,674.54	120,463	201,144			
1962	104,319.67	86,196	145,386	662	22.13	30
1963	98,558.95	80,234	135,330	2,653	22.60	117
1964	169,391.17	135,788	229,032	8,116	23.08	352
1965	166,215.83	131,174	221,250	11,452	23.56	486
1966	146,738.06	113,976	192,242	13,191	24.04	549
1967	153,786.33	117,498	198,183	17,118	24.53	698
1968	195,788.85	147,104	248,119	25,985	25.02	1,039
1969	205,521.62	151,752	255,959	31,771	25.52	1,245
1970	245,322.34	177,959	300,162	43,289	26.02	1,664
1971	254,354.64	181,214	305,652	50,444	26.52	1,902
1972	335,146.27	234,340	395,259	73,946	27.03	2,736
1973	427,523.90	293,168	494,484	104,049	27.55	3,777
1974	294,557.38	198,095	334,125	78,255	28.06	2,789
1975	259,894.89	171,215	288,787	75,066	28.59	2,626
1976	276,565.31	178,468	301,020	86,171	29.11	2,960
1977	439,285.97	277,433	467,944	147,056	29.64	4,961
1978	453,300.03	279,937	472,167	162,453	30.18	5,383
1979	595,259.64	359,271	605,979	227,384	30.72	7,402
1980	892,994.41	526,468	887,989	362,203	31.26	11,587
1981	758,989.27	436,648	736,490	326,095	31.81	10,251
1982	675,754.64	379,123	639,464	306,592	32.36	9,474
1983	696,960.75	381,087	642,776	332,969	32.91	10,118
1984	626,040.69	333,220	562,039	314,418	33.47	9,394
1985	721,837.56	373,720	630,350	380,223	34.03	11,173
1986	786,641.93	395,851	667,679	433,620	34.59	12,536
1987	1,117,545.82	545,861	920,699	643,865	35.16	18,312
1988	754,778.37	357,510	603,009	453,681	35.73	12,697
1989	1,749,753.87	802,948	1,354,326	1,095,329	36.30	30,174
1990	1,026,282.53	455,522	768,325	668,471	36.88	18,126
1991	1,414,002.02	606,709	1,023,331	956,272	37.45	25,535
1992	1,699,314.46	703,149	1,185,995	1,193,045	38.04	31,363
1993	1,806,575.26	720,343	1,214,996	1,314,209	38.62	34,029
1994	1,889,374.43	724,949	1,222,765	1,422,359	39.20	36,285
1995	1,701,973.02	627,024	1,057,596	1,325,166	39.79	33,304
1996	1,421,779.52	502,042	846,790	1,143,701	40.38	28,323
1997	1,202,474.27	406,220	685,168	998,296	40.97	24,367
1998	1,493,862.79	481,798	812,645	1,278,763	41.56	30,769
1999	1,333,247.46	409,259	690,294	1,176,252	42.16	27,900
2000	1,030,615.49	300,591	507,004	935,858	42.75	21,891
2001	694,839.15	191,851	323,593	649,182	43.35	14,975

DUKE ENERGY KENTUCKY

ACCOUNT 3640 POLES, TOWERS AND FIXTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 54-R0.5						
NET SALVAGE PERCENT.. -40						
2002	112,031.99	29,190	49,235	107,610	43.95	2,448
2003	855,635.57	209,631	353,583	844,307	44.55	18,952
2004	753,019.17	172,777	291,421	762,806	45.15	16,895
2005	1,259,651.15	269,429	454,444	1,309,068	45.75	28,614
2006	1,633,756.67	324,036	546,549	1,740,710	46.35	37,556
2007	1,236,018.42	225,924	381,064	1,349,362	46.95	28,740
2009	1,673,307.09	253,355	427,332	1,915,298	48.16	39,769
2010	1,232,739.34	167,147	281,925	1,443,910	48.77	29,607
2011	721,177.23	86,385	145,705	863,943	49.38	17,496
2012	2,457,688.07	255,511	430,968	3,009,795	49.99	60,208
2013	2,482,637.60	218,830	369,099	3,106,594	50.60	61,395
2014	2,625,044.31	189,192	319,108	3,355,954	51.22	65,520
2015	4,135,446.79	232,685	392,468	5,397,158	51.83	104,132
2016	3,520,046.01	141,435	238,557	4,689,507	52.45	89,409
2017	4,187,192.78	100,945	170,263	5,691,807	53.07	107,251
2018	3,293,716.82	26,468	44,644	4,566,560	53.69	85,054
	63,697,773.31	17,983,630	30,152,860	59,024,023		1,296,345

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.5 2.04

DUKE ENERGY KENTUCKY

ACCOUNT 3650 OVERHEAD CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-O1						
NET SALVAGE PERCENT.. -40						
1925	122,668.36	154,397	171,736			
1926	2.68	3	4			
1927	24.02	30	34			
1932	150.42	175	211			
1938	16,751.71	18,153	23,452			
1939	9,068.00	9,704	12,695			
1940	468.50	495	656			
1941	10,755.79	11,221	15,058			
1942	9,390.69	9,671	13,147			
1943	5,398.73	5,487	7,558			
1944	739.99	742	1,036			
1945	3,787.35	3,747	5,302			
1946	9,612.35	9,381	13,457			
1947	27,127.39	26,110	37,978			
1948	15,508.43	14,718	21,712			
1949	32,872.51	30,755	45,638	384	17.25	22
1950	78,025.06	71,948	106,764	2,471	17.75	139
1951	52,573.84	47,772	70,889	2,714	18.25	149
1952	102,684.20	91,922	136,404	7,354	18.75	392
1953	41,501.21	36,593	54,301	3,801	19.25	197
1954	97,966.81	85,061	126,223	10,931	19.75	553
1955	81,114.07	69,337	102,890	10,670	20.25	527
1956	83,842.65	70,541	104,676	12,704	20.75	612
1957	82,002.11	67,889	100,741	14,062	21.25	662
1958	93,723.27	76,330	113,267	17,946	21.75	825
1959	74,239.94	59,464	88,239	15,697	22.25	705
1960	94,169.82	74,159	110,045	21,793	22.75	958
1961	181,627.20	140,585	208,615	45,663	23.25	1,964
1962	177,321.93	134,867	200,130	48,121	23.75	2,026
1963	198,084.77	147,991	219,605	57,714	24.25	2,380
1964	275,014.67	201,766	299,402	85,619	24.75	3,459
1965	266,035.08	191,595	284,309	88,140	25.25	3,491
1966	295,506.51	208,844	309,905	103,804	25.75	4,031
1967	211,496.41	146,623	217,575	78,520	26.25	2,991
1968	242,340.52	164,746	244,468	94,809	26.75	3,544
1969	214,517.59	142,943	212,114	88,211	27.25	3,237
1970	428,037.81	279,462	414,696	184,557	27.75	6,651
1971	426,836.26	272,928	405,000	192,571	28.25	6,817
1972	368,787.32	230,849	342,559	173,743	28.75	6,043
1973	661,453.96	405,141	601,192	324,844	29.25	11,106
1974	565,321.23	338,646	502,519	288,931	29.75	9,712
1975	441,108.79	258,304	383,299	234,253	30.25	7,744
1976	361,507.81	206,822	306,905	199,206	30.75	6,478

DUKE ENERGY KENTUCKY

ACCOUNT 3650 OVERHEAD CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-O1						
NET SALVAGE PERCENT.. -40						
1977	330,136.18	184,433	273,682	188,509	31.25	6,032
1978	308,832.70	168,372	249,849	182,517	31.75	5,749
1979	669,723.21	356,115	528,442	409,170	32.25	12,687
1980	852,160.65	441,646	655,362	537,663	32.75	16,417
1981	480,576.26	242,601	359,998	312,809	33.25	9,408
1982	619,624.03	304,449	451,774	415,700	33.75	12,317
1983	1,002,233.29	478,957	710,728	692,399	34.25	20,216
1984	627,297.77	291,331	432,308	445,909	34.75	12,832
1985	902,793.63	407,131	604,145	659,766	35.25	18,717
1986	936,553.51	409,742	608,019	703,156	35.75	19,669
1987	1,257,549.34	533,241	791,281	969,288	36.25	26,739
1988	786,049.56	322,735	478,909	621,560	36.75	16,913
1989	2,261,707.56	898,147	1,332,767	1,833,624	37.25	49,225
1990	1,340,646.97	514,347	763,244	1,113,662	37.75	29,501
1991	2,082,510.55	770,920	1,143,974	1,771,541	38.25	46,315
1992	2,113,947.88	754,117	1,119,040	1,840,487	38.75	47,496
1993	2,005,037.81	688,261	1,021,316	1,785,737	39.25	45,496
1994	3,390,058.68	1,118,082	1,659,131	3,086,951	39.75	77,659
1995	2,036,517.31	644,240	955,993	1,895,131	40.25	47,084
1996	1,382,690.25	418,803	621,465	1,314,301	40.75	32,253
1997	1,057,713.97	306,126	454,263	1,026,537	41.25	24,886
1998	2,105,305.09	580,997	862,146	2,085,281	41.75	49,947
1999	1,950,543.13	512,018	759,788	1,970,972	42.25	46,650
2000	4,912,207.99	1,223,297	1,815,260	5,061,831	42.75	118,405
2001	2,267,743.73	534,231	792,750	2,382,091	43.25	55,077
2002	439,490.46	97,615	144,852	470,435	43.75	10,753
2003	5,513,440.18	1,150,412	1,707,105	6,011,711	44.25	135,858
2004	5,342,142.86	1,042,722	1,547,303	5,931,697	44.75	132,552
2005	3,184,736.77	578,775	858,849	3,599,782	45.25	79,553
2006	6,354,037.44	1,069,168	1,586,547	7,309,105	45.75	159,762
2007	3,855,307.59	596,848	885,667	4,511,764	46.25	97,552
2008	1,946,683.13	275,152	408,300	2,317,056	46.75	49,563
2009	3,614,364.28	462,241	685,923	4,374,187	47.25	92,575
2010	6,242,645.02	714,296	1,059,949	7,679,754	47.75	160,833
2011	1,275,422.35	128,777	191,093	1,594,498	48.25	33,047
2012	10,612,077.40	928,557	1,377,893	13,479,015	48.75	276,493
2013	6,202,137.37	459,157	681,347	8,001,645	49.25	162,470
2014	3,555,326.22	215,375	319,597	4,657,860	49.75	93,625
2015	7,234,006.48	340,794	505,707	9,621,902	50.25	191,481

DUKE ENERGY KENTUCKY

ACCOUNT 3650 OVERHEAD CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-O1						
NET SALVAGE PERCENT.. -40						
2016	4,852,325.30	163,310	242,337	6,550,918	50.75	129,082
2017	5,290,747.30	106,810	158,496	7,248,550	51.25	141,435
2018	4,884,862.66	32,895	48,813	6,789,995	51.75	131,208
	124,541,081.62	25,985,160	38,491,818	135,865,696		3,012,947

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.1 2.42

DUKE ENERGY KENTUCKY

ACCOUNT 3651 OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND RIGHT OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R2.5						
NET SALVAGE PERCENT.. 0						
2017	4,136,475.58	97,910	179,620	3,956,856	58.58	67,546
2018	672,517.07	5,266	9,660	662,857	59.53	11,135
	4,808,992.65	103,176	189,280	4,619,712		78,681

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 58.7 1.64

DUKE ENERGY KENTUCKY

ACCOUNT 3660 UNDERGROUND CONDUIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R3						
NET SALVAGE PERCENT.. -20						
1911	87.78	101	105			
1916	485.21	550	582			
1920	107.89	120	129			
1923	4,600.63	5,075	5,521			
1924	69.88	77	84			
1926	627.21	684	753			
1927	1,655.81	1,797	1,987			
1928	225.88	244	271			
1929	6,899.26	7,425	8,279			
1930	191.04	205	229			
1931	10,480.21	11,180	12,576			
1932	2,752.42	2,923	3,303			
1933	223.64	236	268			
1934	32.95	35	40			
1935	1,454.82	1,523	1,746			
1937	91.15	94	109			
1938	22,663.10	23,346	27,196			
1939	0.78	1	1			
1940	45,118.29	45,936	54,142			
1941	9,023.01	9,131	10,774	54	10.97	5
1942	2,012.29	2,023	2,387	28	11.35	2
1943	1,886.09	1,884	2,223	40	11.74	3
1944	264.14	262	309	8	12.15	1
1945	957.14	942	1,112	37	12.56	3
1946	0.54	1	1			
1947	2,242.00	2,174	2,565	125	13.43	9
1948	133.82	129	152	9	13.89	1
1949	12,487.46	11,911	14,055	930	14.36	65
1950	18,901.94	17,874	21,091	1,591	14.84	107
1951	5,094.82	4,774	5,633	481	15.34	31
1952	11,382.94	10,567	12,469	1,191	15.85	75
1953	3,203.66	2,945	3,475	369	16.37	23
1954	3,653.91	3,325	3,923	462	16.91	27
1955	23,290.77	20,978	24,753	3,196	17.46	183
1956	8,664.80	7,720	9,109	1,289	18.03	71
1957	6,178.98	5,445	6,425	990	18.60	53
1958	9,329.93	8,127	9,590	1,606	19.19	84
1959	3,624.24	3,120	3,681	668	19.79	34
1960	1,111.02	944	1,114	219	20.41	11
1961	18,692.66	15,692	18,516	3,915	21.03	186
1962	11,414.31	9,457	11,159	2,538	21.67	117
1963	79,324.67	64,837	76,506	18,684	22.32	837
1964	5,417.76	4,367	5,153	1,348	22.98	59

DUKE ENERGY KENTUCKY

ACCOUNT 3660 UNDERGROUND CONDUIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R3						
NET SALVAGE PERCENT.. -20						
1965	13,766.80	10,939	12,908	3,612	23.65	153
1966	996.37	780	920	276	24.33	11
1967	8,379.88	6,462	7,625	2,431	25.02	97
1968	135.93	103	122	41	25.72	2
1969	22,624.38	16,899	19,940	7,209	26.43	273
1970	35,326.60	25,956	30,627	11,765	27.14	433
1971	84,658.29	61,143	72,147	29,443	27.87	1,056
1972	21,580.99	15,313	18,069	7,828	28.61	274
1973	119,484.48	83,263	98,248	45,133	29.35	1,538
1974	76,485.28	52,303	61,716	30,066	30.11	999
1975	205,826.61	138,068	162,916	84,076	30.87	2,724
1976	177,286.25	116,583	137,564	75,180	31.64	2,376
1977	33,239.15	21,414	25,268	14,619	32.42	451
1978	6,252.64	3,944	4,654	2,849	33.20	86
1979	3,632.11	2,242	2,645	1,714	33.99	50
1980	128,299.12	77,441	91,378	62,581	34.79	1,799
1982	39,433.05	22,700	26,785	20,535	36.42	564
1983	17,547.67	9,855	11,629	9,428	37.24	253
1984	100,104.04	54,794	64,655	55,470	38.07	1,457
1985	5,999.14	3,197	3,772	3,427	38.91	88
1986	52,861.44	27,412	32,345	31,089	39.75	782
1987	17,194.91	8,666	10,226	10,408	40.60	256
1988	129,230.14	63,226	74,605	80,471	41.46	1,941
1989	177,328.87	84,145	99,288	113,507	42.32	2,682
1990	166,666.71	76,600	90,385	109,615	43.19	2,538
1991	58,775.53	26,127	30,829	39,702	44.07	901
1992	621,011.37	266,682	314,676	430,538	44.95	9,578
1993	834,002.65	345,417	407,581	593,222	45.84	12,941
1994	1,060,179.58	422,923	499,035	773,180	46.73	16,546
1995	825,728.35	316,654	373,641	617,233	47.63	12,959
1996	777,921.57	286,185	337,689	595,817	48.54	12,275
1997	883,029.11	311,077	367,061	692,574	49.45	14,006
1998	834,199.20	280,862	331,408	669,631	50.36	13,297
1999	1,789,291.02	573,912	677,197	1,469,952	51.29	28,660
2000	401,552.69	122,461	144,500	337,363	52.21	6,462
2001	152,193.84	43,989	51,906	130,727	53.14	2,460
2002	79,292.96	21,640	25,534	69,618	54.08	1,287
2003	3,049,949.76	783,227	924,182	2,735,758	55.02	49,723
2004	233,387.88	56,173	66,282	213,783	55.96	3,820
2005	376,153.81	84,409	99,600	351,785	56.91	6,181
2006	507,179.54	105,552	124,548	484,067	57.86	8,366
2007	525,880.64	100,881	119,036	512,021	58.81	8,706
2008	277,268.51	48,624	57,375	275,347	59.77	4,607

DUKE ENERGY KENTUCKY

ACCOUNT 3660 UNDERGROUND CONDUIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R3						
NET SALVAGE PERCENT.. -20						
2009	312,145.30	49,605	58,532	316,042	60.73	5,204
2010	309,535.77	44,042	51,968	319,475	61.70	5,178
2011	308,132.64	38,717	45,685	324,074	62.67	5,171
2012	436,973.08	47,644	56,218	468,150	63.64	7,356
2013	288,664.62	26,673	31,473	314,925	64.61	4,874
2014	747,009.41	56,474	66,638	829,773	65.59	12,651
2015	583,039.66	34,381	40,569	659,079	66.56	9,902
2016	271,983.94	11,469	13,533	312,848	67.54	4,632
2017	2,721,513.90	69,039	81,464	3,184,353	68.52	46,473
2018	1,700,713.40	14,286	16,857	2,024,000	69.51	29,118
	22,947,111.43	5,882,754	6,938,950	20,597,584		368,204

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 55.9 1.60

DUKE ENERGY KENTUCKY

ACCOUNT 3670 UNDERGROUND CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 58-R2						
NET SALVAGE PERCENT.. -40						
1916	1.02	1	1			
1922	0.65	1	1			
1923	46.45	61	52	13	3.26	4
1926	23.19	30	25	7	4.11	2
1927	12.72	16	14	4	4.40	1
1929	235.82	302	256	74	4.98	15
1931	133.77	169	143	44	5.56	8
1932	35.36	45	38	12	5.85	2
1933	41.01	51	43	14	6.14	2
1935	29.18	36	31	10	6.73	1
1937	63.86	78	66	23	7.32	3
1938	3,864.28	4,699	3,986	1,424	7.62	187
1939	228.03	276	234	85	7.92	11
1940	20,964.87	25,186	21,367	7,984	8.23	970
1941	289.29	345	293	112	8.54	13
1942	118.67	141	120	46	8.85	5
1943	87.13	103	87	35	9.17	4
1945	226.81	264	224	94	9.83	10
1947	1,254.50	1,438	1,220	536	10.52	51
1949	5,068.60	5,722	4,854	2,242	11.23	200
1950	14,903.62	16,692	14,161	6,704	11.60	578
1951	2,875.07	3,194	2,710	1,315	11.98	110
1952	603.15	664	563	281	12.36	23
1953	1,220.89	1,333	1,131	578	12.76	45
1954	3,306.74	3,578	3,035	1,594	13.17	121
1955	54,424.81	58,354	49,505	26,690	13.58	1,965
1956	11,340.54	12,042	10,216	5,661	14.01	404
1957	5,493.06	5,776	4,900	2,790	14.44	193
1958	1,625.07	1,691	1,435	840	14.89	56
1959	10,911.15	11,236	9,532	5,744	15.34	374
1960	6,886.11	7,013	5,950	3,691	15.81	233
1961	10,431.11	10,504	8,911	5,693	16.28	350
1962	5,674.71	5,647	4,791	3,154	16.77	188
1963	49,248.42	48,418	41,076	27,872	17.27	1,614
1964	26,959.19	26,179	22,209	15,534	17.77	874
1965	20,878.52	20,013	16,978	12,252	18.29	670
1966	9,439.34	8,927	7,573	5,642	18.82	300
1967	13,027.41	12,154	10,311	7,927	19.35	410
1968	10,600.75	9,749	8,271	6,570	19.90	330
1969	16,827.16	15,248	12,936	10,622	20.46	519
1970	69,059.09	61,627	52,282	44,401	21.03	2,111
1971	77,169.68	67,803	57,521	50,517	21.60	2,339
1972	74,430.83	64,336	54,580	49,623	22.19	2,236

DUKE ENERGY KENTUCKY

ACCOUNT 3670 UNDERGROUND CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 58-R2						
NET SALVAGE PERCENT.. -40						
1973	324,366.58	275,679	233,875	220,238	22.79	9,664
1974	192,591.80	160,893	136,495	133,134	23.39	5,692
1975	166,580.61	136,670	115,945	117,268	24.01	4,884
1976	497,959.51	401,094	340,272	356,871	24.63	14,489
1977	427,799.48	337,976	286,726	312,193	25.27	12,354
1978	206,437.17	159,905	135,657	153,355	25.91	5,919
1979	570,914.73	433,266	367,566	431,715	26.56	16,254
1980	419,533.35	311,699	264,433	322,914	27.22	11,863
1981	246,083.14	178,852	151,731	192,785	27.89	6,912
1982	246,454.54	175,075	148,527	196,509	28.57	6,878
1983	404,437.82	280,666	238,106	328,107	29.25	11,217
1984	639,933.87	433,279	367,577	528,330	29.95	17,640
1985	504,231.66	332,879	282,401	423,523	30.65	13,818
1986	590,782.37	379,893	322,286	504,809	31.36	16,097
1987	1,183,463.98	740,446	628,165	1,028,685	32.08	32,066
1988	933,963.99	568,104	481,957	825,593	32.80	25,171
1989	1,239,566.50	732,162	621,138	1,114,255	33.53	33,232
1990	1,176,335.65	673,800	571,626	1,075,244	34.27	31,376
1991	1,016,803.67	564,015	478,488	945,037	35.02	26,986
1992	1,009,707.16	541,546	459,426	954,164	35.78	26,668
1993	1,608,478.24	833,192	706,847	1,545,023	36.54	42,283
1994	1,059,365.69	529,056	448,830	1,034,282	37.31	27,721
1995	720,730.37	346,549	293,999	715,024	38.08	18,777
1996	664,332.41	306,922	260,381	669,684	38.86	17,233
1997	1,091,677.94	483,539	410,216	1,118,133	39.65	28,200
1998	729,347.68	308,971	262,119	758,968	40.45	18,763
1999	2,248,929.38	909,256	771,377	2,377,124	41.25	57,627
2000	2,610,494.96	1,004,419	852,110	2,802,583	42.06	66,633
2001	1,966,588.34	718,206	609,298	2,143,926	42.87	50,010
2002	574,390.25	198,399	168,314	635,832	43.69	14,553
2003	2,471,810.50	804,263	682,305	2,778,230	44.52	62,404
2004	1,726,707.08	527,233	447,284	1,970,106	45.35	43,442
2005	3,984,462.89	1,135,843	963,604	4,614,644	46.19	99,906
2006	2,803,955.38	742,476	629,888	3,295,650	47.03	70,075
2007	2,159,591.48	527,528	447,534	2,575,894	47.88	53,799
2008	1,747,536.12	391,032	331,736	2,114,815	48.73	43,399
2009	2,748,355.37	557,916	473,314	3,374,384	49.59	68,046
2010	1,895,462.42	344,974	292,662	2,360,985	50.46	46,789
2011	441,624.30	71,207	60,409	557,865	51.32	10,870
2012	3,016,216.69	422,270	358,237	3,864,466	52.20	74,032
2013	702,214.96	83,396	70,750	912,351	53.08	17,188
2014	1,233,387.88	120,285	102,045	1,624,698	53.96	30,109
2015	1,766,800.02	134,337	113,966	2,359,554	54.85	43,018

DUKE ENERGY KENTUCKY

ACCOUNT 3670 UNDERGROUND CONDUCTORS AND DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 58-R2						
NET SALVAGE PERCENT.. -40						
2016	1,746,460.43	94,843	80,461	2,364,584	55.75	42,414
2017	4,562,756.25	149,795	127,081	6,260,778	56.64	110,536
2018	4,046,466.69	43,961	37,295	5,627,758	57.55	97,789
	62,856,152.93	20,118,909	17,068,091	70,930,523		1,602,328

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 44.3 2.55

DUKE ENERGY KENTUCKY

ACCOUNT 3680 LINE TRANSFORMERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 46-R0.5						
NET SALVAGE PERCENT.. -15						
1910	932.51	1,072	1,072			
1916	93.03	107	107			
1917	39.04	45	45			
1920	891.01	1,025	1,025			
1921	117.94	136	136			
1922	653.45	751	751			
1923	244.14	281	281			
1925	659.61	759	759			
1926	325.08	374	374			
1927	389.22	445	448			
1928	180.61	204	208			
1929	179.44	201	206			
1930	186.14	206	214			
1932	374.35	406	431			
1933	182.86	196	210			
1935	66.94	70	77			
1936	1,652.19	1,716	1,900			
1937	2,257.12	2,319	2,596			
1938	113.53	115	131			
1939	245.56	247	282			
1940	2,803.90	2,793	3,224			
1941	2,149.01	2,118	2,471			
1942	330.34	322	380			
1945	605.41	573	696			
1946	501.68	469	577			
1947	2,256.64	2,090	2,595			
1948	1,863.33	1,707	2,143			
1949	3,790.07	3,434	4,359			
1950	7,962.62	7,137	9,157			
1951	16,840.24	14,925	19,366			
1952	10,015.41	8,776	11,518			
1953	5,752.68	4,983	6,616			
1954	25,280.51	21,640	29,073			
1955	37,264.69	31,526	42,854			
1956	47,542.76	39,734	54,674			
1957	10,942.66	9,033	12,584			
1958	32,737.77	26,681	37,648			
1959	44,951.28	36,174	51,694			
1960	38,312.27	30,429	44,059			
1961	53,818.54	42,167	61,891			
1962	46,317.73	35,792	53,265			
1963	60,441.09	46,056	69,507			
1964	147,280.42	110,607	169,372			

DUKE ENERGY KENTUCKY

ACCOUNT 3680 LINE TRANSFORMERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 46-R0.5						
NET SALVAGE PERCENT.. -15						
1965	107,962.14	79,892	122,843	1,313	16.40	80
1966	178,161.08	129,836	199,637	5,248	16.85	311
1967	150,161.35	107,740	165,662	7,024	17.30	406
1968	214,712.17	151,640	233,163	13,756	17.75	775
1969	293,845.45	204,149	313,902	24,020	18.21	1,319
1970	414,650.66	283,205	435,459	41,389	18.68	2,216
1971	451,676.54	303,190	466,188	53,240	19.15	2,780
1972	490,257.72	323,326	497,149	66,647	19.62	3,397
1973	582,080.67	376,895	579,518	89,875	20.10	4,471
1974	663,198.89	421,296	647,789	114,890	20.59	5,580
1975	395,471.98	246,379	378,835	75,958	21.08	3,603
1976	324,332.90	198,087	304,581	68,402	21.57	3,171
1977	479,759.34	287,017	441,320	110,403	22.07	5,002
1978	627,950.46	367,824	565,570	156,573	22.57	6,937
1979	598,866.13	343,150	527,631	161,065	23.08	6,979
1980	646,805.49	362,214	556,944	186,882	23.60	7,919
1981	826,206.16	451,933	694,897	255,240	24.12	10,582
1982	573,523.88	306,263	470,913	188,639	24.64	7,656
1983	1,051,742.59	547,700	842,149	367,355	25.17	14,595
1984	948,772.22	481,268	740,002	351,086	25.71	13,656
1985	1,039,061.48	513,039	788,854	406,067	26.25	15,469
1986	1,043,616.38	501,198	770,647	429,512	26.79	16,033
1987	1,132,056.72	528,102	812,015	489,850	27.34	17,917
1988	1,977,729.88	895,427	1,376,817	897,572	27.89	32,183
1989	1,937,947.92	850,271	1,307,385	921,255	28.45	32,382
1990	1,919,797.77	815,439	1,253,827	953,940	29.01	32,883
1991	1,894,795.06	778,279	1,196,690	982,324	29.57	33,220
1992	1,415,620.82	561,289	863,044	764,920	30.14	25,379
1993	1,882,018.46	719,399	1,106,155	1,058,166	30.71	34,457
1994	2,387,325.29	877,932	1,349,917	1,395,507	31.29	44,599
1995	1,301,671.83	460,139	707,514	789,409	31.86	24,777
1996	1,181,441.94	400,505	615,820	742,838	32.44	22,899
1997	1,836,762.30	595,578	915,767	1,196,510	33.03	36,225
1998	1,511,711.70	468,256	719,995	1,018,473	33.61	30,303
1999	1,427,231.95	421,031	647,381	993,936	34.20	29,062
2000	1,247,769.30	349,694	537,693	897,242	34.79	25,790
2001	497,473.74	132,080	203,088	369,007	35.38	10,430
2002	617,116.53	154,590	237,699	471,985	35.98	13,118
2003	1,160,159.64	273,508	420,549	913,635	36.57	24,983
2004	1,377,649.12	304,122	467,621	1,116,675	37.17	30,042
2005	923,967.09	190,103	292,304	770,258	37.77	20,393
2006	1,139,052.53	217,275	334,084	975,826	38.37	25,432
2007	1,801,205.98	316,570	486,761	1,584,626	38.97	40,663

DUKE ENERGY KENTUCKY

ACCOUNT 3680 LINE TRANSFORMERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 46-R0.5						
NET SALVAGE PERCENT.. -15						
2008	858,324.68	137,973	212,149	774,924	39.57	19,584
2009	848,121.43	123,400	189,741	785,599	40.18	19,552
2010	1,532,849.06	200,040	307,584	1,455,192	40.78	35,684
2011	21,850.89	2,518	3,872	21,257	41.39	514
2012	853,017.70	85,305	131,166	849,804	42.00	20,233
2013	475,483.48	40,300	61,966	484,840	42.61	11,379
2014	2,618,017.61	181,938	279,749	2,730,971	43.22	63,188
2015	2,046,534.82	110,521	169,938	2,183,577	43.84	49,808
2016	3,407,927.81	132,074	203,078	3,716,039	44.45	83,600
2017	3,054,371.60	71,023	109,206	3,403,321	45.07	75,512
2018	3,546,050.62	27,485	42,261	4,035,697	45.69	88,328
	62,545,415.77	18,899,248	29,007,465	42,919,763		1,187,456

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 36.1 1.90

DUKE ENERGY KENTUCKY

ACCOUNT 3682 LINE TRANSFORMERS - CUSTOMER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1.5						
NET SALVAGE PERCENT.. -15						
1937	1.04	1	1			
1938	2.53	2	3			
1940	0.01					
1941	0.95	1	1			
1942	10.94	10	13			
1943	2.50	2	3			
1945	1,765.26	1,642	2,030			
1946	3,329.42	3,076	3,829			
1947	2,300.29	2,109	2,645			
1948	401.17	365	461			
1949	3,857.31	3,482	4,436			
1950	416.26	373	479			
1951	5,955.07	5,288	6,848			
1952	49.28	43	57			
1953	1,452.54	1,268	1,670			
1954	1,558.30	1,348	1,792			
1955	581.76	498	669			
1956	26,953.32	22,870	30,996			
1957	2,433.12	2,044	2,798			
1958	213.84	178	246			
1959	2,698.35	2,220	3,103			
1961	5,229.50	4,205	6,014			
1962	3,983.11	3,166	4,581			
1963	14,251.40	11,189	16,389			
1964	4,392.70	3,406	5,037	15	17.92	1
1965	5,116.30	3,915	5,790	94	18.40	5
1966	6,770.22	5,113	7,562	224	18.88	12
1967	2,140.86	1,594	2,357	105	19.38	5
1968	26,876.44	19,730	29,179	1,729	19.89	87
1969	25,290.78	18,291	27,051	2,033	20.41	100
1970	4,780.28	3,405	5,036	461	20.93	22
1971	21,630.59	15,165	22,428	2,447	21.47	114
1972	4,522.23	3,118	4,611	590	22.02	27
1973	6,132.94	4,159	6,151	902	22.57	40
1974	2,241.30	1,494	2,210	367	23.13	16
1975	5,212.61	3,411	5,045	950	23.70	40
1976	23,132.60	14,854	21,968	4,634	24.29	191
1977	7,355.35	4,632	6,850	1,609	24.88	65
1978	16,190.89	9,997	14,785	3,835	25.47	151
1984	5,955.63	3,209	4,746	2,103	29.23	72

DUKE ENERGY KENTUCKY

ACCOUNT 3682 LINE TRANSFORMERS - CUSTOMER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1.5						
NET SALVAGE PERCENT.. -15						
1986	6,576.87	3,362	4,972	2,591	30.55	85
1989	1,093.01	513	759	498	32.57	15
1990	20,801.65	9,456	13,985	9,937	33.26	299
	273,660.52	194,204	279,586	35,124		1,347

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.1 0.49

DUKE ENERGY KENTUCKY

ACCOUNT 3691 SERVICES - UNDERGROUND

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 65-R2.5
NET SALVAGE PERCENT.. -25

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1937	2,102.97	2,238	2,629			
1938	285.12	302	356			
1940	41.87	44	52			
1941	61.27	64	77			
1942	79.40	82	99			
1943	40.05	41	50			
1944	7.99	8	10			
1945	55.14	56	69			
1946	113.01	114	141			
1947	1.37	1	2			
1948	33.10	33	41			
1949	711.04	703	889			
1950	2,722.18	2,669	3,403			
1951	963.92	937	1,205			
1952	161.30	156	202			
1953	2,097.44	2,005	2,622			
1954	2.40	2	3			
1955	5,689.00	5,335	7,111			
1956	5,252.42	4,877	6,566			
1957	1,742.85	1,601	2,179			
1958	4,390.81	3,991	5,489			
1959	2,216.13	1,992	2,770			
1960	1,748.05	1,553	2,185			
1961	4,994.94	4,385	6,244			
1962	4,051.53	3,513	5,064			
1963	9,823.23	8,410	12,279			
1964	7,489.85	6,328	9,362			
1965	5,003.84	4,170	6,255			
1966	10,814.74	8,885	13,518			
1967	8,596.12	6,960	10,745			
1968	6,368.32	5,079	7,960			
1969	16,508.14	12,962	20,635			
1970	11,077.59	8,560	13,847			
1971	3,470.46	2,638	4,338			
1972	627.60	469	784			
1973	775.11	569	969			
1975	482.08	341	581	22	28.22	1
1976	528.32	366	624	36	28.93	1
1977	870.14	592	1,009	79	29.64	3
1987	2,059.61	1,100	1,874	701	37.23	19
1999	1,265.67	433	738	844	47.22	18
2003	312,396.30	85,667	145,946	244,549	50.74	4,820
2004	269.07	69	118	218	51.63	4

DUKE ENERGY KENTUCKY

ACCOUNT 3691 SERVICES - UNDERGROUND

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -25						
2005	115.00	28	48	96	52.53	2
2006	740.20	165	281	644	53.43	12
2007	309.48	64	109	278	54.33	5
2008	132.00	25	43	122	55.24	2
2009	1,078.83	184	313	1,036	56.15	18
2014	1,979,667.46	161,046	274,365	2,200,219	60.77	36,206
2015	19,759.66	1,250	2,129	22,571	61.71	366
2017	7,792.76	213	363	9,378	63.58	147
2018	10,261.31	93	159	12,668	64.53	196
	2,457,848.19	353,368	578,850	2,493,460		41,820

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 59.6 1.70

DUKE ENERGY KENTUCKY

ACCOUNT 3692 SERVICES - OVERHEAD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1						
NET SALVAGE PERCENT.. -30						
1925	15,662.52	18,355	20,361			
1938	539.25	578	701			
1939	1,189.33	1,266	1,546			
1940	1,249.55	1,319	1,624			
1941	1,451.14	1,519	1,886			
1942	745.46	774	969			
1943	1,032.23	1,063	1,342			
1944	969.78	990	1,261			
1945	1,064.67	1,077	1,384			
1946	2,296.10	2,302	2,985			
1947	3,340.81	3,319	4,343			
1948	4,749.33	4,673	6,174			
1949	5,743.98	5,598	7,467			
1950	6,893.16	6,652	8,961			
1951	6,296.47	6,016	8,185			
1952	9,297.47	8,790	12,087			
1953	8,812.06	8,244	11,456			
1954	9,993.62	9,248	12,992			
1955	515.77	472	671			
1956	19,133.72	17,312	24,874			
1957	27,998.22	25,035	36,398			
1958	34,965.17	30,893	45,455			
1959	41,148.97	35,918	53,494			
1960	48,640.36	41,929	63,232			
1961	51,530.06	43,848	66,989			
1962	49,064.12	41,193	63,783			
1963	48,687.94	40,324	63,294			
1964	50,018.27	40,858	65,024			
1965	56,771.61	45,717	73,803			
1966	62,661.85	49,720	81,460			
1967	75,607.92	59,081	98,290			
1968	65,137.41	50,115	84,679			
1969	85,138.57	64,456	110,680			
1970	85,464.78	63,653	111,104			
1971	110,833.22	81,158	144,083			
1972	114,595.94	82,450	148,975			
1973	109,457.62	77,357	142,295			
1974	156,814.96	108,788	203,859			
1975	156,871.71	106,788	203,933			
1976	151,578.41	101,141	197,052			
1977	167,097.46	109,285	217,227			
1978	199,577.53	127,792	259,054	397	27.91	14
1979	200,218.95	125,457	254,320	5,965	28.49	209

DUKE ENERGY KENTUCKY

ACCOUNT 3692 SERVICES - OVERHEAD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R1						
NET SALVAGE PERCENT.. -30						
1980	200,693.36	123,002	249,344	11,557	29.07	398
1981	243,577.48	145,833	295,626	21,025	29.67	709
1982	213,957.12	125,065	253,526	24,618	30.27	813
1983	215,282.40	122,786	248,906	30,961	30.87	1,003
1984	304,426.70	169,241	343,077	52,678	31.48	1,673
1985	249,480.27	135,036	273,739	50,585	32.10	1,576
1986	283,731.48	149,418	302,893	65,958	32.72	2,016
1987	293,605.86	150,316	304,713	76,975	33.34	2,309
1988	262,300.94	130,381	264,302	76,689	33.97	2,258
1989	245,875.63	118,500	240,218	79,420	34.61	2,295
1990	239,749.40	111,919	226,877	84,797	35.25	2,406
1991	227,642.18	102,769	208,328	87,607	35.90	2,440
1992	297,728.94	129,835	263,195	123,853	36.55	3,389
1993	300,809.92	126,560	256,556	134,497	37.20	3,616
1994	278,171.63	112,696	228,452	133,171	37.86	3,517
1995	299,997.94	116,859	236,891	153,106	38.52	3,975
1996	414,209.02	154,784	313,771	224,701	39.19	5,734
1997	285,508.21	102,169	207,112	164,049	39.86	4,116
1998	250,490.26	85,672	173,670	151,967	40.53	3,749
1999	206,338.50	67,256	136,338	131,902	41.21	3,201
2000	510,637.24	158,356	321,012	342,816	41.88	8,186
2001	3,268.64	960	1,946	2,303	42.57	54
2003	926,311.32	242,154	490,883	713,322	43.94	16,234
2004	186,060.37	45,606	92,450	149,428	44.63	3,348
2005	278,240.97	63,662	129,053	232,660	45.32	5,134
2006	549,948.73	116,856	236,885	478,048	46.01	10,390
2007	457,041.78	89,557	181,546	412,608	46.71	8,833
2008	515,498.86	92,480	187,471	482,678	47.41	10,181
2009	619,903.76	100,807	204,351	601,524	48.12	12,500
2010	303,563.94	44,270	89,742	304,891	48.83	6,244
2011	21,022.77	2,713	5,500	21,830	49.54	441
2012	644,834.08	72,394	146,754	691,530	50.25	13,762
2013	1,228,339.90	117,001	237,179	1,359,663	50.97	26,676
2014	110,390.00	8,610	17,454	126,053	51.70	2,438
2015	1,642,242.18	100,149	203,018	1,931,897	52.42	36,854
2016	1,805,168.65	78,944	160,031	2,186,688	53.15	41,142
2017	737,079.23	19,337	39,199	919,004	53.89	17,053
2018	473,143.03	4,140	8,393	606,693	54.63	11,105
	18,577,130.16	5,490,616	10,700,153	13,450,116		281,991

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 47.7 1.52

DUKE ENERGY KENTUCKY

ACCOUNT 3700 METERS AND METERING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 24-L1
NET SALVAGE PERCENT.. 0

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1920	124.77	125	125			
1921	33.06	33	33			
1922	145.86	146	146			
1923	404.07	404	404			
1924	338.11	338	338			
1925	596.06	596	596			
1926	394.33	394	394			
1927	915.90	916	916			
1928	759.22	759	759			
1929	1,479.22	1,479	1,479			
1930	702.69	703	703			
1931	837.11	837	837			
1933	25.93	26	26			
1934	349.75	350	350			
1935	240.77	241	241			
1936	899.50	900	900			
1937	1,314.85	1,315	1,315			
1938	159.03	159	159			
1939	1,186.84	1,187	1,187			
1940	758.81	759	759			
1941	2,117.78	2,118	2,118			
1942	1,272.97	1,273	1,273			
1943	204.25	204	204			
1944	439.19	430	439			
1945	273.87	267	274			
1946	820.94	793	821			
1947	4,290.12	4,119	4,290			
1948	3,011.68	2,871	3,012			
1949	2,046.72	1,938	2,047			
1950	3,315.40	3,116	3,315			
1951	2,016.80	1,882	2,017			
1952	5,033.04	4,664	5,033			
1953	6,460.57	5,941	6,461			
1954	3,232.01	2,949	3,232			
1955	3,970.37	3,596	3,970			
1956	5,446.56	4,893	5,447			
1957	9,946.36	8,865	9,946			
1958	4,304.20	3,806	4,304			
1959	5,274.94	4,624	5,275			
1960	7,553.30	6,565	7,553			
1961	7,945.98	6,847	7,946			
1962	4,978.36	4,252	4,978			
1963	4,792.59	4,056	4,793			

DUKE ENERGY KENTUCKY

ACCOUNT 3700 METERS AND METERING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 24-L1						
NET SALVAGE PERCENT.. 0						
1964	6,368.92	5,342	6,369			
1965	2,960.09	2,459	2,960			
1966	10,849.70	8,924	10,850			
1967	7,627.65	6,213	7,628			
1968	13,207.19	10,648	13,207			
1969	10,652.48	8,500	10,652			
1970	8,318.27	6,568	8,318			
1971	7,520.29	5,872	7,520			
1972	13,447.79	10,383	13,372	76	5.47	14
1973	13,007.66	9,929	12,787	221	5.68	39
1974	20,241.88	15,266	19,660	582	5.90	99
1975	5,479.59	4,082	5,257	223	6.12	36
1976	3,516.48	2,588	3,333	183	6.34	29
1977	5,671.65	4,121	5,307	365	6.56	56
1978	6,284.81	4,507	5,804	481	6.79	71
1979	8,002.48	5,658	7,287	715	7.03	102
1980	6,914.48	4,823	6,211	703	7.26	97
1981	2,512.39	1,726	2,223	289	7.51	38
1983	1,357.69	905	1,166	192	8.00	24
1984	7,982.51	5,239	6,747	1,236	8.25	150
1985	11,959.11	7,719	9,941	2,018	8.51	237
1986	22,318.93	14,154	18,228	4,091	8.78	466
1987	16,886.92	10,519	13,547	3,340	9.05	369
1988	2,767.31	1,693	2,180	587	9.32	63
1989	8,988.57	5,393	6,945	2,044	9.60	213
1990	20,534.60	12,081	15,558	4,977	9.88	504
1991	31,927.03	18,398	23,694	8,233	10.17	810
1992	12,041.04	6,788	8,742	3,299	10.47	315
1993	10,013.86	5,520	7,109	2,905	10.77	270
1994	15,717.57	8,461	10,896	4,822	11.08	435
1995	12,474.11	6,549	8,434	4,040	11.40	354
1996	2,063.15	1,056	1,360	703	11.72	60
1997	619.42	308	397	222	12.05	18
1998	52,868.67	25,597	32,965	19,904	12.38	1,608
2004	195,452.72	76,797	98,903	96,550	14.57	6,627
2005	268,566.31	101,161	130,280	138,286	14.96	9,244
2006	376,390.40	135,188	174,102	202,288	15.38	13,153
2007	528,934.15	180,277	232,169	296,765	15.82	18,759
2008	441,157.82	141,722	182,517	258,641	16.29	15,877
2009	15,377.89	4,607	5,933	9,445	16.81	562
2011	118,612.40	29,801	38,379	80,233	17.97	4,465
2012	33,378.99	7,483	9,637	23,742	18.62	1,275
2013	17,558.20	3,416	4,399	13,159	19.33	681

DUKE ENERGY KENTUCKY

ACCOUNT 3700 METERS AND METERING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 24-L1						
NET SALVAGE PERCENT.. 0						
2014	334,304.54	54,602	70,319	263,986	20.08	13,147
2015	301,203.49	39,030	50,265	250,938	20.89	12,012
2016	465,629.84	44,039	56,716	408,914	21.73	18,818
2017	227,623.91	13,184	16,979	210,645	22.61	9,316
2018	185,634.00	3,635	4,681	180,953	23.53	7,690
	3,993,342.83	1,174,667	1,492,348	2,500,995		138,103

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.1 3.46

DUKE ENERGY KENTUCKY

ACCOUNT 3702 UoF METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 15-S2.5
NET SALVAGE PERCENT.. 0

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
2015	208,337.40	48,334	29,067	179,270	11.52	15,562
2016	302,081.27	50,348	30,278	271,803	12.50	21,744
2017	10,698,047.84	1,069,805	643,355	10,054,693	13.50	744,792
2018	11,898,260.67	396,569	238,487	11,659,774	14.50	804,122
	23,106,727.18	1,565,056	941,187	22,165,540		1,586,220

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.0 6.86

DUKE ENERGY KENTUCKY

ACCOUNT 3712 COMPANY-OWNED OUTDOOR LIGHTING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 10-R2						
NET SALVAGE PERCENT.. 0						
2008	438.91	327	482-	921	2.54	363
2011	0.01					
2015	115,306.09	34,592	50,975-	166,281	7.00	23,754
2016	159,151.23	34,695	51,127-	210,278	7.82	26,890
2017	28,573.83	3,800	5,600-	34,174	8.67	3,942
2018	9,157.80	412	607-	9,764	9.55	1,022
	312,627.87	73,826	108,791-	421,419		55,971

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.5 17.90

DUKE ENERGY KENTUCKY

ACCOUNT 3720 LEASED PROPERTY ON CUSTOMERS' PREMISES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-L3						
NET SALVAGE PERCENT.. 0						
1969	9,647.36	8,879	9,647			
	9,647.36	8,879	9,647			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

DUKE ENERGY KENTUCKY

ACCOUNT 3731 STREET LIGHTING - OVERHEAD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 32-L0.5						
NET SALVAGE PERCENT.. -15						
1910	78.85	80	91			
1925	1,885.21	1,773	2,168			
1927	3.09	3	4			
1938	170.68	152	196			
1939	25.99	23	30			
1940	114.48	101	132			
1941	379.29	333	436			
1942	25.06	22	29			
1943	9.58	8	11			
1944	22.00	19	25			
1945	75.74	65	87			
1946	102.29	88	118			
1947	1,289.01	1,099	1,482			
1948	93.66	79	108			
1949	205.66	173	237			
1950	56.23	47	65			
1951	144.66	120	166			
1952	288.06	238	331			
1953	264.52	217	304			
1954	173.29	141	199			
1955	423.29	343	487			
1956	1,335.84	1,074	1,536			
1957	539.30	430	620			
1958	1,178.70	933	1,356			
1959	4,487.08	3,523	5,160			
1960	7,703.32	5,999	8,859			
1961	18,994.14	14,662	21,843			
1962	20,333.15	15,557	23,383			
1963	20,386.22	15,459	23,444			
1964	16,923.20	12,711	19,462			
1965	46,421.89	34,534	53,385			
1966	39,824.91	29,325	45,799			
1967	25,411.34	18,520	29,223			
1968	12,733.09	9,184	14,643			
1969	49,780.30	35,511	57,247			
1970	49,885.13	35,192	57,368			
1971	48,258.11	33,645	55,497			
1972	36,858.44	25,392	42,387			
1973	42,999.87	29,268	49,450			
1974	17,129.17	11,511	19,699			
1975	20,834.43	13,822	23,960			
1976	9,228.13	6,039	10,612			
1977	13,091.56	8,450	15,055			

DUKE ENERGY KENTUCKY

ACCOUNT 3731 STREET LIGHTING - OVERHEAD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 32-L0.5						
NET SALVAGE PERCENT.. -15						
1978	19,156.52	12,185	22,030			
1979	30,724.37	19,256	35,333			
1980	40,750.37	25,145	46,863			
1981	20,459.10	12,426	23,528			
1982	11,778.09	7,039	13,545			
1983	12,607.57	7,408	14,499			
1984	14,244.10	8,226	16,381			
1985	45,296.09	25,687	52,091			
1986	31,674.18	17,621	36,425			
1987	15,970.30	8,712	18,366			
1988	22,538.99	12,053	25,920			
1989	63,258.56	33,123	72,747			
1990	38,417.50	19,674	43,582	598	17.75	34
1991	13,589.62	6,803	15,070	558	18.07	31
1992	41,628.25	20,361	45,104	2,768	18.39	151
1993	82,530.99	39,358	87,186	7,725	18.73	412
1994	81,517.91	37,909	83,976	9,770	19.06	513
1995	75,857.11	34,322	76,030	11,206	19.41	577
1996	59,652.50	26,240	58,127	10,473	19.76	530
1997	91,922.73	39,278	87,009	18,702	20.11	930
1998	114,903.42	47,570	105,378	26,761	20.48	1,307
1999	145,014.37	58,108	128,722	38,045	20.85	1,825
2000	99,614.52	38,592	85,489	29,068	21.22	1,370
2001	28,286.70	10,562	23,397	9,133	21.61	423
2002	7,009.27	2,519	5,580	2,481	22.00	113
2004	157,564.41	51,868	114,899	66,300	22.84	2,903
2005	54,100.78	16,935	37,515	24,701	23.29	1,061
2006	28,667.94	8,489	18,805	14,163	23.76	596
2007	55,634.27	15,495	34,325	29,654	24.25	1,223
2008	18,187.13	4,726	10,469	10,446	24.77	422
2009	39,669.53	9,537	21,126	24,494	25.31	968
2010	11,636.29	2,559	5,669	7,713	25.88	298
2012	33,725.01	5,927	13,130	25,654	27.11	946
2014	5,366.40	685	1,517	4,654	28.45	164
2015	313,351.24	31,870	70,598	289,756	29.17	9,933
2016	32,176.23	2,405	5,328	31,675	29.92	1,059
2017	33,252.04	1,541	3,414	34,826	30.71	1,134
2018	1,852.50	30	66	2,064	31.55	65
	2,503,754.86	1,088,109	2,145,933	733,385		28,988

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.3 1.16

DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R1.5						
NET SALVAGE PERCENT.. -20						
1922	269.37	315	323			
1923	3,481.73	4,039	4,178			
1927	1,995.79	2,252	2,395			
1928	1,451.94	1,629	1,742			
1929	3,724.55	4,156	4,469			
1930	53.15	59	64			
1931	1,776.61	1,962	2,132			
1932	602.71	662	723			
1933	354.16	387	425			
1936	53.64	58	64			
1937	147.76	158	177			
1938	290.84	310	349			
1939	63.35	67	76			
1941	1,449.08	1,516	1,739			
1942	26.87	28	32			
1943	283.50	293	340			
1950	171.43	169	206			
1951	1,257.21	1,227	1,509			
1952	114.34	111	137			
1953	0.10					
1954	171.18	163	205			
1955	361.21	341	433			
1956	565.62	530	679			
1958	509.17	468	611			
1959	293.96	268	353			
1960	21.46	19	26			
1961	28.82	26	35			
1962	273.08	241	328			
1963	253.93	222	305			
1965	4,917.77	4,191	5,901			
1970	400.52	319	481			
1972	1,582.16	1,223	1,899			
1973	13,625.05	10,369	16,350			
1974	18,600.26	13,923	22,320			
1975	4,518.21	3,324	5,422			
1976	7,327.42	5,295	8,793			
1977	7,718.76	5,476	9,263			
1978	14,756.10	10,270	17,707			
1979	13,221.08	9,018	15,865			
1980	16,725.73	11,175	20,071			
1981	12,793.42	8,367	15,352			
1982	10,784.55	6,898	12,941			
1983	2,407.97	1,505	2,890			

DUKE ENERGY KENTUCKY

ACCOUNT 3732 STREET LIGHTING - BOULEVARD

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R1.5						
NET SALVAGE PERCENT.. -20						
1984	12,877.16	7,856	15,453			
1985	38,093.48	22,664	45,712			
1986	21,062.90	12,213	24,805	470	25.84	18
1987	58,166.39	32,820	66,659	3,141	26.49	119
1988	71,225.22	39,077	79,367	6,103	27.14	225
1989	92,132.51	49,088	99,700	10,859	27.80	391
1990	131,972.23	68,193	138,503	19,864	28.47	698
1991	47,327.02	23,694	48,124	8,668	29.14	297
1992	128,990.98	62,442	126,823	27,966	29.83	938
1993	79,243.85	37,048	75,246	19,847	30.52	650
1994	88,032.37	39,678	80,588	25,051	31.22	802
1995	113,773.50	49,369	100,271	36,257	31.92	1,136
1996	99,521.16	41,488	84,264	35,161	32.63	1,078
1997	145,426.69	58,113	118,030	56,482	33.35	1,694
1998	145,025.04	55,446	112,613	61,417	34.07	1,803
1999	628,139.09	229,145	465,404	288,363	34.80	8,286
2000	135,300.71	46,987	95,433	66,928	35.53	1,884
2001	13,200.25	4,350	8,835	7,005	36.27	193
2002	32,074.31	9,992	20,294	18,195	37.02	491
2004	387,664.12	106,809	216,934	248,263	38.52	6,445
2005	364,108.47	93,678	190,264	246,666	39.28	6,280
2006	200,674.41	47,921	97,330	143,479	40.05	3,582
2007	43,507.72	9,586	19,470	32,739	40.82	802
2008	541.98	109	221	429	41.59	10
2009	55,789.51	10,216	20,749	46,198	42.37	1,090
2010	33,453.09	5,500	11,171	28,973	43.15	671
2012	25,121.11	3,177	6,453	23,692	44.73	530
2017	23,600.45	697	1,415	26,906	48.77	552
2018	1,486.80	15	31	1,754	49.59	35
	3,366,958.08	1,280,400	2,549,472	1,490,878		40,700

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 36.6 1.21

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-L0						
NET SALVAGE PERCENT.. -25						
1962	755.64	605	945			
1963	2,782.60	2,206	3,478			
1964	5,748.22	4,508	7,185			
1965	4,665.23	3,619	5,832			
1966	7,777.78	5,966	9,722			
1967	3,479.48	2,637	4,349			
1968	13,702.27	10,265	17,128			
1969	9,039.84	6,689	11,300			
1970	10,509.18	7,676	13,136			
1971	11,268.50	8,127	14,086			
1972	9,421.14	6,705	11,776			
1973	19,731.84	13,853	24,665			
1974	26,908.55	18,623	33,636			
1975	21,885.45	14,928	27,357			
1976	28,100.64	18,886	35,126			
1977	18,884.29	12,495	23,605			
1978	33,299.53	21,686	41,624			
1979	47,010.63	30,126	58,763			
1980	64,740.61	40,787	80,926			
1981	37,233.17	23,053	46,541			
1982	31,008.79	18,864	38,761			
1983	11,307.29	6,751	14,134			
1984	14,332.94	8,391	17,916			
1985	16,882.67	9,693	20,945	158	16.22	10
1986	21,740.07	12,220	26,405	770	16.51	47
1987	18,167.17	9,999	21,606	1,103	16.79	66
1988	17,439.61	9,388	20,286	1,514	17.08	89
1989	22,810.66	11,995	25,919	2,594	17.38	149
1990	50,089.62	25,713	55,560	7,052	17.68	399
1991	58,187.99	29,118	62,918	9,817	17.99	546
1992	57,730.95	28,144	60,813	11,351	18.30	620
1993	53,177.85	25,238	54,534	11,938	18.61	641
1994	47,014.71	21,686	46,859	11,909	18.93	629
1995	57,876.96	25,900	55,965	16,381	19.26	851
1996	49,167.86	21,327	46,083	15,377	19.59	785
1997	65,963.90	27,678	59,806	22,649	19.93	1,136
1998	58,524.66	23,727	51,269	21,887	20.27	1,080
1999	27,323.39	10,679	23,075	11,079	20.62	537
2000	5,610.07	2,108	4,555	2,458	20.98	117
2001	66,321.77	23,931	51,710	31,192	21.34	1,462
2002	74.99	26	56	38	21.70	2
2004	314,329.75	98,751	213,380	179,532	22.46	7,993
2005	50,299.11	14,985	32,380	30,494	22.85	1,335

DUKE ENERGY KENTUCKY

ACCOUNT 3733 STREET LIGHTING - CUSTOMER POLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-L0						
NET SALVAGE PERCENT.. -25						
2006	120,624.10	33,975	73,413	77,367	23.24	3,329
2007	58,341.01	15,436	33,354	39,572	23.65	1,673
2008	85,866.40	21,217	45,846	61,487	24.07	2,555
2009	47,507.23	10,887	23,525	35,859	24.50	1,464
2010	3,892.91	819	1,770	3,096	24.95	124
2012	129,661.74	22,096	47,745	114,332	25.91	4,413
2013	125,758.30	18,707	40,422	116,776	26.43	4,418
2014	39,803.12	5,025	10,858	38,896	26.97	1,442
2015	187,697.27	19,239	41,571	193,051	27.54	7,010
2016	631,779.63	48,434	104,655	685,070	28.16	24,328
2017	190,026.68	9,264	20,017	217,516	28.83	7,545
2018	182,541.92	3,194	6,902	221,275	29.58	7,481
	3,295,827.68	928,045	1,926,193	2,193,592		84,276

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.0 2.56

DUKE ENERGY KENTUCKY

ACCOUNT 3900 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S1						
NET SALVAGE PERCENT.. -5						
1948	12,661.26	13,294	13,294			
1951	328.00	338	317	27	0.67	27
1977	3,297.18	2,602	2,442	1,020	8.69	117
2007	40,659.35	12,722	11,939	30,753	24.57	1,252
2008	59,235.18	17,131	16,077	46,120	25.36	1,819
2010	28,802.78	6,904	6,480	23,763	27.01	880
	144,983.75	52,991	50,549	101,684		4,095

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.8 2.82

DUKE ENERGY KENTUCKY

ACCOUNT 3910 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	2,796.07	1,468	1,470	1,326	9.50	140
2009	9,910.13	4,707	4,714	5,196	10.50	495
2013	1,587.47	437	438	1,149	14.50	79
2016	734.91	92	92	643	17.50	37
2017	9,544.40	716	717	8,827	18.50	477
2018	928.28	23	23	906	19.50	46
	25,501.26	7,443	7,454	18,048		1,274

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.2 5.00

DUKE ENERGY KENTUCKY

ACCOUNT 3911 ELECTRONIC DATA PROCESSING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2013	73,866.51	73,867	73,867			
2014	740,917.71	666,826	599,005	141,913	0.50	141,913
2015	171,406.92	119,985	107,782	63,625	1.50	42,417
2016	399,953.73	199,977	179,638	220,316	2.50	88,126
2017	375,483.33	112,645	101,188	274,295	3.50	78,370
2018	709,786.48	70,979	63,760	646,027	4.50	143,562
	2,471,414.68	1,244,279	1,125,240	1,346,175		494,388

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.7 20.00

DUKE ENERGY KENTUCKY

ACCOUNT 3920 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 12-S3						
NET SALVAGE PERCENT.. 0						
2016	17,626.65	3,672	2,339	15,288	9.50	1,609
2017	97,337.15	12,167	7,749	89,588	10.50	8,532
2018	413,742.04	17,241	10,979	402,763	11.50	35,023
	528,705.84	33,080	21,067	507,638		45,164

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.2 8.54

DUKE ENERGY KENTUCKY

ACCOUNT 3921 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

SURVIVOR CURVE.. IOWA 18-R2.5
NET SALVAGE PERCENT.. +5

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1999	15,736.15	11,901	14,617	332	3.67	90
2000	5,838.07	4,289	5,268	278	4.08	68
2001	21,763.00	15,460	18,988	1,687	4.54	372
2003	14,278.00	9,344	11,476	2,088	5.60	373
2005	26,234.28	15,466	18,996	5,927	6.83	868
2006	92,022.48	50,995	62,632	24,789	7.50	3,305
2016	78,567.76	9,661	11,866	62,773	15.67	4,006
	254,439.74	117,116	143,843	97,875		9,082

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.8 3.57

DUKE ENERGY KENTUCKY

ACCOUNT 3940 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1994	1,028.38	1,008	1,008	20	0.50	20
1997	6,942.62	5,971	5,974	969	3.50	277
1998	16,223.30	13,303	13,309	2,914	4.50	648
2000	109,708.96	81,185	81,220	28,489	6.50	4,383
2001	51,974.41	36,382	36,397	15,577	7.50	2,077
2002	37,932.62	25,036	25,047	12,886	8.50	1,516
2003	4,809.80	2,982	2,983	1,827	9.50	192
2005	25,940.45	14,008	14,014	11,926	11.50	1,037
2008	380,978.53	160,011	160,079	220,900	14.50	15,234
2009	2,959.10	1,124	1,124	1,835	15.50	118
2010	176,619.28	60,051	60,077	116,542	16.50	7,063
2011	193,492.90	58,048	58,073	135,420	17.50	7,738
2012	212,729.10	55,310	55,334	157,395	18.50	8,508
2013	139,430.69	30,675	30,688	108,743	19.50	5,577
2014	39,966.78	7,194	7,197	32,770	20.50	1,599
2015	135,407.94	18,957	18,965	116,443	21.50	5,416
2016	489,557.71	48,956	48,977	440,581	22.50	19,581
2017	327,834.85	19,670	19,678	308,157	23.50	13,113
2018	63,619.75	1,272	1,273	62,347	24.50	2,545
	2,417,157.17	641,143	641,417	1,775,740		96,642

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.4 4.00

DUKE ENERGY KENTUCKY

ACCOUNT 3960 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L2						
NET SALVAGE PERCENT.. 0						
2008	11,770.00	6,199	6,757	5,013	7.10	706
	11,770.00	6,199	6,757	5,013		706

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.1   6.00

DUKE ENERGY KENTUCKY

ACCOUNT 3970 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	154,485.86	128,738	128,767	25,719	2.50	10,288
2007	166,461.37	127,621	127,650	38,811	3.50	11,089
2009	107,358.47	67,993	68,008	39,350	5.50	7,155
2010	1,387,831.33	786,442	786,621	601,210	6.50	92,494
2011	478,464.22	239,232	239,286	239,178	7.50	31,890
2012	8,837.90	3,830	3,831	5,007	8.50	589
2013	22,988.34	8,429	8,431	14,557	9.50	1,532
2014	330,246.90	99,074	99,096	231,151	10.50	22,014
2015	17,836.10	4,162	4,163	13,673	11.50	1,189
2016	248,081.50	41,348	41,357	206,724	12.50	16,538
2017	658,842.01	65,884	65,899	592,943	13.50	43,922
2018	432,015.03	14,399	14,403	417,612	14.50	28,801
	4,013,449.03	1,587,152	1,587,512	2,425,937		267,501

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.1 6.67

Appendix A

JOHN SPANOS DEPRECIATION EXPERIENCE

Q. PLEASE STATE YOUR NAME.

A. My name is John J. Spanos.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College.

Q. DO YOU BELONG TO ANY PROFESSIONAL SOCIETIES?

A. Yes. I am a member and past President of the Society of Depreciation Professionals and a member of the American Gas Association/Edison Electric Institute Industry Accounting Committee.

Q. DO YOU HOLD ANY SPECIAL CERTIFICATION AS A DEPRECIATION EXPERT?

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 1997 and was recertified in August 2003, February 2008, January 2013 and February 2018.

Q. PLEASE OUTLINE YOUR EXPERIENCE IN THE FIELD OF DEPRECIATION.

A. In June 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June 1986 through December, 1995, I helped prepare numerous depreciation and original cost studies for utility companies in various industries. I helped perform depreciation studies for the following telephone companies: United Telephone of Pennsylvania, United Telephone of New Jersey, and Anchorage Telephone Utility. I helped perform depreciation studies for the following companies in the railroad industry: Union Pacific Railroad, Burlington Northern Railroad, and Wisconsin

Central Transportation Corporation.

I helped perform depreciation studies for the following organizations in the electric utility industry: Chugach Electric Association, The Cincinnati Gas and Electric Company (CG&E), The Union Light, Heat and Power Company (ULH&P), Northwest Territories Power Corporation, and the City of Calgary - Electric System.

I helped perform depreciation studies for the following pipeline companies: TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

I helped perform depreciation studies for the following gas utility companies: Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

I helped perform depreciation studies for the following water utility companies: Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia Suburban Water Company and Pennsylvania-American Water Company.

In each of the above studies, I assembled and analyzed historical and simulated data, performed field reviews, developed preliminary estimates of service life and net salvage, calculated annual depreciation, and prepared reports for submission to state public utility commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E.

In January 1996, I was assigned to the position of Supervisor of Depreciation Valuation Studies. In December 2000, I was promoted to the position as Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc., in April 2012, I was promoted to the position as Senior Vice President of the Valuation and Rate Division of Gannett Fleming Inc. (now doing business as Gannett Fleming Valuation and Rate Consultants, LLC) and in January of 2019, I was promoted to my present position of President of Gannett Fleming Valuation and Rate Consultants, LLC. In my current position I am responsible for conducting all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate regulatory bodies.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Iowa-American Water Company; New Jersey-American Water Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company; Idaho Power Company; El Paso

Electric Company; Aqua North Carolina; Aqua Ohio; Aqua Texas, Inc.; Aqua Illinois, Inc.; Ameren Missouri; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Monongahela Power Company; Potomac Edison Company; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Duke Energy Progress; Northern Indiana Public Service Company; Tennessee- American Water Company; Columbia Gas of Maryland; Maryland-American Water Company; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas; Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of

Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company;

Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; PSE&G Company; Berkshire Gas Company; Alabama Gas Corporation; Mid-Atlantic Interstate Transmission, LLC; SUEZ Water; WEC Energy Group; Rocky Mountain Natural Gas, LLC; Illinois-American Water Company; Northern Illinois Gas Company; Public Service of New Hampshire and Newtown Artesian Water Company.

My additional duties include determining final life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

Q. HAVE YOU SUBMITTED TESTIMONY TO ANY STATE UTILITY COMMISSION ON THE SUBJECT OF UTILITY PLANT DEPRECIATION?

A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission; the Indiana

Utility Regulatory Commission; the California Public Utilities Commission; the

Federal Energy Regulatory Commission ("FERC"); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service Commission; Wyoming Public Service Commission; the Public Service Commission of West Virginia; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission; Commonwealth of Massachusetts Department of Public Utilities; Rhode Island Public Utilities Commission and the North Carolina Utilities Commission.

Q. HAVE YOU HAD ANY ADDITIONAL EDUCATION RELATING TO UTILITY PLANT DEPRECIATION?

A. Yes. I have completed the following courses conducted by Depreciation Programs, Inc.: "Techniques of Life Analysis," "Techniques of Salvage and Depreciation Analysis," "Forecasting Life and Salvage," "Modeling and Life Analysis Using Simulation," and "Managing a Depreciation Study." I have also completed the "Introduction to Public Utility Accounting" program conducted by the American Gas Association.

Q. DOES THIS CONCLUDE YOUR QUALIFICATION STATEMENT?

A. Yes.

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	YearJurisdiction	Docket No.	Client Utility	Subject
01.	1998PA PUC	R-00984375	City of Bethlehem – Bureau of Water	Original Cost and Depreciation
02.	1998PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
03.	1999PA PUC	R-00994605	The York Water Company	Depreciation
04.	2000D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
05.	2001PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
06.	2001PA PUC	R-00017236	The York Water Company	Depreciation
07.	2001PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
08.	2001OH PUC	01-1228-GA-AIR	Cinergy Corp – Cincinnati Gas & Elect Company	Depreciation
09.	2001KY PSC	2001-092	Cinergy Corp – Union Light, Heat & Power Co.	Depreciation
10.	2002PA PUC	R-00016750	Philadelphia Suburban Water Company	Depreciation
11.	2002KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002NJ BPU	GF02040245	NUI Corporation/Elizabethtown Gas Company	Depreciation
13.	2002ID PUC	IPC-E-03-7	Idaho Power Company	Depreciation
14.	2003PA PUC	R-0027975	The York Water Company	Depreciation
15.	2003IN URC	R-0027975	Cinergy Corp – PSI Energy, Inc.	Depreciation
16.	2003PA PUC	R-00038304	Pennsylvania-American Water Company	Depreciation
17.	2003MO PSC	WR-2003-0500	Missouri-American Water Company	Depreciation
18.	2003FERC	ER-03-1274-000	NSTAR-Boston Edison Company	Depreciation
19.	2003NJ BPU	BPU 03080683	South Jersey Gas Company	Depreciation
20.	2003NV PUC	03-10001	Nevada Power Company	Depreciation
21.	2003LA PSC	U-27676	CenterPoint Energy – Arkla	Depreciation
22.	2003PA PUC	R-00038805	Pennsylvania Suburban Water Company	Depreciation
23.	2004AB En/Util Bd	1306821	EPCOR Distribution, Inc.	Depreciation
24.	2004PA PUC	R-00038168	National Fuel Gas Distribution Corp (PA)	Depreciation
25.	2004PA PUC	R-00049255	PPL Electric Utilities	Depreciation
26.	2004PA PUC	R-00049165	The York Water Company	Depreciation
27.	2004OK Corp Cm	PUC 200400187	CenterPoint Energy – Arkla	Depreciation
28.	2004OH PUC	04-680-El-AIR	Cinergy Corp. – Cincinnati Gas and	Depreciation
29.	2004RR Com of TX	GUD#	CenterPoint Energy – Entex Gas Services Div.	Depreciation
30.	2004NY PUC	04-G-1047	National Fuel Gas Distribution Gas (NY)	Depreciation
31.	2004AR PSC	04-121-U	CenterPoint Energy – Arkla	Depreciation

32.	2005IL CC	05-	North Shore Gas Company	Depreciation
33.	2005IL CC	05-	Peoples Gas Light and Coke Company	Depreciation
34.	2005KY PSC	2005-00042	Union Light Heat & Power	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.		Subject
35.	2005	IL CC	05-0308	MidAmerican Energy Company	Depreciation
36.	2005	MO PSC	GF-2005	Laclede Gas Company	Depreciation
37.	2005	KS CC	05-WSEE-981-RTS	Westar Energy	Depreciation
38.	2005	RR Com of TX	GUD #	CenterPoint Energy – Entex Gas Services Div.	Depreciation
39.	2005	FERC		Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Company	Depreciation
41.	2005	MA Dept Tele-	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Company	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Company	Depreciation
47.	2006	NC Util Cm.		Pub. Service Company of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	ISO82, ETC. AL	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
66.	2007PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008IN URC	43526	Northern Indiana Public Service Company	Depreciation
75.	2008IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008PA PUC	2008-20322689	Pennsylvania American Water Co. - Wastewater	Depreciation
80.	2008NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008IL CC	ICC-09-166	Peoples Gas, Light and Coke Company	Depreciation
83.	2009IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009PA PUC	R-2009-2097323	Pennsylvania American Water Company	Depreciation
88.	2009NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
90.	2009VA St. CC	PUE-2009-00059	Aqua Virginia, Inc.	Depreciation
91.	2009PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation
92.	2009MS PSC	09-	Entergy Mississippi	Depreciation
93.	2009AK PSC	09-08-U	Entergy Arkansas	Depreciation
94.	2009TX PUC	37744	Entergy Texas	Depreciation
95.	2009TX PUC	37690	El Paso Electric Company	Depreciation
96.	2009PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
97.	2009KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
98.	2009PA PUC	R-2009-	United Water Pennsylvania	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
99.	2009OH PUC		Aqua Ohio Water Company	Depreciation
100.	2009WI PSC	3270-DU-103	Madison Gas & Electric Company	Depreciation
101.	2009MO PSC	WR-2010	Missouri American Water Company	Depreciation
102.	2009AK Reg Cm	U-09-097	Chugach Electric Association	Depreciation
103.	2010IN URC	43969	Northern Indiana Public Service Company	Depreciation
104.	2010WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
105.	2010PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
106.	2010KY PSC	2010-00036	Kentucky American Water Company	Depreciation
107.	2010PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
108.	2010MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
109.	2010SC PSC	2009-489-E	South Carolina Electric & Gas Company	Depreciation
110.	2010NJ BD OF PU	ER09080664	Atlantic City Electric	Depreciation
111.	2010VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
112.	2010PA PUC	R-2010-2157140	The York Water Company	Depreciation
113.	2010MO PSC	ER-2010-0356	Greater Missouri Operations Company	Depreciation
114.	2010MO PSC	ER-2010-0355	Kansas City Power and Light	Depreciation
115.	2010PA PUC	R-2010-2167797	T.W. Phillips Gas and Oil Company	Depreciation
116.	2010PSC SC	2009-489-E	SCANA – Electric	Depreciation
117.	2010PA PUC	R-2010-22010702	Peoples Natural Gas, LLC	Depreciation
118.	2010AK PSC	10-067-U	Oklahoma Gas and Electric Company	Depreciation
119.	2010IN URC		Northern Indiana Public Serv. Company - NIFL	Depreciation
120.	2010IN URC		Northern Indiana Public Serv. Co. - Kokomo	Depreciation
121.	2010PA PUC	R-2010-2166212	Pennsylvania American Water Co. - WW	Depreciation
122.	2010NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
125.	2011CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011PA PUC	R-2010-2179103	City of Lancaster – Bureau of Water	Depreciation
128.	2011IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011IL CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011OK CC	201100087	Oklahoma Gas & Electric Company	Depreciation
132.	2011PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
133.	2011FERC	2011-2232243	Carolina Gas Transmission	Depreciation
134.	2012WA UTC	UE-120436/UG-120437	Avista Corporation	Depreciation
135.	2012AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
136.	2012MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
137.	2012TX PUC	40094	El Paso Electric Company	Depreciation
138.	2012ID PUC	IPC-E-12	Idaho Power Company	Depreciation
139.	2012PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
140.	2012PA PUC	R-2012-2311725	Borough of Hanover – Bureau of Water	Depreciation
141.	2012KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
142.	2012KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
143.	2012PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
144.	2012DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
145.	2012OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
146.	2012OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
147.	2012PA PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Depreciation
148.	2012PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
149.	2012FERC	ER-12-2681-000	ITC Holdings	Depreciation
150.	2012MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
151.	2012MO PSC	ER-2012-0175	KCPL Greater Missouri Operations Company	Depreciation
152.	2012MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
153.	2012MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation
153.	2012TX PUC		Aqua Texas	Depreciation
155.	2012PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013NJ BPU	ER12121071	PHI Service Company– Atlantic City Electric	Depreciation
157.	2013KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013VA St CC	2013-00020	Virginia Electric and Power Company	Depreciation
159.	2013IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013PA PUC	2013-2355276	Pennsylvania American Water Company	Depreciation
161.	2013NY PSC	13-E-0030, 13-G-0031,	Consolidated Edison of New York	Depreciation
162.	2013PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013DC PSC	Case 1103	PHI Service Company – PEPCO	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
166.	2013WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Company	Depreciation
167.	2013FERC	ER13- -0000	Kentucky Utilities	Depreciation
168.	2013FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013FERC	ER13- -0000	PPL Utilities	Depreciation
170.	2013PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013NJ BPU	ER12111052	Jersey Central Power and Light Company	Depreciation
172.	2013PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014FERC	ER14-	Duquesne Light Company	Depreciation
181.	2014SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014PA PUC	2014-2428304	Borough of Hanover – Municipal Water Works	Depreciation
184.	2014PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation
185.	2014IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
186.	2014MO PSC	ER-2014-0258	Ameren Missouri	Depreciation
187.	2014KS CC	14-BHCG-502-RTS	Black Hills Service Company	Depreciation
188.	2014KS CC	14-BHCG-502-RTS	Black Hills Utility Holdings	Depreciation
189.	2014KS CC	14-BHCG-502-RTS	Black Hills Kansas Gas	Depreciation
190.	2014PA PUC	2014-2418872	Lancaster, City of – Bureau of Water	Depreciation
191.	2014WV PSC	14-0701-E-D	First Energy – MonPower/PotomacEdison	Depreciation
192	2014VA St CC	PUC-2014-00045	Aqua Virginia	Depreciation
193.	2014VA St CC	PUE-2013	Virginia American Water Company	Depreciation
194.	2014OK CC	PUD201400229	Oklahoma Gas and Electric Company	Depreciation
195.	2014OR PUC	UM1679	Portland General Electric	Depreciation
196.	2014IN URC	Cause No. 44576	Indianapolis Power & Light	Depreciation
197.	2014MA DPU	DPU. 14-150	NSTAR Gas	Depreciation
198.	2014CT PURA	14-05-06	Connecticut Light and Power	Depreciation
199.	2014MO PSC	ER-2014-0370	Kansas City Power & Light	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
200.	2014KY PSC	2014-00371	Kentucky Utilities Company	Depreciation
201.	2014KY PSC	2014-00372	Louisville Gas and Electric Company	Depreciation
202.	2015PA PUC	R-2015-2462723	United Water Pennsylvania Inc.	Depreciation
203.	2015PA PUC	R-2015-2468056	NiSource - Columbia Gas of Pennsylvania	Depreciation
204.	2015NY PSC	15-E-0283/15-G-0284	New York State Electric and Gas Corporation	Depreciation
205.	2015NY PSC	15-E-0285/15-G-0286	Rochester Gas and Electric Corporation	Depreciation
206.	2015MO PSC	WR-2015-0301/SR-2015-0302	Missouri American Water Company	Depreciation
207.	2015OK CC	PUD 201500208	Oklahoma, Public Service Company of	Depreciation
208.	2015WV PSC	15-0676-W-42T	West Virginia American Water Company	Depreciation
209.	2015PA PUC	2015-2469275	PPL Electric Utilities	Depreciation
210.	2015IN URC	Cause No. 44688	Northern Indiana Public Service Company	Depreciation
211.	2015OH PSC	14-1929-EL-RDR	First Energy-Ohio Edison/Cleveland Electric/	Depreciation
212.	2015NM PRC	15-00127-UT	El Paso Electric	Depreciation
213.	2015TX PUC	PUC-44941; SOAH 473-15-5257	El Paso Electric	Depreciation
214.	2015WI PSC	3270-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation
216.	2015KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016WA UTC	Docket UE-17	Puget Sound Energy	Depreciation
219.	2016NY PSC	Case No. 16-W-0130	SUEZ Water New York, Inc.	Depreciation
220.	2016MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016WI PSC		Wisconsin Public Service Commission	Depreciation
222.	2016KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016OH PUC	Case No. 16-0907-WW-AIR	Aqua Ohio	Depreciation
225.	2016MD PSC	Case 9417	NiSource - Columbia Gas of Maryland	Depreciation
226.	2016KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016DE PSC	16-0649	Delmarva Power and Light Company – Electric	Depreciation
228.	2016DE PSC	16-0650	Delmarva Power and Light Company – Gas	Depreciation
229.	2016NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
233.	2016PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016PA PUC	R-2016-2529660	NiSource - Columbia Gas of PA	Depreciation
235.	2016KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016IN URC		Indianapolis Power & Light	Depreciation
245.	2016AL RC	U-16-081	Chugach Electric Association	Depreciation
246.	2017MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western	Depreciation
247.	2017TX PUC	PUC-26831, SOAH 973-17-2686	El Paso Electric Company	Depreciation
248.	2017WA UTC	UE-17033 and UG-170034	Puget Sound Energy	Depreciation
249.	2017OH PUC	Case No. 17-0032-EL-AIR	Duke Energy Ohio	Depreciation
250.	2017VA SCC	Case No. PUE-2016-00413	Virginia Natural Gas, Inc.	Depreciation
251.	2017OK CC	Case No. PUD201700151	Public Service Company of Oklahoma	Depreciation
252.	2017MD PSC	Case No. 9447	Columbia Gas of Maryland	Depreciation
253.	2017NC UC	Docket No. E-2, Sub 1142	Duke Energy Progress	Depreciation
254.	2017VA SCC	Case No. PUR-2017-00090	Dominion Virginia Electric and Power Company	Depreciation
255.	2017FERC	ER17-1162	MidAmerican Energy Company	Depreciation
256.	2017PA PUC	R-2017-2595853	Pennsylvania American Water Company	Depreciation
257.	2017OR PUC	UM1809	Portland General Electric	Depreciation
258.	2017FERC	ER17-217	Jersey Central Power & Light	Depreciation
259.	2017FERC	ER17-211	Mid-Atlantic Interstate Transmission, LLC	Depreciation
260.	2017MN PUC	Docket No. G007/D-17-442	Minnesota Energy Resources Corporation	Depreciation
261.	2017IL CC	Docket No. 17-0124	Northern Illinois Gas Company	Depreciation
262.	2017OR PUC	UM1808	Northwest Natural Gas Company	Depreciation
263.	2017NY PSC	Case No. 17-W-0528	SUEZ Water Owego-Nichols	Depreciation
264.	2017MO PSC	GR-2017-0215	Laclede Gas Company	Depreciation
265.	2017MO PSC	GR-2017-0216	Missouri Gas Energy	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
266.	2017ILL CC	Docket No. 17-0337	Illinois-American Water Company	Depreciation
267.	2017FERC	Docket No. ER17- _	PPL Electric Utilities Corporation	Depreciation
268.	2017IN URC	Cause No. 44988	Northern Indiana Public Service Company	Depreciation
269.	2017NJ BPU	BPU Docket No. WR17090985	New Jersey American Water Company, Inc.	Depreciation
270.	2017RI PUC	Docket No. 4800	SUEZ Water Rhode Island	Depreciation
271.	2017OK CC	Cause No. PUD 201700496	Oklahoma Gas and Electric Company	Depreciation
272.	2017NJ BPU	ER18010029 & GR18010030	Public Service Electric and Gas Company	Depreciation
273.	2017NC Util Com.	Docket No. E-7, SUB 1146	Duke Energy Carolinas, LLC	Depreciation
274.	2017KY PSC	Case No. 2017-00321	Duke Energy Kentucky, Inc.	Depreciation
275.	2017MA DPU	D.P.U. 18-40	Berkshire Gas Company	Depreciation
276.	2018IN IURC	Cause No. 44992	Indiana-American Water Company, Inc.	Depreciation
277.	2018IN IURC	Cause No. 45029	Indianapolis Power and Light	Depreciation
278.	2018NC Util Com.	Docket No. W-218, Sub 497	Aqua North Carolina, Inc.	Depreciation
279.	2018PA PUC	Docket No. R-2018-2647577	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
280.	2018OR PUC	Docket UM 1933	Avista Corporation	Depreciation
281.	2018WA UTC	Docket No. UE-108167	Avista Corporation	Depreciation
282.	2018ID PUC	AVU-E-18-03, AVU-G-18-02	Avista Corporation	Depreciation
283.	2018IN URC	Cause No. 45039	Citizens Energy Group	Depreciation
284.	2018FERC	Docket No. ER18-	Duke Energy Progress	Depreciation
285.	2018PA PUC	Docket No. R-2018-3000124	Duquesne Light Company	Depreciation
286.	2018MD PSC	Case No. 948	NiSource - Columbia Gas of Maryland	Depreciation
287.	2018MA DPU	D.P.U. 18-45	NiSource - Columbia Gas of Massachusetts	Depreciation
288.	2018OH PUC	Case No. 18-0299-GA-ALT	Vectren Energy Delivery of Ohio	Depreciation
289.	2018PA PUC	Docket No. R-2018-3000834	SUEZ Water Pennsylvania Inc.	Depreciation
290.	2018MD PSC	Case No. 9847	Maryland-American Water Company	Depreciation
291.	2018PA PUC	Docket No. R-2018-3000019	The York Water Company	Depreciation
292.	2018FERC	Docket Nos. ER-18-2231-000	Duke Energy Carolinas, LLC	Depreciation
293.	2018KY PSC	Case No. 2018-00261	Duke Energy Kentucky, Inc.	Depreciation
294.	2018NJ BPU	BPU Docket No. WR18050593	SUEZ Water New Jersey	Depreciation
295.	2018WA UTC	Docket No. UE-180778	PacifiCorp	Depreciation
296.	2018UT PSC	Docket No. 18-035-36	PacifiCorp	Depreciation
297.	2018OR PUC	Docket No. UM-1968	PacifiCorp	Depreciation
298.	2018ID PUC	Case No. PAC-E-18-08	PacifiCorp	Depreciation
299.	2018WY PSC	20000-539-EA-18	PacifiCorp	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	YearJurisdiction	Docket No.	Client Utility	Subject
300.	2018PA PUC	Docket No. R-2018-3003068	Aqua Pennsylvania, Inc.	Depreciation
301.	2018IL CC	Docket No. 18-1467	Aqua Illinois, Inc.	Depreciation
302.	2018KY PSC	Case No. 2018-00294	Louisville Gas & Electric Company	Depreciation
303.	2018KY PSC	Case No. 2018-00295	Kentucky Utilities Company	Depreciation
304.	2018 IN URC	Cause No. 45159	Northern Indiana Public Service Company	Depreciation
305.	2018VA SCC	Case No. PUR-2019-00175	Virginia American Water Company	Depreciation
306.	2019PA PUC	Docket No. R-2018-3006818	Peoples Natural Gas Company, LLC	Depreciation
307.	2019OK CC	Cause No. PUD201800140	Oklahoma Gas and Electric Company	Depreciation
308.	2019MD PSC	Case No. 9490	FirstEnergy – Potomac Edison	Depreciation
309.	2019SC PSC	Docket No. 2018-318-E	Duke Energy Progress	Depreciation
310.	2019SC PSC	Docket No. 2018-319-E	Duke Energy Carolinas	Depreciation
311.	2019DE PSC	DE 19-057	Public Service of New Hampshire	Depreciation
312.3	2019NY PSC	Case No. 19-W-0168 & 19-W-0269	SUEZ Water New York	Depreciation
313.	2019PA PUC	Docket No. R-2019-3006904	Newtown Artesian Water Company	Depreciation
314.	2019MO PSC	ER-2019-0335	Ameren Missouri	Depreciation
315.	2019MO PSC	EC-2019-0200	KCP&L Greater Missouri Operations Company	Depreciation
316.	2019MN DOC	G011/D-19-377	Minnesota Energy Resource Corp.	Depreciation
317.	2019NY PSC	Case 19-E-0378 & 19-G-0379	New York State Electric and Gas Corporation	Depreciation
318.	2019NY PSC	Case 19-E-0380 & 19-G-0381	Rochester Gas and Electric Corporation	Depreciation
319.	2019WA UTC	Docket UE-19 / UG-19	Puget Sound Energy	Depreciation

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Electric Rates; 2) Approval of New Tariffs; 3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 4) All Other Required Approvals and Relief.	)))))))	Case No. 2019-00271

DIRECT TESTIMONY OF

JOHN A. VERDERAME

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

September 3, 2019

TABLE OF CONTENTS

PAGE

I. INTRODUCTION AND PURPOSE

Q. STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is John A. Verderame, and my business address is 526 S. South Church Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Progress, Inc. (Duke Energy Progress) as Managing Director, Trading and Dispatch. Duke Energy Progress is the utility formerly known as Progress Energy Inc., (Progress Energy) located in North and South Carolina. As part of the merger integration process, Duke Energy Progress now provides various administrative and other services to the regulated affiliated companies within Duke Energy Corporation (Duke Energy Corp.), including Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company).

Q. PLEASE DESCRIBE BRIEFLY YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Arts degree in Economics from the University of Rochester in 1983, and a Master's in Business Administration in Finance from Rutgers University in 1985. I have worked in the energy industry for 18 years. Prior to that, from 1986 to 2001, I was a Vice President in the United States (US) Government Bond Trading Groups at the Chase Manhattan Bank and Cantor Fitzgerald. My responsibilities as a US Government Securities Trader included acting as the Firm's market maker in US Government Treasury securities. I joined Progress Energy, in 2001, as a Real-Time Energy Trader. My responsibilities as a Real-Time Energy Trader included managing the real-time energy position of the

Progress Energy regulated utilities. In 2005, I was promoted to Manager of the Power Trading group. My role as manager included responsibility for the short-term capacity and energy position of the Progress Energy regulated utilities in the Carolinas and Florida.

In 2012, upon consummation of the merger between Duke Energy Corp. and Progress Energy, Progress Energy became Duke Energy Progress and I was promoted to my current position.

Q. HAVE YOU EVER TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. Yes. I have previously testified in the Company's Fuel Adjustment Clause (FAC) proceedings, its last base electric rate case, Case No. 2017-00321, as well as other cases that have involved the Company's participation in energy and capacity markets.

Q. PLEASE SUMMARIZE YOUR DUTIES AS MANAGING DIRECTOR, TRADING AND DISPATCH.

A. As Managing Director, Trading and Dispatch of Duke Energy, I am responsible for Gas, Oil, and Power Trading and Generation Dispatch on behalf of the Duke Energy's regulated utilities in the Carolinas, Florida, Indiana, Ohio, and Kentucky. I am responsible for Duke Energy Kentucky's generation dispatch, unit commitment, 24-hour real-time operations, and plant communications related to short-term generating maintenance planning. I lead the teams responsible for managing the Company's capacity position with respect to meeting its Fixed Resource Requirement (FRR) obligation as a member of PJM Interconnection, L.L.C. (PJM), for the submission of the Company's supply offers and demand bids in PJM's day-ahead and real-time electric energy (collectively Energy Markets) and ancillary services markets (ASM), as well as those managing the Company's short-term supply position to ensure that the Company has adequate economic resources committed to serve its retail customers' electricity needs. In that respect, my teams are also responsible for any financial hedging done to mitigate exposure to short-term energy prices and congestion risks.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. I provide an overview of the Company's generating resources to meet its customer load obligations and provide safe, reliable and adequate service. I briefly describe Duke Energy Kentucky's resource planning process that is used to ensure it continues to meet its Kentucky customers' load requirements. I then discuss the Company's participation in PJM as it pertains to the energy and capacity markets and discuss the customer benefits that the Company's PJM membership provides. Finally, I sponsor Filing Requirement (FR) 16(7)(h)(7) and certain forecasted financial data that I provided to Duke Energy Kentucky witness Mr. Christopher Jacobi for his use in preparing the Company's forecast.

II. OVERVIEW OF DUKE ENERGY'S CURRENT GENERATING RESOURCES

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF HOW DUKE ENERGY KENTUCKY MEETS ITS KENTUCKY LOAD OBLIGATIONS.

A. Duke Energy Kentucky currently owns and operates approximately 1,062 net installed megawatts (MW) of generating capacity, provided by two assets. Base load requirements are met by the East Bend Unit 2 Generating Station (East Bend). East Bend is an approximate 600-megawatt (MW) (net rating) coal-fired base load unit located along the Ohio River in Boone County, Kentucky. The Company's peaking requirements are met with the Woodsdale Generating Station (Woodsdale). Woodsdale is a six-unit natural gas-fired combustion turbine (CT) with approximately 462 MW (net summer rating) located in Trenton, Ohio. The net ratings represent the amount of power that the Company can dispatch from the plants after some portion of the gross power output is used to power the plant machinery. These assets are dispatched into PJM, which maintains functional control of the transmission system within its footprint including the Duke Energy Ohio/Kentucky system. To the extent Duke Energy Kentucky is able to monetize its assets to produce off-system sales through PJM, customer receive the majority of those net revenues (or costs) through the Company's profit sharing mechanism (Rider PSM).

Q. HOW DOES DUKE ENERGY KENTUCKY MANAGE THE RISKS OF EXPOSURE TO MARKET PRICES FOR ITS CUSTOMERS?

A. Duke Energy Kentucky manages these risks through two strategies. First, the Company operates under a Commission–approved Back-Up Power Supply Plan. The Commission approved the Company's most recent Back-Up Power Supply Plan on May 31, 2017 in Case No. 2017-00117. Second, the Company manages its long-term strategy through the integrated resource planning (IRP) process.

Q. PLEASE BRIEFLY SUMMARIZE THE COMPANY'S BACK-UP SUPPLY PLAN.

A. Duke Energy Kentucky conducted a thorough analysis of back-up supply opportunities that were available to select what the Company believes appropriately balances the competing interests of finding the most reasonable and reliable solution for customers that is at the lowest possible cost, to obtain back-up power. The Company's strategy is to continue to manage the risks through the PJM daily energy market during forced outages and use fixed forward contract purchases during scheduled outages. This mitigates the risk of price spikes during scheduled outages because the price for back-up power would be fixed.

The Company's strategy provides the flexibility to optimize the actual outage schedule under changing power market and unit availability conditions through the liquid energy markets. Duke Energy Kentucky can make its forward contract purchase a few months in advance of the scheduled outages, without paying a premium to lock in the prices for a three-year period. If prices appear to be increasing, the plan provides the flexibility to make the forward contract purchases for long-term periods. If prices are flat or falling, the Company can postpone these purchases. The Company's plan provides flexibility to modify executed forward contract positions if scheduled outage dates are modified, by utilizing the liquidity of the Intercontinental Exchange (ICE) to unwind existing contracts and purchase new contracts to match new scheduled outage dates. The Company continues to examine business interruption insurance products to complement its risk management strategy. Duke Energy Kentucky has been using this strategy to successfully manage risks in the energy markets since approximately 2006. History has shown that the Company has been capable of managing these energy risks for its customers.

Q. DOES DUKE ENERGY KENTUCKY PROPOSE TO MAKE ANY CHANGES TO THE WAY IT MANAGES CUSTOMER EXPOSURE TO MARKET PRICES?

A. Yes. Duke Currently, Duke Energy Kentucky manages customer market price exposure during periods of scheduled generation outages. The Company proposes, utilizing the same financial instruments, to expand that risk mitigation to include periods during forced generation outages.

Q. WHY IS DUKE ENERGY KENTUCKY PROPOSING THIS CHANGE?

A. The annual base revenue requirement approved by the Commission, in Case No. 2006-00152, included recovery of $5 million for replacement power expenses due to forced generation outages that are not recoverable in the fuel adjustment clause. In its Order in Case No. 2017-00321, the Commission reduced the amount being recovered in base rates to approximately $1.6 million; however, the Commission also approved a request by the Company to defer the difference between the actual annual amount of this expense and the $1.6 million being recovered in base rates. To the extent actual costs exceed the $1.6 million base amount in a given year, the Company records a regulatory asset and will recover the difference at some point in the future. Conversely, if the actual costs less than $1.6 million in a given year, the Company records a regulatory liability to reflect that it owes customers as a result of collecting more in base rates than its actual costs. This mechanism ensures that the Company fully recovers no more and no less than its actual costs related to replacement power and similarly ensures that customers pay no more and no less than the actual costs of the replacement power.

During scheduled outages, the Company is allowed to recover costs of replacement power via its fuel adjustment clause. Whether through base rates, for replacement power due to forced outages, or through the fuel adjustment clause, for replacement power during scheduled outages, customers will ultimately pay only the actual cost of the replacement power. As customers have similar exposure to short term market prices during periods of both scheduled and forced generation outages, the Company believes it is in customers' best interest to manage that price exposure in both cases. Since forced outages are by their nature unexpected, the forced outage risk mitigation strategy will likely predominantly include short term financial products to mitigate price exposure. Depending on the anticipated length of the forced outage, the Company proposes to utilize daily, weekly, and potentially monthly financial futures contracts to reduce replacement power cost volatility.

Q. HOW DOES DUKE ENERGY KENTUCKY PROPOSE TO PASS CREDITS AND CHARGES FROM HEDGING FORCED GENERATION OUTAGES THROUGH TO CUSTOMERS?

A. Duke Energy Kentucky proposes to treat hedge results; both gains and losses exactly as it currently treats those resulting from scheduled generation outages.

Q. ARE YOU FAMILIAR WITH THE INTEGRATED RESOURCE PLANNING PROCESS FOR DUKE ENERGY KENTUCKY?

A. Yes. While I am not responsible for production of the IRP, I am generally familiar with it. Duke Energy Kentucky files its integrated resource plan (IRP) approximately every three years. The Company filed its last IRP with the Commission in Case No. 2018-00195. Although this IRP provided a snapshot of Duke Energy Kentucky's resource planning at that point in time, IRP planning is a dynamic process that is periodically updated.

Q. PLEASE GENERALLY DESCRIBE THE IRP PLANNING PROCESS.

A. The IRP planning process assesses various supply-side, demand-side and emission compliance alternatives to develop a long-term, cost-effective portfolio to provide customers with reliable service at reasonable costs. The IRP planning process involves various assumptions such as future energy prices, future environmental compliance requirements and reliability constraints.

The Duke Energy's load forecasting group develops the load forecast by: (1) obtaining service area economic forecasts primarily from Moody's Analytics; (2) preparing an energy forecast by applying statistical analysis to certain variables such as number of customers, economic measures, energy prices, weather conditions, *etc.;* and (3) developing monthly peak demand forecasts by statistically analyzing weather data. The Company updates the load forecasts on a regular basis and the updated load forecasts are used for all modeling analysis. It is important to note that while Duke Energy Kentucky develops internal load forecasts for system planning purposes, the actual load forecast and the Duke

Energy Kentucky PJM load obligation, which includes peak coincidence factors and system reserve requirements is calculated by PJM, and can differ slightly from the Company's internal forecast.

Q. WHAT RELIABILITY CONSTRAINT ASSUMPTIONS ARE NECESSARY TO DEVELOP AN IRP?

A. A reliability constraint is included in the modeling process by the inclusion of a 15% reserve margin.

Q. PLEASE DESCRIBE DUKE ENERGY KENTUCKY'S PLANNING RESERVE MARGIN AND HOW IT IS CALCULATED.

A. In the IRP, the Company uses a 15% reserve margin which is meant to cover unit outages over the IRP modeling period to ensure long term reliability. For IRP purposes, this is done on an UCAP basis versus the PJM planning reserve margin which is calculated on an ICAP basis. While there are differences in the calculation, both approaches target similar levels of reliability. The reason that the Company does not use the PJM approach for long-term planning is that it would require long-term forecast for some variables such as unit outages or coincidence factors. Most utilities in the nation have reserve margins between 13% and 20%.

Q. PLEASE EXPLAIN HOW THE COMPANY MODELS THE DISPATCH OF ITS GENERATING STATIONS.

A. The Company utilizes a commercially available production cost model (Prosym) to model the dispatch of the Duke Energy Kentucky system as well as economic purchase and sales from/to the PJM market. All of the Company's generating units are represented in the model with their key characteristics, such as capacity, fuel type, heat rate, and emission rates. Other inputs include projected fuel costs for each unit, planned outages, forced outage rates, the market value for emission allowances, the market price for power, and the Company's load forecast for native load customers. For the period forecasted, the model provides projections of how generating units are expected to operate, including projections of fuel consumption and emissions.

Q. WHAT ARE THE COMPANY'S LOAD REQUIREMENTS?

A. The utility's load in 2019 is approximately 850 MW and when grossed up for the 15% reserve margin results in a load requirement approaching 1,000 MW. As the level and characteristics of the load change over time, the Company routinely assesses resource adequacy and adjusts its plans accordingly to ensure reliability in a cost-effective way for customers. Should new load come into the service territory, the Company will evaluate how that load fits within the overall utility's obligation in determining appropriate resource additions.

Q. DOES DUKE ENERGY KENTUCKY CURRENTLY HAVE SUFFICIENT CAPACITY TO MEET ITS KENTUCKY CUSTOMER LOAD OBLIGATIONS?

A. Duke Energy Kentucky currently has sufficient capacity to meet its load obligations; however, short-term capacity purchases may be necessary to maintain sufficient reserves and meet its capacity obligations in PJM. As was approved by the Commission in the Company's last electric rate case, 2017-00321, Duke Energy Kentucky uses its Profit-Sharing Mechanism, Rider PSM, to address short-term capacity shortfalls in its FRR plan through short-term capacity purchases as well as for netting any tariffed capacity co-generation purchases including from qualified facilities as is required under the Public Utility Regulatory Policies Act (PURPA).

Duke Energy Kentucky continually evaluates its load obligations and its portfolio to ensure that there is adequate supply available. This evaluation factors in the unique circumstances and challenges the Company faces in its Northern Kentucky service territory. Duke Energy Kentucky is experiencing some load growth in its service territory and must plan to make sure the Company is able to meet such demand. While the East Bend and Woodsdale generating stations have been reliable and economic assets to satisfy base load and peaking obligations, the fact remains that Duke Energy Kentucky is heavily dependent upon these two stations to serve customers. As load demand grows, the Company's portfolio of resources should diversity to ensure there is a continued access to a stable, economic energy supply.

In an attempt to address the diversification issue as well as the increasing likelihood of carbon regulation, the Company believes that a measured approach to transitioning the generation fleet makes sense for customers. The most recent IRP includes 10 MW of solar and 2 MW of storage every year to start this transition. Particular projects may be smaller or larger depending on site size or in order to take advantage of any economies of scale. Additionally, the Company continues to consider and evaluate other potential supply-side resources and solutions that may be in the best interests of its Kentucky customers.

III. <u>DUKE ENERGY KENTUCKY'S PARTICIPATION IN PJM</u>

Q. PLEASE GENERALLY DESCRIBE PJM.

A. Duke Energy Kentucky has been a member of PJM since January 1, 2012. PJM is the nation's first fully functioning regional transmission organization (RTO) and manages the power grid and wholesale electric market for all or parts of thirteen states and the District of Columbia. PJM's electric market consists of energy, capacity, ancillary services markets (ASM), and a financial transmission rights market. PJM's operation is governed by agreements approved by the Federal Energy Regulatory Commission (FERC), including the Operating Agreement, Open Access Transmission Tariff (OATT), and the Reliability Assurance Agreement (RAA). As a member of PJM, Duke Energy Kentucky is subject to these agreements, which among other things require Duke Energy Kentucky to offer all of its available generation to PJM and to purchase its customer energy load requirements from the PJM Day-Ahead or Real-Time Energy Markets. The Day-Ahead and Real-Time Energy Markets are collectively referred to as the PJM Energy Market for the remainder of my testimony.

Q. PLEASE EXPLAIN HOW THE COMPANY MEETS ITS ENERGY NEEDS THROUGH THE PJM ENERGY MARKET.

A. Consistent with its PJM membership, the Company meets all energy needs through the PJM Energy Market and does not currently purchase any energy outside of PJM. Through PJM's Day-Ahead Market, market participants can mitigate their exposure to real-time price risk by selling available generation and purchasing forecasted demand in the Day-Ahead Energy Market. Duke Energy

Kentucky submits demand bids and supply offers as both a load serving entity (LSE) and a generator owner, respectively. Thus, the Company simultaneously functions as both a buyer and seller to serve its retail electric customers.

Q. PLEASE BRIEFLY DESCRIBE THE PJM ENERGY MARKET.

A. PJM administers its energy markets utilizing locational marginal pricing (LMP). LMP can be broadly defined as the value of one additional megawatt of energy at a specific point on the electric grid. In PJM, LMP is composed of three components: the system marginal energy price; the transmission marginal congestion price; and the marginal loss price. Both the Day-Ahead and Real-Time Energy Markets are based on supply offers and demand bids submitted to PJM by market participants or actual customer demand, including both generator owners (as sellers) and load serving entities (as buyers).

The Day-Ahead Energy Market provides a means for market participants to mitigate their exposure to price risk in the Real-Time Energy Market. The Day-Ahead Energy Market also provides meaningful information to PJM regarding expected real-time operating conditions for the next day, which enhances PJM's ability to ensure reliable operation of the transmission system and economically serve customer demand. The Real-Time Energy Market functions as a balancing market between generation and load in real-time. Through the PJM Energy Markets and the LMP price signals, PJM provides a market-based solution to value and thus manage energy production, transmission congestion, and marginal losses in the PJM region to meet demand in the most cost-effective way.

Q. PLEASE DESCRIBE PJM'S ASM AND HOW DUKE ENERGY KENTUCKY PARTICIPATES IN THOSE MARKETS.

A. PJM's ASM consists of the following services:

- Synchronized Reserves, which provide energy during an unexpected period of need within 10 minutes;
- Non-Synchronized Reserves, which also provide energy during an unexpected period of need and within 10 minutes, but which are typically off-line;
- Regulation and Frequency Responsive Reserves, which are utilized to continuously balance resources with demand and maintain interconnection frequency;
- Day-Ahead Scheduling Reserves, a 30-minute day-ahead reserve product;
- Black Start Service, which provides energy for restoration of the grid following a shutdown condition;
- Reactive Supply and Voltage Control, which is produced by capacitors and generators and absorbed by reactors and other inductive devices;
- Reactive Services, which is to maintain transmission voltages within acceptable limits; and
- Synchronous Condensing, which are utilized to adjust reactive power conditions on the electric grid.

PJM's ASM is co-optimized within the PJM Energy Markets to minimize overall production costs and ensure reliability across the PJM footprint.

In addition to the physical Energy Market and ASM, PJM offers financial products that can be utilized to hedge exposure to the Energy Markets. Virtual transactions can hedge risk in the Real-Time Energy Market, and financial transmission rights can hedge exposure to day-ahead congestion costs. Financial transmission rights auctions are conducted annually and monthly. Financial transmission rights are defined with source and sink points that entitle and obligate the holder to a stream of revenues or charges based on the hourly day-ahead congestion price differences across the defined path. Duke Energy Kentucky utilizes financial transmission rights to manage the congestion risk from its generation stations to its load zone. Virtual transactions clear in the Day-Ahead Energy Market as virtual generators and loads at specific points on the grid. Virtual transactions settle based on the difference between the day-ahead and real-time LMP at the specific node. Duke Energy Kentucky may utilize virtual transactions to hedge generator performance risk, primarily during start up or as a potential operational contingency.

Other non-PJM operated financial markets that are based on PJM market settlements exist. Duke Energy Kentucky participates in these financial markets to hedge Duke Energy Kentucky's customers' exposure to day-ahead and real-time energy prices when its generation stations are unavailable due to planned maintenance outages. These instruments can also be utilized to manage customers' exposure to day-ahead and real-time energy prices when generation stations are unavailable due to forced outage conditions.

Q. PLEASE EXPLAIN HOW PJM DISPATCHES GENERATING RESOURCES TO MEET DEMAND.

A. PJM performs a security constrained economic commitment and least-cost security constrained economic dispatch process that simultaneously optimizes energy and reserves for all generation in its footprint in determining which assets to commit and dispatch. This process considers the various, unique challenges faced in reliably and economically supplying energy to all loads across its footprint, most significantly aligning the production of energy simultaneously with the volatility in demand within the capability of the transmission network. PJM must continually account for the fact that customer demand is dynamic in nature, fluctuating over the course of a day, week, and season, while analyzing factors such as costs and operating characteristics of generation from different types of units within its entire footprint and expected and unexpected conditions on the transmission network that affect which generation units can be used to serve load economically and reliably given the numerous constraints that must be considered. Because of these challenges, PJM's dispatch process "is designed to be an optimization process so that a reliable supply of electricity at the lowest cost possible under the conditions prevailing in each dispatch time interval can be delivered."[1]

---

[1] FERC Docket AD05-13-000, *Report on Security Constrained Economic Dispatch by the Joint Board of PJM/MISO Region*, Attachment 1, at pg. 5 (May 24, 2006).

Importantly, PJM's decisions as to which generating units should be dispatched are not made exclusively based on the individual unit's cost. Although the price of energy at a generating unit is certainly important, PJM's dispatch process must consider a number of factors, including system-wide reliability, transmission grid congestion and losses, and numerous operational conditions and constraints. PJM has access to complete information regarding the operation of its Day-Ahead and Real-Time Energy Markets in making the determination to commit and dispatch a unit. Because of the efficient and informed nature of PJM's dispatch methodology, a utility's energy purchases in PJM's Day-Ahead and Real-Time Energy Markets are the most efficient and economic means available to satisfy customer load. Stated another way, energy acquired by all load serving entities from PJM are necessarily and, by definition, purchased on an economic dispatch basis.

Q. PLEASE BRIEFLY EXPLAIN HOW DUKE ENERGY KENTUCKY'S CURRENT GENERATION PORTFOLIO PARTICIPATES AND IS DISPATCHED IN THE DAY-AHEAD AND REAL-TIME ENERGY MARKETS.

A. Under the terms of PJM's RAA, as a FRR entity and generation owner in PJM, Duke Energy Kentucky is under a must-offer requirement to offer all generation committed to the FRR plan into the Day-Ahead Energy Market. The generating units are offered by Duke Energy Kentucky, as the market participant, with commitment status designations including: Must Run, Economic, Emergency, Fixed Gen, and Unavailable. Units offered with a Must Run status are committed and are generally dispatched near minimum load or the output of the generating unit is decreased ("dispatched down") during periods when the marginal cost of the unit is above the LMP solved by the dispatch model, or the generating unit is dispatched near full load or the output is increased ("dispatched up") during periods when the marginal cost of the unit is below the LMP solved by the dispatch model. A commitment status of "Economic" means that a generating unit is available to be committed by PJM in the Day-Ahead or Real-Time market. Economic units will generally be committed if their "all in" costs, including startup costs, are economic across a period. Emergency status indicates that a unit is available to be committed by PJM in the case of an emergency event. Fixed Gen units are committed but intend to remain fixed or otherwise not follow PJM real-time dispatch. Unavailable status means that a generating unit is not available to be committed.

In making the decision regarding an individual unit's offer status, the Company considers various factors such as unit availability, forecasted locational marginal prices, unit generation production cost, PJM impacts (Day-Ahead Operating Reserve credits, balancing operating reserve changes, *etc.*), and the capability, risk, and economic impact from cycling the generating unit off-line and/or on-line. Before making any generation unit offer, Company personnel engage in a daily planning process designed to minimize the total customer cost by maximizing each unit's economic value.

Each generating unit is offered hourly with a segmented incremental energy price pair quantity and ancillary service offer curve across the unit's operational range as well as a start-up cost, no-load cost, and operating parameters. The hourly offers are based on numerous factors, including but not limited to, the daily fuel cost, unit efficiency, emissions and variable operations and maintenance (O&M) costs, maximum and minimum loadings, and plant output availability and physical characteristics. Unit commitment status is determined based upon unit availability, marginal energy costs, expected impact of certain PJM charges and credits, and anticipated market clearing prices.

Day-ahead generation unit offers are submitted to PJM by 10:30 Eastern Prevailing Time the day prior to energy flow. Generally, by 13:30 Eastern Prevailing Time that day, following execution of a security constrained unit commitment model, PJM posts energy and ancillary services awards for the following day. These awards are financially binding on both Duke Energy Kentucky and PJM.

In real-time, Duke Energy Kentucky makes hourly updates to the energy and ancillary service offers, primarily with respect to unit availability, but also taking into account the unit's operating parameters. The Duke Energy Kentucky generation dispatchers follow PJM generation dispatch signal instructions and relay necessary instructions to the generation stations.

It is possible that in real-time, despite receiving a day-ahead energy award, PJM dispatch signals will instruct Duke Energy Kentucky units to move to generation loadings other than their day-ahead award level. These instructions are based on the real-time energy and ancillary services needs of the overall system as manifested through LMP price signals at the generator bus. If the real-time LMP is below a unit's marginal cost of energy, PJM will likely reduce output, or possibly delay or cancel a unit startup. Conversely, if system conditions have changed from day-ahead results, PJM may direct a Duke Energy Kentucky unit to start up even without a day-ahead energy award. Duke Energy Kentucky has an obligation and financial incentive to follow PJM dispatch instructions.

Q. PLEASE DESCRIBE HOW DUKE ENERGY'S GENERATING STATIONS PERFORM IN PJM'S ENERGY MARKETS.

A. Duke Energy Kentucky offers its generation and bids its load into the PJM market. For the Duke Energy Kentucky generating capacity, the Company offered its resources in an FRR capacity plan consistent with the Commission's directive and approval of the Company becoming a PJM member in Case No. 2010-00203. The generating resources that are committed in the FRR plan have a must-offer obligation for their energy in the Day-Ahead Energy Market.

Duke Energy Kentucky's Miami Fort 6 station (Miami Fort 6), a 163-Megawatt (net) coal-fired unit retired on June 1, 2015. At that time, Miami Fort 6 ceased dispatching energy in the PJM Energy Markets and had to be removed from the Company's FRR capacity plan. Duke Energy Kentucky's other coal unit, East Bend, continues to compete favorably in the PJM market, with typical dispatch of this unit at full load during on-peak periods.

The Company's six natural gas-fired combustion turbines at Woodsdale station, which operate as peaking units, continue to see limited dispatch within the

PJM energy markets. However, these units can and do clear for other ASM products, even though the actual generating unit may remain off-line during this time.

PJM commits and dispatches these resources via their security constrained unit commitment and least-cost economic dispatch software by modeling the Duke Energy Kentucky generating resources with all other generating resources in the PJM wholesale energy market. If not committed day-ahead, the Woodsdale units may still be called upon in real-time. There are separate LMPs calculated for Day-Ahead versus Real-Time Markets that are paid to the generators or charged to the load.

Q. PLEASE DESCRIBE THE PERFORMANCE OF DUKE ENERGY KENTUCKY'S GENERATING RESOURCES IN THE ASM.

A. Each of PJM's ASM products is cleared separately with different prices for each product. In addition, PJM reimburses service providers such as Duke Energy Kentucky for black start and reactive services. Woodsdale is currently a black start unit in the Company's black start plan and, in addition, two of the units are reimbursed for certain costs to provide black start service to PJM. Duke Energy Kentucky continues to operate its generating resources to optimize revenues available in PJM for ancillary services, black start, and reactive service as well as energy and capacity markets in a reliable manner for the benefit of customers and shareholders.

Q. PLEASE DESCRIBE THE PJM CAPACITY MARKET.

A. PJM's capacity market is called RPM, which is an acronym for Reliability Pricing Model. The purpose of RPM is to provide a market construct that enables PJM to secure adequate generation resources to meet the reliability needs of the RTO. The RPM construct and the associated rules regarding how PJM members participate in the PJM capacity market is described within the PJM OATT and RAA. The PJM capacity market operates on a planning period that spans twelve months beginning June 1st and ending May 31st of each subsequent year (Delivery Year). In PJM, the capacity market structure is intended to provide transparent forward market signals that support generation and infrastructure investment. There are two ways for a PJM member to participate in the RPM capacity structure: 1) through the RPM baseline procurement auctions; or 2) as a self-supply FRR entity. The baseline procurement auction is called a base residual auction (BRA). BRAs are conducted three years in advance of the actual Delivery Year in order to allow bidders to complete construction of projects that clear the BRA. The PJM capacity market is designed to provide incentives for the development of generation, demand response, energy efficiency, and transmission solutions through capacity market payments.

Another important component of RPM is that price signals are locational, and designed to recognize and quantify the geographical value of capacity. PJM divides the RTO into multiple sub-regions called locational delivery areas (LDAs) in order to model the locational value of generation.

Q. PLEASE EXPLAIN HOW DUKE ENERGY KENTUCKY CURRENTLY PARTICIPATES IN THE PJM CAPACITY CONSTRUCT.

A. Consistent with the Commission's Order in Case No. 2010-00203, Duke Energy Kentucky is an FRR Entity in PJM. As a condition of Duke Energy Kentucky becoming a member of PJM, the Commission required the Company to participate in PJM as an FRR entity until such time as it received Commission approval to participate in the PJM capacity auctions. To date, the Company has not requested such permission, but continues to evaluate the merits of exiting the FRR obligation and becoming a full RPM auction participant.

Q. PLEASE BREIFLY EXPLAIN PJM'S FRR PROCESS.

A. The PJM OATT and RAA specify the obligations and compensation to LSEs for supplying capacity. The FRR process is an alternative means for a PJM LSE such as Duke Energy Kentucky to satisfy its customer capacity obligation under the PJM RAA. Under the FRR construct, an LSE must annually submit a preliminary three-year forward, and a final current year FRR capacity plan that meets a PJM defined customer capacity obligation (FRR Plan). The FRR Plan must identify the unit-specific generating or demand response resources that will be providing the MWs of capacity that will fulfill the LSE's customer obligation. FRR allows the LSE to match its customer reliability requirement to its own generation, demand response, energy efficiency and/or transmission resources, while still being permitted to sell some or all of its excess supply into RPM. Duke Energy Kentucky would face severe penalties and limitations on its ability to choose the

FRR option if PJM were to deem either its initial or final FRR plans to be insufficient or it's generation otherwise non-compliant with PJM requirements.

Q. PLEASE EXPLAIN WHAT BEING AN FRR ENTITY MEANS FOR DUKE ENERGY KENTUCKY.

A. As an FRR entity, Duke Energy Kentucky must secure and commit unit-specific generation resources to meet the full load capacity requirements for its customers in advance of the PJM BRA through its FRR Plan. The FRR Plan is forward-looking in that it covers the Delivery Year three years into the future. For example, as part of its most recent FRR plan submitted in 2019, Duke Energy Kentucky must own or contract and commit the unit specific generation resources to satisfy its forecasted load requirements for the period from June 1, 2022, through May 31, 2023. Presently, the load requirements include both the forecasted load of Duke Energy Kentucky's customers, as well as the reserve requirement mandated by PJM.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY THE PHRASE UNIT-SPECIFIC GENERATION RESOURCES.

A. A unit-specific generation resource, as the phrase implies, simply means a specific generating resource that meets the eligibility requirements defined by PJM. PJM eligible resources include both physical and demand-side management resources. Duke Energy Kentucky must identify the specific generation resources it owns or has contracted for to provide capacity to meet its entire Delivery Year FRR obligation. Unit-specific capacity is distinguishable from the more "generic" buy-bid capacity that may be purchased through the BRA or incremental auctions of

PJM. The capacity product available for purchase in those auctions is not directly tied to a specific generator, so it cannot, in itself, be used to satisfy an FRR plan obligation. While sellers in the BRA identify the generation resource offered into the auction, the end product is not so specific. The entire generator performance obligation in the BRA is to PJM, not the purchaser of the buy-bid capacity. From the purchaser's perspective, buy-bid capacity has guaranteed deliverability and performance by PJM. This is distinguishable from the FRR entity where the performance obligation of generation committed to FRR plans is the responsibility of the FRR entity.

As such, Duke Energy Kentucky has similar performance risk to RPM entities, but less flexibility to adjust its plan to account for changes in its resource requirements between the BRA and the Delivery Year than an RPM participant who can simply buy and sell capacity to meet its needs through the BRA.

Q. HAVE THERE BEEN ANY RECENT SHIFTS IN DUKE ENERGY KENTUCKY'S ACCESS TO UNIT-SPECIFIC GENERATION RESOURCES?

A. Yes. For the 2020/2021 Delivery Year, capacity in the Duke Energy Ohio Kentucky (DEOK) zone cleared with a LDA adder of $53.47/ MW-day to the $76.53/ MW-day general clearing price known as "Rest of RTO." The total clearing price for the DEOK zone was $130/ MW-day. While there is no guarantee that DEOK zone capacity will continue to clear at a premium to the more generic capacity in the RTO, and in fact subsequent delivery year has cleared with the Rest of RTO, this zonal separation does create the potential that

Duke Energy Kentucky's access to unit-specific capacity could be constrained and even priced at a premium in the future. This loss of liquidity exists regardless of whether Duke Energy Kentucky remains an FRR entity or moves at some point to full RPM participation for as long as the zonal separation exists. Because Duke Energy Kentucky's resources generally match expected load obligation for the planning period, continued investment in the Company's existing generating assets for dedicated use in its FRR plan is a crucial piece of the Company's strategy to serve customers. As such, deviations from the plan driven by either change to load requirements, resource capability or resource unforced capacity could impact costs, and potentially drive deficiencies in FRR Plans.

Q. PLEASE EXPLAIN THE RECENT CHANGES TO THE CAPACITY MARKET CONSTRUCT THAT PJM HAS IMPLEMENTED.

A. In a stated effort to improve the reliability of generating resources in the PJM footprint, PJM has redesigned the RPM construct with the newly coined "Capacity Performance" construct. In doing so, PJM is redefining its capacity products and proposing new performance-based incentives and assessments for non-performance. With Capacity Performance, PJM is adopting a "no-excuses" policy to improve reliability.[2] Specifically, PJM established two classes of capacity, "Capacity Performance" Capacity and, for a limited transitional period, "Base Capacity." Also during the transitional period, the current annual capacity product will continue to exist for FRR participants.

---

[2] *See e.g.,* PJM Press release, May 24, 2016; describing Capacity Performance "the new no excuses" standard. *Available at* http://www.pjm.com/~/media/about-pjm/newsroom/2016-releases/20160524-rpm-auction-results-for-2019-20-news-release.ashx (Last visited August 15, 2017).

Q. WHAT IS THE DISTINCTION THAT PJM HAS CREATED FOR CAPACITY PERFORMANCE RESOURCES VERSUS THE PRE-CAPACITY PERFORMANCE ANNUAL CAPACITY PRODUCT?

A. Complying capacity performance resources must be capable of sustained, predictable operation that provides energy and reserves during performance assessment hours throughout the Delivery Year. Performance assessment hours will be determined in real-time based on system conditions. They are not pre-determined, but are anticipated to occur during seasonal peak periods. Capacity performance resources are subject to non-performance assessments during emergency conditions throughout the entire Delivery Year. Base Capacity resources are required to meet the Capacity Performance standard from June through September. Base Capacity will no longer be a Capacity Market product after the transition period. Capacity Performance resources will be required to be available to PJM during periods of high load demand or system emergency, or face substantial non-performance assessments. Conversely, over-performance will be rewarded with performance-based bonuses.

Q. WHEN WILL THE CAPACITY PERFORMANCE MODEL BECOME FULLY IMPLEMENTED IN PJM?

A. In this new construct, PJM established the goal of transitioning all capacity in the PJM footprint to Capacity Performance by the 2020-2021 Delivery Year. In other words, by June 1, 2020, all capacity purchased on behalf of load through RPM or eligible for inclusion in FRR capacity plans must meet the Capacity Performance criteria.

When PJM achieves full transition to Capacity Performance for the 2020-2021 Delivery Year, every resource in the PJM footprint that is not on a PJM-approved planned outage will be obligated to be available for PJM dispatch. The obligation extends during any hour that PJM determines there to be a compliance hour throughout the entire delivery year. Compliance hours are generally set during periods of capacity or operational stress on the PJM system; and are expected by PJM to average approximately thirty hours per year over time.

Q. WHEN DID THE CAPACITY PERFORMANCE RULES GO INTO EFFECT?

A. PJM described a transitional period to achieve 100 percent Capacity Performance over four years, some years for which it had already conducted the three-year forward base auctions under the old construct. PJM has conducted transitional auctions at increasing percentages of Capacity Performance for the 2016-2017 Delivery Year through the 2019-2020 Delivery Years. Generation included in FRR Plans must eventually meet Capacity Performance requirements, and be eligible for the same performance bonuses and subject to the same non-performance assessments. FERC granted a limited Capacity Performance transition period for FRR entities like Duke Energy Kentucky that includes an exemption and step-up towards 100 percent Capacity Performance compliance for all FRR Plan resources in the 2018-2019 Delivery Year. Following the transitional percentages applied to the general market, Duke Energy Kentucky has since filed a preliminary FRR Plan for the 2019-2020 Delivery Year that includes 80 percent of its obligation as Capacity Performance capacity. The preliminary FRR Plan that

Duke Energy Kentucky filed this year, for the 2020-2021 Delivery Year required 100 percent Capacity Performance capacity.

Q. HOW WOULD YOU CLASSIFY THE CURRENT DUKE ENERGY KENTUCKY RESOURCES IN TERMS OF PJM CAPACITY PERFORMANCE COMPLIANCE AND RESPONSE?

A. PJM Capacity Performance compliance does not have a strict or bright line set of guidelines to determine whether or not it complies. The best a utility can do is manage the risks and make appropriate and prudent investments to maintain and if possible, enhance the reliability of its assets to reduce the likelihood of the asset not being able to perform when called upon during a PJM-determined event. That said, there are some minimum strategies that Duke Energy Kentucky can take in terms of ensuring there is a reliable source of fuel, and maintaining regular and proactive maintenance schedules and activities.

In my opinion, East Bend meets the minimum requirements of a Capacity Performance resource in that it is a coal-fired facility that maintains a significant reserve of fuel stored on-site. The Company is taking proactive steps to invest in the maintenance of East Bend through "asset hardening" strategies designed to reduce the possibility and likelihood of forced outages.

In my opinion, the Woodsdale facility now meets minimum Capacity Performance requirements due to the Company's completion of its dual fuel system earlier this year. The Commission authorized Duke Energy Kentucky's construction of a new dual fuel oil system for Woodsdale in Case No. 2017-

00186. The Company completed the construction and successfully tested the system in May 2019.

Q. PLEASE EXPLAIN POTENTIAL IMPACTS TO THE COMPANY AND CUSTOMERS OF CAPACITY PERFORMANCE.

A. The generation assets that the Company has invested in are sound and dependable. Duke Energy Kentucky continues to invest in and maintain these assets so that they remain reliable resources and continue to provide benefits to Duke Energy Kentucky's customers. These investments will include capital expenditures to ensure generation unit availability, as well as potential upgrades at generation stations designed to mitigate, to the greatest extent possible, exposure to the significant assessments for non-performance. Other anticipated responses to Capacity Performance risks could include the onsite maintenance of critical long lead time replacement part inventories that could reduce exposure to prolonged outages during periods where PJM is likely to initiate a Capacity Performance event.

Q. SINCE INTRODUCTION OF THE CAPACITY PERFORMANCE CONSTRUCT, HAVE THERE BEEN ANY CAPACITY PERFORMANCE ASSESMENT HOURS?

A. No. To date there have been no system wide Capacity Performance Hours called by PJM that resulted in assessments or bonuses.

Q. DO YOU BELIEVE THE CHANGES THAT PJM HAS MADE ARE BENEFICIAL TO DUKE ENERGY KENTUCKY AND ITS CUSTOMERS?

A. PJM has recognized a reliability issue in its footprint, and is acting in good faith to improve reliability of electric supply. The Capacity Performance changes are intended to incentivize investment in generating resources through enhancing the value of capacity meeting the performance guidelines and through the implementation of severe consequences for non-performance. To the extent that these changes improve reliability and cost efficiency in the PJM footprint, Duke Energy Kentucky's customers certainly benefit.

Q. PLEASE DESCRIBE ANY CHANGES TO THE WHOLESALE ELECTRIC POWER MARKETS THAT ARE ANTICIPATED TO OCCUR WITHIN THE NEXT TWO YEARS THAT COULD AFFECT DUKE ENERGY KENTUCKY'S POWER PROCUREMENT PRACTICES.

A. From a macro level perspective, the Company believes that the energy and electricity sector continues to go through an extraordinary period of change. This change is primarily driven by shifts in load growth patterns, commodity price relationships, the move towards sustainable generation, and increasing regulatory uncertainty. Continued low price natural gas is driving a transition in the traditional concept of "base load generation." As coal-fired generation continues to retire, the natural gas and intermittent resources connecting to the grid, both in front of and behind the meter, drive potential impacts on how grid operators will reliably meet demands, and the investments that will be required in energy resources and grid infrastructure and modernization. It remains to be seen what extent the current federal administration will have on the arc of environmental regulation; but that uncertainty itself will be a challenge to utilities such as Duke Energy Kentucky.

Additionally, as states address individual public policies regarding renewable and carbon free generation outside of the current capacity market design, it is expected that PJM's capacity markets will continue to evolve. Currently, PJM is awaiting an order from FERC regarding the structure and administration of its capacity market that could potentially have a significant impact on how it participates in the capacity, and if remaining an FRR entity is in the best interests of Customers. Duke Energy Kentucky continues to monitor these changes and will react accordingly.

The Company believes that the PJM energy markets will continue to function as they do today; however, wholesale energy and capacity price volatility will likely experience upward pressure. Drivers behind this increased volatility include pricing impacts from new environmental regulations as they become effective, trends towards a more renewable and efficient generation mix, and structural market changes implemented by PJM.

Q. CONSIDERING THE CHANGES IN THE WHOLESALE PJM MARKETS, INCLUDING BOTH POTENTIAL RISKS AND REWARDS, DO YOU BELIEVE DUKE ENERGY KENTUCKY'S CUSTOMERS STILL BENEFIT FROM THE COMPANY'S MEMBERSHIP IN PJM?

A. Yes. Duke Energy Kentucky's customers benefit significantly from PJM's centrally dispatched RTO construct. PJM dispatches generation in broad consideration of total RTO cost minimization, the benefits of which are directly passed to customers in the form of energy alternatives to owned generation. The approximately 180,000 MWs of generating capacity in PJM's footprint provides a significant benefit in terms of reliability and provides Duke Energy Kentucky with access to the most efficient generation providing energy. Further, these markets maximize the opportunity for non-native sales from the Company's generation, the majority proceeds of which flow back to Duke Energy Kentucky's customers through a credit on their bills. PJM's focus is on maintaining and improving reliability across its entire system, which directly translates to more efficient and reliable access to electric resources to serve Duke Energy Kentucky's customers.

IV. INFORMATION SPONSORED BY WITNESS

Q. PLEASE DESCRIBE FR 16(7)(h)(7).

A. FR 16(7)(h)(7) provides Duke Energy Kentucky's generation mix, which for the test year is projected to be approximately 99 percent coal and 1 percent gas/oil.

Q. DID YOU PROVIDE ANY INFORMATION TO MR. JACOBI FOR HIS USE IN DEVELOPING THE FORECASTED FINANCIAL DATA?

A. Yes. I supplied Mr. Jacobi with the following information for the forecasted portion of the base period, consisting of the six months ending November 30, 2019, and for the forecasted test period, consisting of the twelve months ending March 31, 2021.

I provided Mr. Jacobi with certain production costs and revenues such as fuel costs, emission allowances costs and purchased power costs, and revenue derived from off-system sales, after applying the off-system sales sharing mechanism.

I also provided Mr. Jacobi with the projected account balances, for his use in preparing the balance sheet, and for the forecasted test period for the following items: emission allowances, coal, oil, gas and materials and supplies. I obtained this information from historic trends and adjustments for expected changes forecasted within the GenTrader® Model run.

V. CONCLUSION

Q. WAS FR 16(7)(h)(7), THE INFORMATION SUPPLIED TO MR. JACOBI PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

The undersigned, John A. Verderame Managing Director, Trading and Dispatch, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

John A. Verderame Affiant

Subscribed and sworn to before me by John A. Verderame on this 9th day of August, 2019.

Mary B Vicknair
NOTARY PUBLIC

My Commission Expires:

MARY B VICKNAIR
NOTARY PUBLIC
Davie County
North Carolina
My Commission Expires Sept. 21, 2022

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Electric Rates; 2) Approval of New Tariffs; 3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 4) All Other Required Approvals and Relief.	)	Case No. 2019-00271

DIRECT TESTIMONY OF

WILLIAM DON WATHEN JR.

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

September 3, 2019

TABLE OF CONTENTS

PAGE

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is William Don Wathen Jr. and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS), as Director of Rates and Regulatory Strategy for Ohio and Kentucky. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky or Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I received Bachelor Degrees in Business and Chemical Engineering, and a Master of Business Administration Degree, all from the University of Kentucky. After completing graduate studies, I was employed by Kentucky Utilities Company as a planning analyst. In 1989, I began employment with the Indiana Utility Regulatory Commission as a senior engineer. From 1992 until mid-1998, I was employed by SVBK Consulting Group, where I held several positions as a consultant, focusing principally on utility rate matters. I was hired by Duke Energy (then Cinergy Services, Inc.), in 1998, as an Economic and Financial Specialist in the Budgets and Forecasts Department. In 1999, I was promoted to the position of Manager, Financial Forecasts. In August 2003, I was named to the position of Director - Rates. On December 1, 2009, I took the position of General Manager and Vice President of

Rates, Ohio and Kentucky. On July 3, 2012, as a result of the merger between Duke Energy and Progress Energy Corp., my title changed to Director of Rates and Regulatory Strategy for Ohio and Kentucky.

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS DIRECTOR OF RATES AND REGULATORY STRATEGY FOR OHIO AND KENTUCKY.

A. As Director of Rates and Regulatory Strategy for Ohio and Kentucky, I am responsible for all state and federal rate matters involving Duke Energy Kentucky and its parent, Duke Energy Ohio, Inc.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. Yes. I have previously testified in several cases before the Kentucky Public Service Commission (Commission) and other regulatory commissions.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE PROCEEDINGS?

A. On behalf of Duke Energy Kentucky, I provide some background for its request to increase base electric revenues and the drivers behind the Company's application. I will support the Company's proposal to use rate base for calculating its return requirement rather than capitalization. I will also provide testimony supporting the Company's proposals relating to amortizing existing accounting deferrals previously approved by the Commission and the need for additional deferrals. I will support a proposal to modify the Company's fuel adjustment clause calculation in order to mitigate volatility the current methodology can create in customers' rates. I then discuss the Company's compliance with Commission directives from prior cases. I support the reasonableness of the Company's proposed rate increase and sponsor Filing Requirement (FR) 16(1)(b)(1) and FR 16(9) to comply with the Commission's filing requirements.

II. BACKGROUND AND BASIS FOR REQUEST

Q. WHEN DID THE COMMISSION APPROVE DUKE ENERGY KENTUCKY'S CURRENT ELECTRIC DISTRIBUTION RATES?

A. The Company's current base rates for electric service were approved by the Commission on April 13, 2018, in Case No. 2017-00321 (2017 Rate Case). The test period in that proceeding was the twelve months ended March 31, 2019, and the rate base and capitalization used in that case was the thirteen-month average from March 31, 2018, through March 31, 2019. The current rates went into effect on May 1, 2018. The Attorney General and the Company filed rehearing requests related to the initial order and the Commission issued an Order on Rehearing on October 2, 2018, which resulted in slight adjustments to the rates approved in the April 13, 2018, Order.

The last rate case was significant in that it was the first time the Company sought an increase in base rates in over ten years. In its 2017 Rate Case, the Company sought an increase of approximately $48.6 million but ultimately received an increase of $8.8 million (as approved in the October 2, 2018, Rehearing Order). The most significant factor reducing the amount of the Company's proposed increase in that case was the Tax Cuts and Jobs Act of 2017 (TCJA), which allowed the Company to significantly reduce its revenue requirement due to a reduction in the federal income tax rate and to reflect the refund, over time, of excess accumulated deferred income taxes (EDITs) that were created as a result of the TCJA.

Q. HAS THERE BEEN ANY CHANGE TO THE COMPANY'S GENERATION PORTFOLIO SINCE THE LAST RATE CASE?

A. There have been no major changes to the Company's generation portfolio since the Company's last electric rate case although it is worth noting that a major project to provide dual fuel capability at the Woodsdale Station has been completed and is in service.[1]

Q. WHAT TEST PERIOD IS DUKE ENERGY KENTUCKY USING TO CALCULATE ITS REVENUE REQUIREMENT?

A. The Company's Application in this case requests an increase in overall electric revenues based on a forecasted test period, namely, the twelve-month period beginning April 1, 2020, through March 31, 2021.

Q. WHY IS DUKE ENERGY KENTUCKY FILING A RATE CASE AT THIS TIME?

A. For the forecasted test period, the Company is projecting that the earned return on its investment in the electric system is not providing a fair and reasonable compensation to its investors.

Since the time of the last base rate case, the Company has continued making significant investment in its electric utility infrastructure. Gross utility plant in the 2017 Rate Case was approximately $1.730 billion (as approved by the

[1] *In the Matter of the Application of Duke Energy Kentucky, Inc., for a Certificate of Public Convenience and Necessity for Construction of a Number 2 Distillate Fuel Oil System at the Company's Woodsdale Natural Gas-Fired Generating Station,* Case No. 2017-00186 (Ky. P.S.C. Dec. 21, 2017)

Commission in its Rehearing Order[2]) based on the thirteen-month average from March 31, 2018, through March 31, 2019. The thirteen-month average of gross plant in this forecasted test period for this case is $1.949 billion, an increase of approximately $219 million in gross utility plant. The depreciation, property taxes, and return on this increased investment are the principal drivers of the need for new rates. Importantly, the Company continues to diligently control its operation and maintenance (O&M) as evidenced by the fact that over the last ten years, O&M expenses excluding production and PJM-related costs, has increased at a rate well below the inflation[3]. This effort to control costs through efficiency and productivity gains contributes to Duke Energy Kentucky being able to provide its customers with rates that are among the lowest in the Commonwealth and in the country.

Q. HAS THE TAX CUTS AND JOBS ACT OF 2017 CONTRIBUTED TO THE GROWTH IN RATE BASE?

A. Yes. The Tax Cuts and Jobs Act of 2017 (TCJA) reduced the federal income tax (FIT) rate from 35 percent to 21 percent beginning January 1, 2018, and that does benefit customers by reducing federal income tax expense included in the Company's revenue requirement. The TCJA however, has other impacts on the Company's revenue requirement, including impacting and eliminating other benefits that existed prior to the enactment of the TCJA. The reduction in the FIT rate reduces the benefit of accelerated depreciation. Also, the TCJA eliminated the benefit of bonus depreciation. This has the result of causing accumulated

---

[2] Order on Rehearing in Case No. 2017-00321, October 2, 2018, p. 12.
[3] Using the Consumer Price Index as Reported by the Bureau of Labor Statistics. https://www.bls.gov/cpi/home.htm.

deferred income tax (ADIT) balances to be lower than they otherwise would have been prior to the TCJA. Since ADIT is an offset included in rate base, the lower ADIT balance causes rate base to be higher.

Q. PLEASE EXPLAIN THE IMPACT OF THE TCJA ON ACCELERATED DEPRECIATION.

A. Yes. Assume, for example, that the Company's invests in a $10 million asset and that book depreciation expense is $1 million in the first year that asset is placed in service. For purposes of calculating its income tax obligation in that year, assume it is allowed to deduct $2 million for tax depreciation; so, the benefit of using accelerated depreciation for that year is $1 million multiplied by the prevailing tax rate.

Prior to the TCJA, the benefit of the accelerated depreciation would have been $350,000 ($1 million of tax depreciation minus book depreciation multiplied by 35 percent). After the TCJA, the benefit is only $210,000 because the FIT rate is now only 21 percent. This means that the Company's rate base will grow at a much faster pace as a result of the FIT change.

Q. PLEASE EXPLAIN THE IMPACT OF THE ELIMINATION OF BONUS DEPRECIATION.

A. Prior to the TCJA, the tax law allowed utilities to use an enhanced form of accelerated depreciation for tax purposes wherein a utility could deduct up to 50 percent of the value of an asset in the first year of its useful life and then transition to conventional forms of accelerated depreciation. Using the same example I described above, if the Company put a $10 million asset into service prior to the

TCJA, it could have deducted $5 million for tax depreciation compared to $1 million for book depreciation. The $4 million difference owing to the accelerated depreciation creates a $1.4 million deferred income tax that reduces the rate base upon which the Company is allowed to earn a return. The federal government is financing $1.4 million of the investment by essentially loaning the utility $1.4 million at zero interest and the $1.4 million will only be fully repaid when the asset is fully depreciated for book purposes.

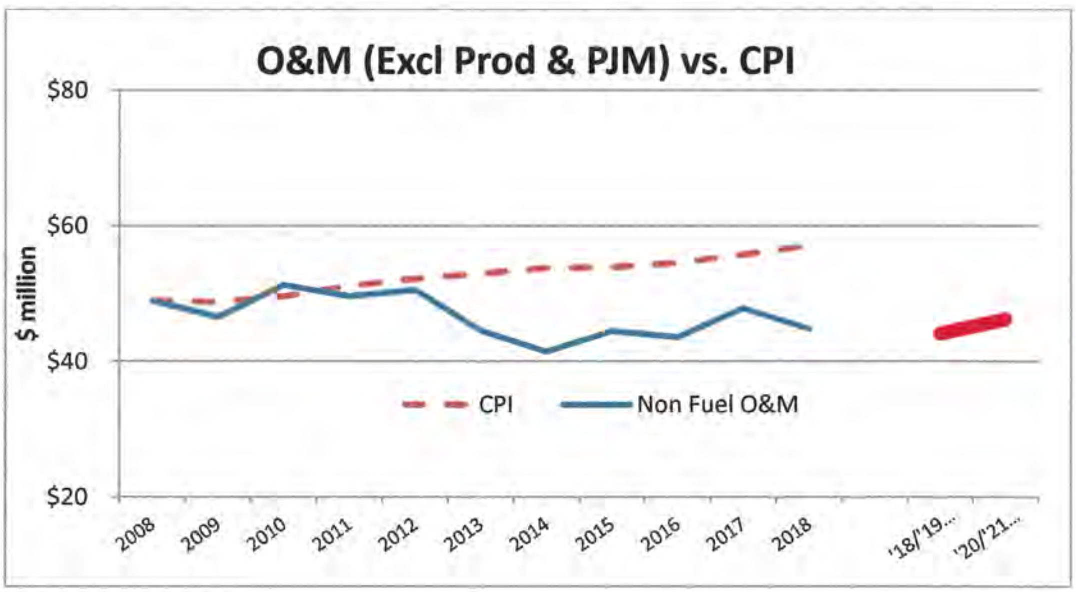
The TCJA eliminated bonus depreciation, meaning that the amount of the interest free loan from the federal government will be much lower. Put another way, the amount of financing available to the utility through the tax benefits of accelerated depreciation are reduced under the TCJA, meaning customers will end up paying more going forward than they would have prior to the enactment of the TCJA.

The combination of reducing the FIT rate and eliminating bonus depreciation means that, even if the pace of a utility's capital investment is unchanged over time, rate base will grow considerably faster because of the TCJA than it would have if the TCJA had not been enacted because the ADIT balances are smaller than they otherwise would have been prior to the TCJA.

This is a contributing factor to the growth in rate base in this proceeding and will be an increasingly significant factor in rate base growth in coming years.

Q. HAS THE COMPANY CONTINUED ITS EFFORTS TO CONTROL ITS NON-PRODUCTION O&M EXPENSE SINCE ITS LAST BASE ELECTRIC RATE CASE.

A. The chart below best demonstrates the fact that the Company has successfully controlled its non-production O&M costs over the last ten years. The bars to the left and right represent the Company's test year non-production O&M expense in its 2006 Rate Case and that projected in this current case, respectfully. The horizontal line shows the Company's non-production O&M, as reported in its FERC Form 1 Annual Reports, for each of the last ten years. As this chart shows, the Company's actual O&M expense (excluding production expenses and PJM-related costs) has remained relatively flat for the last decade and well below inflation. The chart also shows that test year O&M has remained flat as well.



Q. HAS LOAD GROWTH OFFSET THE NEED FOR THE PROPOSED INCREASE?

A. No. Although the Company continues to add customers and experiences localized load growth in specific areas, overall sales have remained essentially flat due to energy efficiency and because customers are increasingly sophisticated and mindful about controlling their energy consumption. Total retail sales for the test period in the last rate case were 4,087,791 MWh. Total sales for the forecasted test period in this proceeding are projected to be lower at 4,045,004 MWh. Inasmuch as the Company's customer charge is relatively low, particularly for residential customers[4], the growth in customer count has not been enough to offset the factors reducing customers' average usage.

Q. IS THE COST OF CAPITAL CONTRIBUTING TO OVERALL INCREASE?

A. No. Actually, since the time of the last rate case, the cost of capital has decreased. Although the return on equity of 9.80 percent being proposed in this case is slightly higher than the 9.725 percent approved in the most recent electric base rate case, the cost of debt has decreased by more over that same period. The weighted-average interest rate on long-term debt, as approved by the Commission in Case No. 2017-00321, was 4.243 percent. For the forecasted test period in this application, the long-term debt rate has fallen to 4.073 percent. Interest expense on short-term debt is also lower. Overall, the Company's weighted-average cost of capital proposed in this case is 6.711 percent compared to 6.830 percent approved by the Commission in the last electric base rate case. The significance of the change in cost of capital is that, although the Company's investment has grown since the time of the last rate case, the cost of capital related to the

[4] Duke Energy Kentucky's customer charge for residential customers is significantly lower than any major electric utility in the state.

investment has offset a significant portion of the cost of that investment.

Q. PLEASE DESCRIBE HOW THE COMPANY'S REQUESTED INCREASE IN BASE RATES WILL IMPACT CUSTOMERS' BILLS?

A. The Company's proposed overall revenue requirement is an increase of approximately 12.57 percent over current total retail revenue.[5] As discussed in testimony of Company witness James E. Ziolkowski, Duke Energy Kentucky is proposing to allocate the overall revenue requirement so that existing subsidies and excesses between rate classes are not exacerbated and, even reduced where possible. As a result of the cost of service study, the allocation of the proposed revenue requirement is such that residential customers will see an approximate 16.33 percent increase in their overall bills. Non-residential customers will see an approximate 10.11 percent increase on their bills. And, lighting customers will see an approximate 10.73 percent increase on their bills.

Q. WILL DUKE ENERGY KENTUCKY'S RATES FOR ELECTRIC SERVICE REMAIN COMPETITIVE?

A. Yes. From the most recent report from the EEI Typical Bills and Average Rate Report Winter 2019 (EEI Report), the bills for residential customers using 1,000 kWh per month, effective January 1, 2019, were $128.56 for Kentucky Power, $99.71 for Kentucky Utilities (KU), and $105.86 for Louisville Gas & Electric (LG&E). Assuming the Commission approves the Company's request in this proceeding, the bill for a Duke Energy Kentucky residential customer will be $112.08,[6] higher than KU and LG&E but lower than Kentucky Power. The

[5] *See* Schedule M, page 1 of 1, line 28.
[6] *See* Schedule N, page 1 of 5, line 6.

proposed residential bill for this customer is significantly below the national average of $138.58, per the EEI Report.

The proposed rates also result in a similar competitive position for commercial and industrial customers relative to other Kentucky investor-owned electric companies and relative to the national average.

III. ADDITIONAL RELIEF REQUESTED

A. ESTABLISHING ELECTRIC BASE RATES USING RATE BASE

Q. PLEASE EXPLAIN DUKE ENERGY KENTUCKY'S USE OF RATE BASE FOR ESTABLISHING BASE RATES IN THIS PROCEEDING.

A. Rate base represents the actual value of the physical plant used to provide utility service to customers. The Commission has the option to provide its regulated utilities a return on its capitalization supporting the rate base or to simply use rate base. Numerous examples exist where the Commission has approved base rates relying on rate base. For a combination company (*i.e.*, providing both gas and electric service), like Duke Energy Kentucky, rate base is a much simpler and more straightforward approach than the return on capitalization approach. This is because the Company's overall capitalization supports both service types; so, it is necessary to estimate the capitalization assignable to either gas service or electric service. In order to develop this estimate, Duke Energy Kentucky has historically calculated relative rate base ratios to allocate capitalization (a method approved by the Commission in Duke Energy Kentucky's last electric rate case, Case No. 2017-00321). The rate base approach is easily understood and easily verifiable, rather than the complicated process to estimate capitalization. Rate base should be approximately equal to capitalization; so, the choice of using one over the other should not result in materially different results. That said, the rate base methodology is an easier and more conventional way to represent investment in utility plant that is not only accepted by this Commission, but throughout the country.

Q. IS THE USE OF RATE BASE TO ESTABLISH BASE RATES REASONABLE AND IN THE PUBLIC INTEREST?

A. Yes. Rate base is the predominant basis among most regulators in the United States for reflecting investment in equipment and facilities used to provide utility service. Rate base is calculated relying on the books and records of the utility. Duke Energy Kentucky operates an electric business and a gas business, both of which are supported by the same capitalization. Therefore, establishing rates based on capitalization requires additional estimates to determine a reasonable basis for establishing the level of capitalization to be used for setting base rates. Estimating capitalization is especially complicated where a combination utility, like Duke Energy Kentucky, does not file simultaneous or combination electric and natural gas base rate cases. Rate base is much more straightforward in that the components of rate base are mostly comprised of discrete investments in the two services that are comparatively easy to quantify.

Q. IS THERE PRECEDENT FOR USING RATE BASE INSTEAD OF CAPITALIZATION?

A. Yes. All of the major gas local distribution companies in Kentucky, except for the Louisville Gas and Electric Company (LG&E), have base rates that were established using rate base instead of capitalization. In addition, Kentucky American Water Company also uses rate base for establishing base rates.

Q. DOES THE ATTORNEY GENERAL SUPPORT THE USE OF RATE BASE?

A. In Duke Energy Kentucky's last natural gas base rate case, Case No. 2018-00261, the Attorney General's witness, Lane Kollen, supported the use of rate base as the basis for establishing the return component of a utility's revenue requirement. From the Attorney General's witness in that case:

> "*Q. Do you support the Company's proposal to use rate base in lieu of capitalization to calculate the return component of the revenue requirement?*
>
> *A. Yes. Rate base allows the Commission to more precisely determine the costs that will be allowed a rate of return and included in the revenue requirement...*"

As the Attorney General's witness notes, the use of rate base is a more precise method for measuring the Company's actual investment in facilities and equipment to provide utility service. Admittedly, this statement was made in the context of a base natural gas rate case, the same holds true for establishing rates for other types of regulated utility service, including electric rates.

B. FUEL ADJUSTMENT CLAUSE AND PROFIT SHARING MECHANISM

Q. DESCRIBE THE COMPANY'S FUEL ADJUSTMENT CLAUSE (FAC)?

A. As provided for in 807 KAR 5:056, Duke Energy Kentucky recovers its actual fuel costs attributable to serving its retail load through a combination of amounts recovered in base rates and a separate rider, namely, the fuel adjustment clause rider (Rider FAC).

Each month, the Company calculates the cost of fuel burned in its generating facilities and any energy purchased in the market attributable to its retail load. The total cost of burning fuel and purchasing energy for its retail load in that month is divided by the actual kWh sales during that same month. The result is a rate, expressed as a $/kWh rate, that is compared to the average fuel and purchased power rate included in base rates. The difference in the two rates is recovered via Rider FAC to be billed to customers in the upcoming month. The Rider FAC could be positive or negative so that the sum of the average fuel rate and purchased power rate recovered in base rates plus Rider FAC equals the actual average cost of fuel and purchased power in that month. For example, in February, the Company will calculate the cost of fuel and purchased power attributable to serving retail load in the immediately prior month, January. The total cost is then divided by sales for the same January. The average cost of fuel and purchased power for January is then compared to the average fuel and purchased power rate included in base rates, with the difference being the Rider FAC rate that will be billed to customers in March. So, if the average cost of fuel in January is $0.0030 per kWh and $0.0025 per kWh is being recovered in base rates, then the Rider FAC for March will be $0.0005 per kWh.

Q. IS THERE A TRUE-UP PROVISION IN THE RIDER FAC CALCULATION?

A. Yes. Primarily due to monthly fluctuations in billed kWh sales and changes in actual fuel and purchased power costs, it is not common that the combination of Rider FAC and the base fuel rate exactly recovers the actual cost of fuel in a month. Consequently, there is a true-up provision whereby the Rider FAC rate is adjusted to ensure that the Company recovers no more and no less than its actual cost of providing electric generation service to its retail customers.

Q. DOES RIDER FAC CREATE VOLATILITY IN DUKE ENERGY KENTUCKY'S CUSTOMER RATES?

A. Yes. The combination of Duke Energy Kentucky's limited portfolio of generating assets and the monthly fluctuations in billed sales, creates an undesirable situation where the Rider FAC can change significantly from month-to-month.

Q. EXPLAIN HOW THE GENERATION PORTFOLIO CONTRIBUTES TO THE VOLATILITY.

A. Duke Energy Kentucky is relatively small compared to other utilities and has only two major generating stations, East Bend and Woodsdale. East Bend is a roughly 600 MW single-unit coal-fired generating station that is low-cost source of energy available to the Company's retail customers. Woodsdale is a generating station made up of six roughly 80 MW combustion turbines that were designed to run only during peak times. The Woodsdale units normally rely on natural gas for generation but can run on fuel oil if natural gas supplies are constrained. The average cost of fuel to generate energy at Woodsdale is typically much higher than the cost of fuel to generate energy at East Bend and, in most hours, is also higher than the cost of energy purchased from PJM's energy market.

Because of this limited resource mix, East Bend is the principal source of generation to serve the Company's retail customers, when it is available, and is supplemented mostly with energy purchased from PJM. While the average cost of energy generated from East Bend is not particularly volatile, the cost of purchasing energy can be quite volatile. Therefore, in those months where the availability of East Bend is limited (*e.g.*, a planned outage) or when East Bend does not generate enough to meet the demand (*e.g.*, during peak load), the average cost to serve retail customers in a given month can vary significantly.

Q. HOW DOES THE TIMING OF THE RIDER FAC CALCULATION IMPACT VOLATILITY?

A. As noted above, Rider FAC is calculated by dividing the total cost of fuel and purchased power to serve native load in the prior month by the billed sales for same prior month. Whatever rate is calculated for Rider FAC is billed in the ensuing month. Seasonal changes in demand means that retail load can vary significantly from month-to-month; so, recovering a rate calculated based on a shoulder month over a billing month during the summer can produce a significant over- or under-recovery of the FAC that will, in turn, influence the Rider FAC calculation in future months.

Q. IN YOUR OPINION, DO CUSTOMERS DESIRE VOLATILITY IN THEIR RETAIL RATES?

A. In my over thirty years of utility ratemaking experience, I am not aware of any customer suggesting that volatility in their rates for electric service was a desirable feature in their utility bills. On the contrary, volatility in retail rates is more commonly the source of complaints from customers. So, to the extent that an opportunity exists to mitigate that volatility, it would certainly be appreciated by many customers. I will emphasize that this proposed change has no financial impact on the Company.

Q. WHAT IS THE COMPANY'S PROPOSAL TO MITIGATE VOLATILITY IN THE RIDER FAC RATE?

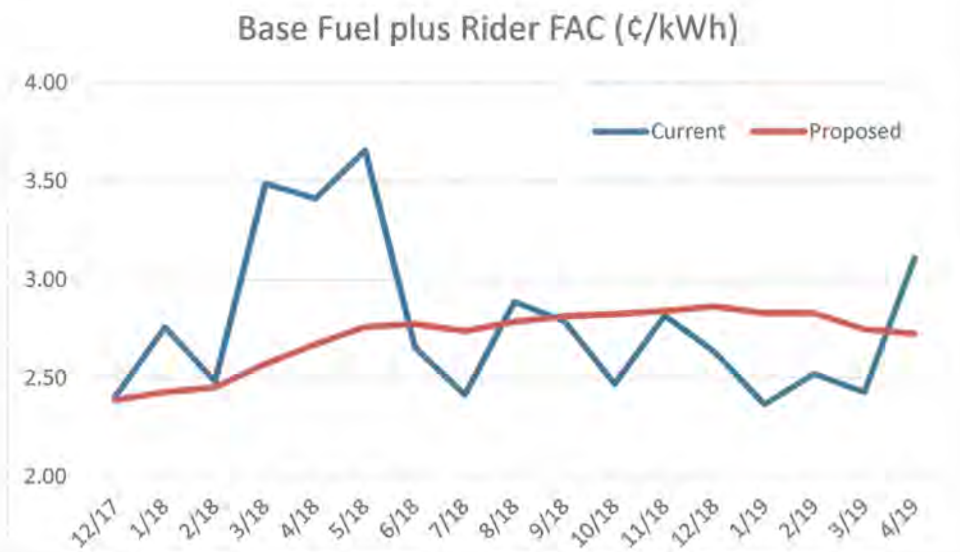
A. Duke Energy Kentucky proposes a very simple change to its Rider FAC calculation, which is to move from calculating the Rider FAC rate on a monthly basis to calculating the rate on a rolling twelve-month average basis. In Attachment WDW-1, I provide a revised set of schedules for Rider FAC reflecting the changes that would be necessary to make the calculation a rolling twelve-month average.

Q. DOES THE COMPANY REQUIRE ANY ADDITIONAL ACCOUNTING AUTHORITY FROM THE COMMISSION RELATED TO THIS PROPOSAL?

A. No. Although the use of a rolling twelve-month average may increase the magnitude of deferrals for over- or under-recovery of Rider FAC, the Company would continue the same deferral accounting for Rider FAC as is currently in effect. The Company is not requesting any waivers to accomplish this change, which will benefit customers.

Q. DO YOU HAVE AN ILLUSTRATION OF HOW THE COMPANY'S PROPOSAL WILL IMPACT VOLATILITY?

A. Simply reviewing recent Rider FAC filings provides an illustration of the how using a twelve-month rolling average to calculate Rider FAC smooths out the volatility currently evident in the monthly Rider FAC calculation.



As can be seen in this chart, the overall fuel rate (base fuel plus Rider FAC) when Rider FAC is calculated on a monthly basis can vary quite a bit. In this example, customer rates increased from February 2018 to April 2019 by about 1 cent/kWh, which, for a typical residential customer using 1,000 kWh in a month, translates to a $10 swing in that customer's bill. And, in the same chart, the Rider FAC rate goes down by over 1 cent/kWh; so, the customer will see another roughly $10 swing in the monthly bill. If the Rider FAC had been calculated on a rolling twelve-month average, the customers would have seen very little change in the average rate and, consequently, little impact on their monthly bill due to fuel costs. The Company is no better off or worse off but customers benefit from avoiding what can be unpleasant surprises in their monthly bills.

Q. WILL THIS CHANGE IMPACT THE COMMISSION'S CURRENT SIX-MONTH OR TWO-YEAR FAC REVIEW PROCESS?

A. No. The Commission will continue to have its existing authority and process to examine the Company's fuel procurement and FAC rate calculations.

Q. DOES THE COMPANY BENEFIT FROM THIS?

A. There would be no economic benefit and no economic harm to the Company from making this change. The only benefit to the Company would be from improving customer satisfaction and reducing customer complaints about volatility in its electric rates.

Q. ARE THERE ANY OTHER CHANGES BEING PROPOSED TO THE CURRENT RIDER FAC OR TO THE COMPANY'S PROFIT SHARING MECHANISM.

A. The only change to either of these riders is to include a provision to flow through the benefits derived from the Company's proposed electric vehicle (EV) pilot. Company witness Sarah E. Lawler describes how the Company is proposing to modify its Profit Sharing Mechanism (Rider PSM) to flow through to customers the benefits derived from its deployment of EVC stations.

Although not a change to the current mechanisms, Company witness Mr. Zachary Kuznar notes that any benefits derived from selling ancillary services derived from its proposed battery storage pilot into PJM's wholesale market would be credited back to customers via the Company's rider mechanisms. Because there is a fuel and non-fuel component to these ancillary revenues, the revenues would flow through to customers via the FAC and PSM, respectively.

IV. PREVIOUSLY APPROVED ACCOUNTING DEFERRALS

Q. WILL YOU SUMMARIZE THE ACCOUNTING DEFERRALS WHICH DUKE ENERGY KENTUCKY IS CURRENTLY RECOVERING IN BASE RATES?

A. Table 1 provides a summary of all of the regulatory assets that are being depreciated pursuant to the Commission's approval in the most recent electric base rate case. The table includes the total amount of the deferral and the number of years the Commission approved for amortization of each regulatory asset. approved in prior cases.

Description	Balance as of 3/31/18	Amortization Period (years)
Rate Case Expense	$657,434	5
AMI Opt Out	$263,029	5
East Bend Depreciation	$11,529,520	23.5
East Bend O&M[(a)]	$36,540,465	10
Storm Cost	$4,912,800	5
Carbon Management Research	$2,000,000	10
AMI Meter Change-Out	$6,958,958	15

(a) Includes a carrying cost at the long-term debt rate.

Q. DID THE COMMISSION AUTHORIZE ADDITIONAL REGULATORY ACCOUNTING IN THE PRIOR CASE?

Q. Yes. Duke Energy Kentucky was authorized to begin deferring annual expenses for planned outages above or below the amount included in base rates and annual expenses for replacement power not recovered in Rider FAC, above or below an amount in base rates.

Q. IS THE COMPANY SEEKING TO AMORTIZE THE DEFERRALS FOR PLANNED OUTAGE EXPENSE OR REPLACEMENT POWER EXPENSE?

A. No. Based on the Company's experience thus far, we expect the actual expenses to be approximately equal, on average, to the amounts we are collecting in base rates. And, because the balance of these deferrals remains relatively small, the Company is not seeking to include any amortization of the balances in this proceeding. The deferrals will continue to be adjusted each year as actual expenses for these two expense categories are compared to the amounts being collected in base rates.

Q. HAS THE COMPANY INCLUDED AMORTIZATION EXPENSE FOR ANY OTHER DEFERRALS IN ITS FORECASTED TEST PERIOD REVENUE REQUIREMENT?

A. Yes. First, the Company is seeking to create a regulatory asset for the cost associated with developing, presenting, and litigating this base rate case. Following precedent established in prior cases, the Company is seeking a five-year amortization period for this deferral. Schedule D-2.17 reflects the impact of this adjustment.

In addition, the Company is seeking to amortize a regulatory asset related to a 2018 winter storm. On March 25, 2019, the Commission approved the Company's request to create the deferral in Case No. 2018-00416. The adjustment to revenue requirement is reflected in Schedule D-2.27.

Q. ARE THERE ANY OTHER EXPENSES FOR WHICH THE COMPANY IS SEEKING ADDITIONAL REGULATORY ACCOUNTING APPROVAL?

A. The Company is seeking approval for regulatory accounting treatment for the cost of major storms. Similar to the accounting treatment approved in the prior rate case for planned outages and replacement power, the Company is seeking authority to defer costs for major storms[7] above or below the amounts included in base rates. This would be an annual credit or debit, depending on whether actual costs for major storms over the course of a calendar year are above a base amount (a debit to the regulatory asset) or below a base amount (a credit to the regulatory asset).

Q. WHY IS THE COMPANY SEEKING DEFERRAL ACCOUNTING FOR MAJOR STORM EXPENSES?

A. The Commission has, on several occasions, approved utility requests for one-time deferrals related to the costs to recover from major storms. The Commission recognizes that the financial impact of major storms can be quite significant. As Acts of God, the frequency, magnitude, and destructiveness of major storms are very much outside the control of the utility. Duke Energy Kentucky is seeking to establish a regulatory accounting process that will mitigate the impact of major storms on its financial condition with a balanced approach that will avoid the need for separate filings each time a major storm impacts the service territory.

Q. IN WHAT WAY IS THE REGULATORY ACCOUNTING AUTHORITY BEING SOUGHT "BALANCED"?

A. Duke Energy Kentucky, like most electric utilities, includes what amounts to an

[7] The request is limited to costs involving "major" storms as defined by IEEE Standards 1366.

average expense for major storms in its test period. Some years may be uneventful, in which case, the Company's revenue requirement may include more expense for major storms than is actually spent. That would benefit the Company's shareholders. On the other hand, some years or even some individual storms may be quite impactful and may cost the utility much more than it is recovering in base rates.

Occasionally, when the cost of a storm or storms is much higher than the amount being recovered in base rates, a utility may seek approval to defer the expense.

The "balance" in the approach being proposed by the Company lies in the fact that customers will never pay more or less than the 'actual' cost of the storm restoration. The current model typically results in the utility being made whole when costs exceed base rates but the customer is not made whole when storm costs are less than the amount recovered in base rates. The proposed model remedies that imbalance.

Q. IS THERE ANY PRECEDENT FOR THAT REGULATORY ACCOUNTING MODEL?

A. Yes. It is essentially the same model that most regulated electric distribution utilities have been utilizing for several years in Ohio.

Q. IS THERE ANY OTHER REGULATORY ACCOUNTING AUTHORITY BEING SOUGHT BY THE COMPANY IN THIS CASE?

A. Yes. As mentioned above, the Company is requesting that the Commission approve a pilot program for EVC stations. Because there will be costs incurred by the Company to implement this program that are not included in the test year revenue requirement, the Company is seeking approval to defer incremental costs to implement the pilot program for recovery in a future rate case.

V. COMPLIANCE WITH COMMISSION DIRECTIVES

Q. ARE YOU FAMILIAR WITH THE VARIOUS REGULATORY COMMITMENTS AND COMMISSION DIRECTIVES IMPOSED ON DUKE ENERGY KENTUCKY AS THEY RELATE TO RETAIL RATEMAKING?

A. Yes. As part of the recent mergers with Duke Energy and Progress Energy[8] and Piedmont Corporation (Piedmont),[9] there are a few commitments made by Duke Energy Kentucky as it relates to the implications of these mergers on retail rates.

Q. PLEASE LIST THE COMMITMENTS THAT RELATE TO RATEMAKING AND COST RECOVERY AND EXPLAIN HOW THE COMPANY HAS COMPLIED WITH THESE COMMITMENTS IN THIS CASE?

A. As part of the resolution of Case No. 2011-0124, Duke Energy Kentucky made numerous commitments. I am addressing the specific commitments that touch on the Company's rate making and cost recovery:

1) Commitment 3: The payment of Progress Energy Stock shall be excluded from the books of Duke Energy Kentucky for retail ratemaking

[8] *In the Matter of the Joint Application of Duke Energy Corporation, Cinergy Corp., Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc., Diamond Acquisitions Corporation, and Progress Energy Inc., for Approval of the indirect Transfer of Control of Duke Energy Kentucky, Inc.,* Case No. 2011-00124 (Ky. P.S.C. Oct. 28, 2011).
[9] *In the Matter of the Application of Duke Energy Kentucky, Inc., for a Declaratory Order,* Case No. 2015-00413 (Ky. P.S.C. March 7, 2016).

purpose. The Company has not included any such payments in the Company's test year revenue requirement.

2) Commitment No. 4: Any acquisition premium paid by Duke Energy for the Progress Energy stock shall not be pushed down to Duke Energy Kentucky. The Company has not included any such payments in its test year revenue requirement.

3) Commitment No. 5: No change in control payments shall be allocated to Duke Energy Kentucky retail rate payers. The Company has not included any such payments in its test year revenue requirement.

4) Commitment No. 14: The Commission shall have ongoing jurisdiction over the Company's capital structure, financing and cost of capital. The Company has presented its capital structure and costs of capital for the Commission's review in this proceeding.

5) Commitment No. 15: The merger will have no adverse impact on the base rates or the operation of the fuel adjustment clause, gas cost recovery and demand side management clause of Duke Energy Kentucky. There are no such adverse impacts caused by the merger.

6) Commitment No. 16: Duke Energy Kentucky will not seek a higher rate or return on equity than would have been sought if the merger transaction had not occurred. Duke Energy Kentucky presents the direct testimony of Roger A. Morin Ph.D., whose analysis supports the Company's requested return on equity.

7) Commitment No. 17: The accounting and ratemaking treatments of Duke Energy Kentucky's excess accumulated deferred income taxes (ADITs) will not be affected by the merger of Duke Energy and Progress Energy. As demonstrated by the Company's application in this proceeding, there has been no impact to the Company's excess accumulated deferred income taxes related to the merger with Progress Energy.

8) Commitment No. 22, Duke Energy Kentucky will pay dividends only out of retained earnings and to maintain a capital structure that maintains a minimum of thirty-five (35) percent equity. As demonstrated by its application, the Company has maintained an equity ratio that is greater than 35 percent equity. Further, the Company has only paid its dividends out of retained earnings.

9) Commitment No. 44, if the merger between Duke Energy and Progress Energy was not completed, Kentucky customers will not bear any costs of the failed transaction. As the Commission is aware, the merger between Duke Energy and Progress Energy was completed; so, there were no termination payments made or received. This commitment is now moot.

10) Commitment 47, Duke Energy Kentucky committed to aggressively pursue cost-effective demand-side management (DSM) and energy efficiency (EE) programs and to deploy such programs using industry best practices in Kentucky. The Company continues to evaluate and

offer cost effective DSM and EE programs, which are filed at least annually with the Commission.

11) Commitment 49, no costs to achieve the merger transaction will be recovered from Duke Energy Kentucky ratepayers. As evidenced by the Company's filing, no costs to achieve the merger transactions have been included in the Company's application.

In Case No. 2015-00413, related to the merger between Duke Energy and Piedmont Natural Gas Company, Duke Energy Kentucky reasserted its commitment that in future rate cases, it will not seek a higher rate of return on equity than would have been sought if the proposed acquisition of Piedmont had not occurred. In the Company's last electric base rate case, Case No. 2017-00321, the Company addressed these commitments and confirmed its compliance with same. The Company's Application includes the Direct Testimony of Dr. Roger A. Morin to support the Company's requested return on equity in this proceeding. Dr. Morin's testimony and recommended range of a reasonable return is accompanied by a thorough analysis that is not reliant upon the Company's history of mergers.

VI. REASONABLENESS OF REQUEST

Q. IS THE COMPANY'S REQUESTED RATE RELIEF REASONABLE?

A. Yes. Duke Energy Kentucky's retail electric rates are currently the lowest in the Commonwealth and among the lowest in the country. Even after the increased proposed in this Application, the Company's retail rates will continue to be very competitive with other Kentucky investor-owned utilities and much lower than the national average. That enviable position owes, in part, to the Company's focus on cost control and, in part, to the Commission's foresight in encouraging Duke Energy Kentucky to acquire its own generation near the beginning of this century. The low-cost generation acquired at that time has been a significant factor in Duke Energy Kentucky maintaining its low rates over the years.

VII. FILING REQUIREMENTS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE FR 16(1)(b)(1).

A. FR 16(1)(b)(1) is Duke Energy Kentucky's statement of the reasons for the proposed increase.

Q. PLEASE DESCRIBE FR 16(9).

A. FR 16(9) is Duke Energy Kentucky's acknowledgement that it understands that its application will not be accepted for filing until it has cured any deficiencies as determined by the Commission.

VIII. CONCLUSION

Q. HAVE YOU REVIEWED DUKE ENERGY KENTUCKY'S APPLICATION IN THESE PROCEEDINGS?

A. Yes. I have also reviewed the testimony and attachments of all Company witnesses. I believe that the Company's total electric revenue requirement is properly computed, the costs of service are properly allocated to customer classes, and the rate design is equitable.

Q. DO YOU BELIEVE DUKE ENERGY KENTUCKY'S RATE REQUEST IS REASONABLE?

A. Yes.

Q. WERE ATTACHMENTS WDW-1, FR 16(1)(b)(1) AND FR 16(9) PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, William Don Wathen Jr., Director of Rates & Regulatory Strategy, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

William Don Wathen Jr., Affiant

Subscribed and sworn to before me by William Don Wathen Jr., on this 30th day of August, 2019.

NOTARY PUBLIC

My Commission Expires: July 8, 2022

NOTARY PUBLIC STATE OF OHIO

E. MINNA ROLFES-ADKINS
Notary Public, State of Ohio
My Commission Expires
July 8, 2022

Schedule 1

DUKE ENERGY KENTUCKY
FUEL ADJUSTMENT CLAUSE SCHEDULE

Twelve Month Average - Expense Month: **July 20XX**

Line No.	Description		Amount	Rate ($/kWh)
1	Fuel F_m (Schedule 2, Line K)		$ -	
2	Sales S_m (Schedule 3, Line C)	÷	-	-
3	Base Fuel Rate (F_b/S_b) per PSC Order in Case No. 2017-00005		(-)	-
4	Fuel Adjustment Clause Rate (Line 2 - Line 3)			-

Effective Date for Billing: ______________________

Submitted by: ______________________

Title: ______________________

Date Submitted: ______________________

Schedule 2

DUKE ENERGY KENTUCKY
FUEL COST SCHEDULE

Twelve Month Average - Expense Month: July 20XX

		Dollars ($)
A. Company Generation		
Coal Burned	(+)	$ -
Oil Burned	(+)	-
Gas Burned	(+)	-
Net Fuel Related RTO Billing Line Items	(-)	-
Fuel (assigned cost during Forced Outage[(a)])	(+)	-
Fuel (substitute cost during Forced Outage[(a)])	(-)	-
Sub-Total		$ -
B. Purchases		
Economy Purchases	(+)	$ -
Other Purchases	(+)	-
Other Purchases (substitute for Forced Outage[(a)])	(-)	-
Less purchases above highest cost units	(-)	-
Sub-Total		$ -
C. Non-Native Sales Fuel Costs	(-)	$ -
D. Total Fuel Costs (A + B - C)	(+)	$ - (b)
E. Total Company Over or (Under) Recovery from Schedule 5, Line 14	(-)	$ -
F. Adjustment indicating the difference in actual fuel cost for the month of June 20XX and the estimated cost orginally reported $x,xxx,xxx (actual) - $x,xxx,xxx (estimate)	(+)	$ -
G. RTO Resettlements for prior periods from Schedule 6, Line G	(+)	$ -
H. Prior Period Correction	(+)	$ -
I. Deferral of Current Purchased Power Costs	(-)	$ -
J. Amount of Deferred Purchased Power Costs included in the filing	(+)	$ -
K. Grand Total Fuel Cost (D - E + F + G + H - I + J)		$ -

Note: (a) Forced Outage as defined in 807 KAR 5:056.
(b) Estimated - to be trued up in the filing next month

Schedule 3

DUKE ENERGY KENTUCKY
SALES SCHEDULE

Twelve Month Average - Expense Month: July 20XX

		Kilowatt-Hours Current Month
A. Generation (Net)	(+)	-
Purchases Including Interchange-In	(+)	-
Sub-Total		-
B. Pumped Storage Energy	(+)	-
Non-Native Sales Including Interchange Out	(+)	-
System Losses [(a)]	(+)	-
Sub-Total		-
C. Total Sales (A - B)		-

Note: [(a)] Average of prior 12 months.

Schedule 4

DUKE ENERGY KENTUCKY
FINAL FUEL COST SCHEDULE

Twelve Month Average - Expense Month: June 20XX

		Dollars ($)
A. Company Generation		
Coal Burned	(+)	$ -
Oil Burned	(+)	-
Gas Burned	(+)	-
Net Fuel Related RTO Billing Line Items	(-)	-
Fuel (assigned cost during Forced Outage[a])	(+)	-
Fuel (substitute cost during Forced Outage[a])	(-)	-
Sub-Total		$ -
B. Purchases		
Economy Purchases	(+)	$ -
Other Purchases	(+)	-
Other Purchases (substitute for Forced Outage[a])	(-)	-
Less purchases above highest cost units	(-)	-
Sub-Total		$ -
C. Non-Native Sales Fuel Costs	(-)	$ -
D. Total Fuel Costs (A + B - C)		$ -

Note: [a] Forced Outage as defined in 807 KAR 5:056.

Schedule 5

DUKE ENERGY KENTUCKY
OVER OR (UNDER) RECOVERY SCHEDULE

Expense Month: May 20XX

Line No.	Description			
1	FAC Rate Billed ($/kWh)	(+)		0.000000
2	Retail kWh Billed at Above Rate	(x)		-
3	FAC Revenue/(Refund) (Line 1 * Line 2)		$	-
4	kWh Used to Determine Last FAC Rate Billed	(+)		-
5	Non-Jurisdictional kWh included in Line 4	(-)		-
6	Kentucky Jurisdictional kWh Included in Line 4 (Line 4 - Line 5)			-
7	Recoverable FAC Revenue/(Refund) (Line 1 * Line 6)		$	-
8	Over or (Under) (Line 3 - Line 7)		$	-
9	Total Sales (Schedule 3, Line C)	(-)		-
10	Kentucky Jurisdictional Sales	(÷)		-
11	Ratio of Total Sales to KY Jursidictional Sales (Line 9 ÷ Line 10)			-
12	Total Company Over or (Under) Recovery (Line 8 * Line 11)	(+)	$	-
13	Amount Over or (Under) Recovered in prior filings	(-)	$	-
14	Total Company Over or (Under) Recovery		$	-

Schedule 6

DUKE ENERGY KENTUCKY
REGIONAL TRANSMISSION ORGANIZATION RESETTLEMENTS
FUEL COST SCHEDULE

Twelve Month Average - Expense Month: March 20XX

			Dollars ($)
A. Company Generation			
Coal Burned	(+)	$	-
Oil Burned	(+)		-
Gas Burned	(+)		-
Net Fuel Related RTO Billing Line Items	(-)		-
Fuel (assigned cost during Forced Outage[a])	(+)		-
Fuel (substitute cost during Forced Outage[a])	(-)		-
Sub-Total		$	-
B. Purchases			
Economy Purchases	(+)	$	-
Other Purchases	(+)		-
Other Purchases (substitute for Forced Outage[a])	(-)		-
Less purchases above highest cost units	(-)		-
Sub-Total		$	-
C. Non-Native Sales Fuel Costs	(-)	$	-
D. Total Fuel Costs (A + B - C)		$	-
E. Total Fuel Costs Previously Reported	(-)	$	-
F. Prior Period Adjustment	(+)	$	-
G. Adjustment due to PJM Resettlements		$	-

Note: [a] Forced Outage as defined in 807 KAR 5:056.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Electric Rates; 2) Approval of New Tariffs; 3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 4) All Other Required Approvals and Relief.	)))))))	Case No. 2019-00271

DIRECT TESTIMONY OF

DANIELLE L. WEATHERSTON

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

September 3, 2019

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Danielle L. Weatherston and my business address is 550 South Tryon Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS), as Manager Accounting II. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky or Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I graduated from Indiana State University with a Bachelor of Science in Accounting and from Ball State University with a Master of Arts in Business Education. I am also a certified public accountant in Indiana. I have held various accounting roles at Sony Disc Manufacturing and Hill-Rom in Indiana, prior to joining Duke Energy. At Duke Energy I have worked in various groups such as corporate accounting, regulated accounting, and commercial power before accepting my current role as Manager Accounting II in Charlotte.

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS MANAGER ACCOUNTING II.

A. I am responsible for maintaining the books of account and reporting the financial position and the results of electric operations for Duke Energy's public utility operating companies in Ohio and Kentucky.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. No.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A. My testimony in this proceeding addresses the various capital and operating expenditures and accounting adjustments to Duke Energy Kentucky's books of account in support of Duke Energy Kentucky's application in this proceeding. I discuss the accounting treatment being requested in this proceeding for two categories of regulatory assets/liabilities as I will discuss further in my testimony. I sponsor the historic data in Schedule B-8 provided in satisfaction of Filing Requirement FR 16(8)(b); and Filing Requirements FR 12(2)(i), FR 16(7)(i), FR 16(7)(k), FR 16(7)(m), FR 16(7)(n), FR 16(7)(o), FR 16(7)(p), and FR 16(7)(q). Finally, I also sponsor the historic data on Schedules I-1 through I-5 in response to FR 16(8)(i), and Schedule K in response to FR 16(8)(k).

II. OVERVIEW OF DUKE ENERGY KENTUCKY'S ACCOUNTING RECORDS

Q. ARE YOU FAMILIAR WITH THE ACCOUNTING PROCEDURES AND BOOKS OF ACCOUNT OF DUKE ENERGY KENTUCKY?

A. Yes. The books of account for Duke Energy Kentucky's regulated business follow the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission (FERC).

Q. ARE THE BOOKS OF ACCOUNT FOR THE ELECTRIC BUSINESS OF DUKE ENERGY KENTUCKY PREPARED AT YOUR DIRECTION AND UNDER YOUR SUPERVISION?

A. Yes.

Q. ARE THE CAPITAL AND OPERATING EXPENDITURES REPRESENTED ON DUKE ENERGY KENTUCKY'S BOOKS OF ACCOUNT ACCURATE AND REASONABLE?

A. Yes. Duke Energy Kentucky has various budgeting, planning, and review procedures in place to establish and monitor the capital and operating budgets, as well as actual expenditures. The system of internal accounting controls provides reasonable assurance that all transactions are executed in accordance with management's authorization and are recorded properly.

The system of internal accounting controls is annually reviewed, tested, and documented by Duke Energy Kentucky to provide reasonable assurance that amounts recorded on the books and records of the Company are accurate and proper. In addition, independent certified public accountants perform an annual audit to provide assurance that internal accounting controls are operating effectively and that Duke Energy Kentucky's financial statements are materially accurate.

III. ACCOUNTING TREATMENT

Q. PLEASE BRIEFLY DESCRIBE THE ACCOUNTING TREATMENT THE COMPANY IS REQUESTING IN THIS PROCEEDING.

A. As part of this proceeding, Duke Energy Kentucky is seeking Commission authorization to create a major storm deferral mechanism (asset and liability as necessary) for the differences between the actual amounts incurred for major storm restoration costs each year and the amounts established in base rates for those costs in this proceeding. The deferral mechanism proposed will allow the Company to defer the actual annual operation and maintenance (O&M) expense related to major storm restoration above or below the amount being recovered in base rates. The Company will either credit or debit the balance on an annual basis, over or under the amount in base rates for amortization in a future proceeding.

Similarly, the Company is seeking Commission authorization to create a deferral for O&M expense associated with its proposed electric vehicle (EV) program as further described by Company witness Lang Reynolds in his testimony.

In addition to the request for regulatory asset treatment for this item, Duke Energy Kentucky will continue recording deferrals, per normal regulatory accounting standards, for previously approved deferral mechanisms (*e.g.*, replacement power and generation outage expense[1]), as well as its various riders that are subject to being trued-up. Over- or under-recovery of costs are flowed through riders such as the fuel adjustment clause, environmental surcharge, demand-side management and the profit sharing mechanism and, therefore, the Company records the amounts to be trued-up in future periods as regulatory assets or regulatory liabilities.

[1] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc., for: 1) Adjustment of the electric Rates; 2) Approval of an Environmental Compliance Plan and Surcharge Mechanism; 3) Approval of New Tariffs; 4) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 5) All Other Required Approvals and Relief,* Case No. 2017-00321 (Ky. P.S.C. Order pp. 16, 20) (April 13, 2018).

Q. WHY IS IT APPROPRIATE TO CREATE A REGULATORY ASSET/LIABILITY FOR MAJOR STORMS?

A. The Commission has exercised its discretion to approve regulatory assets where a utility has incurred: (1) an extraordinary, nonrecurring expense which could not have reasonably been anticipated or included in the utility's planning; (2) an expense resulting from a statutory or administrative directive; (3) an expense in relation to an industry sponsored initiative; or (4) an extraordinary or nonrecurring expense that over time will result in a saving that fully offsets the costs.

The costs for which the Company is seeking to create the regulatory deferral for major storm O&M expenses represent incremental costs or savings compared to normalized or expected levels, and as such they effectively constitute extraordinary non-recurring expenses (or savings) which could not have reasonably been anticipated or included in the utility's planning. The actual costs of these items are unable to be planned or anticipated. Major storms cannot be predicted and are outside the Company's control. The Company has previously sought Commission authorization for deferrals when these major storm events occur. The most recent such event involved an unanticipated ice storm that occurred in November 2018.[2]

The Company's forecasted test year budget for major storms has been adjusted to reflect a representative (*i.e.,* average) level of expense. Deferral mechanisms balance the need for protecting customers from over paying for these

[2] *In the Matter of the Application of Duke Energy Kentucky, Inc for an Order Approving the Establishment of a Regulatory Asset*, Case No. 2018-00416 (Ky. P.S.C. Order) (March 25, 2019).

costs when the utility's actual costs incurred are below the levels used to establish base rates, and conversely mitigate the utility's risk to financial stability and performance during years where the Company's actual costs incurred are higher than those used to establish base rates.

Creating this mechanism will alleviate the need for the Company to file and the Commission to review multiple separate deferrals that may occur throughout the year. Additionally, it will reduce the Commission's burden in reviewing concurring applications from multiple utilities when these events occur. As history demonstrates, when a severe weather event impacts Kentucky, several utilities are impacted resulting in the Commission receiving deferral requests from multiple utilities. The proposed deferral mechanism will allow the Company to just create the regulatory asset if and when a major storm expense in a calendar year exceeds what is in base rates, and also credit against base rates when such annual expense is less than what may be included in rates.

Although Duke Energy Kentucky is relatively small, the swings from year to year in the costs of major storm outages causes volatility in the Company's earnings. The proposed deferral mechanisms are designed so that, over time, the balance should approach $0, but will prevent this volatile cost item from having a significant influence on the Company's earnings.

Q. HOW WILL THIS REGULATORY ASSET/LIABILITY WORK?

A. On an annual basis, the Company will track the actual costs of major storm outages against the base rate level established in this proceeding and will either debit a regulatory asset account (Account 182.3) or credit a regulatory liability account (Account 254), for the difference between the actual costs and the amounts in base rates. The balance of the regulatory asset or liability will accrue a carrying cost at the Company's long-term debt rate approved in this proceeding. The carrying costs will apply to any credit balance (*i.e.*, amounts owed to customers) or to any debit balance (*i.e.*, amounts owed to the Company) to maintain the symmetry and ensure that neither customer nor Company is deprived of the time value of money.

This regulatory asset or liability account will continue to accumulate until the next rate case when the Company will seek to include the then existing balance for recovery or refund in new base rates. The intent with this deferral is simply to provide assurance that the Company can recover its costs and customers pay no more or no less than the actual cost incurred for costs of major storm outages.

Q. WHY IS IT APPROPRIATE TO CREATE A REGULATORY ASSET FOR THE EV PROGRAM O&M?

A. As explained by Duke Energy Kentucky witness Reynolds, the Company is proposing a process for galvanizing the development of electric vehicle charging and passing any net revenues from Company-owned charging stations back to customers through its profit sharing mechanism, Rider PSM. The regulatory asset will ensure that only the actual costs will be recovered and that the Company does not over or under recover for these costs. The O&M costs to be included relate to incentives paid to qualifying customers under the program.

Q. HOW WILL THIS REGULATORY ASSET/LIABILITY WORK?

A. On a monthly basis, O&M expense will be recorded to a regulatory asset account (Account 182.3) as incurred. The balance of the regulatory asset will accrue a carrying cost at the Company's long-term debt rate approved in this proceeding.

This regulatory asset account will continue to accumulate until the next rate case when the Company will seek to include the then existing balance for recovery or refund in new base rates.

Q. WHY IS THE INCLUSION OF CARRYING CHARGES BASED UPON THE COMPANY'S COST OF DEBT APPROPRIATE?

A. The use of carrying costs simply represents the time-value of money being deferred for future recovery/crediting to customers. The cost of debt is a reasonable rate and represents the Company's borrowing rate if it were to seek funds elsewhere. These carrying costs will work both ways in that they would accrue on both the regulatory asset as well as the liability.

Pursuant to KRS 278.220, the system of accounts established by the Commission for keeping by the Company shall conform as nearly as practicable to the system adopted by FERC. Relevant precedent from FERC reflects the fact that jurisdictional utilities are regularly authorized to accrue a carrying charge on a regulatory asset until the regulatory asset is included in rate base. Such an accrual is appropriate because the subject costs are necessarily incurred by the Company. Guidance from FERC and prudent accounting principles support the inclusion of carrying costs as part of the subject regulatory asset until the Commission determines whether the deferred costs are recoverable.

Q. PLEASE DESCRIBE THE ACCOUNTING/JOURNAL ENTRIES THAT WILL BE USED TO CREATE THESE DEFERRALS.

A. For the major storm deferral, if the actual costs are higher than those in base rates, the Company would debit a regulatory asset and credit various O&M accounts, for example:

Debit Account 182.3

Credit Account 5XX

If however, the actual costs are lower than those recovered in base rates, the Company would debit expense and credit a regulatory liability, for example:

Debit Account 45XX

Credit Account 254

Q. YOU MENTIONED THAT THE COMPANY IS CONTINUING ITS PREVIOUSLY APPROVED DEFERRAL MECHANISMS FOR PLANNED OUTAGES AND PURCHASED POWER EXPENSE IN THIS PROCEEDING. WHAT ARE THE BALANCES OF THESE ASSETS?

A. The balance as of June 30, 2019 related to the planned outages is a net asset of $2,066,087. The June 30, 2019 balance related to the deferral of purchased power expense is a net asset of $325,322. As provided to me by Company witness Jacobi, the balance in the deferred planned outage account is projected to be a net liability of $642,370 as of March 31, 2020. The balance in the deferred purchase power account is projected to be a net asset of $342,432 as of March 31, 2020.

Q. IS DUKE ENERGY KENTUCKY PROPOSING TO ADJUST THE AMOUNTS IN BASE RATES FOR EITHER OF THESE TWO MECHANISMS FOR PURPOSES OF MEASURING INCREMENTAL EXPENSE?

A. No.

Q. IS DUKE ENERGY PROPOSING ANY AMORTIZATION PERIOD FOR THESE BALANCES IN THIS CASE?

A. No.

IV. SCHEDULES AND FILING REQUIREMENTS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE B-8.

A. Schedule B-8 contains the Comparative Balance Sheets for Duke Energy Kentucky for the most recent five calendar years, the base period and the forecasted period.

Q. PLEASE DESCRIBE FR 12(2)(i).

A. FR 12(2)(i) consists of Duke Energy Kentucky's detailed income statement and balance sheet for the period ended June 30, 2019.

Q. PLEASE DESCRIBE FR 16(7)(i).

A. FR 16(7)(i) consists of the Company's most recent Federal Energy Regulatory Commission (FERC) audit report, reporting the results of the Company's last FERC audit.

Q. PLEASE DESCRIBE FR 16(7)(k).

A. FR 16(7)(k) consists of Duke Energy Kentucky's most recent FERC Form 1 and FERC Form 2.

Q. PLEASE DESCRIBE FR 16(7)(m).

A. FR 16(7)(m) consists of Duke Energy Kentucky's current chart of accounts.

Q. PLEASE DESCRIBE FR 16(7)(n).

A. FR 16(7)(n) consists of the latest twelve months of the monthly management reports providing financial results of the Company's operations in comparison to the forecast.

Q. PLEASE DESCRIBE FR 16(7)(o).

A. FR 16(7)(o) consists of management's monthly budget variance reports for Duke Energy Kentucky electric operations.

Q. PLEASE DESCRIBE FR 16(7)(p).

A. FR 16(7)(p) consists of Duke Energy Kentucky's most recent Form 10-K and Form 8-K as well as those forms for the last two years. Additionally, the Company is submitting copies of its Form 10-Qs that were filed during the past six quarters.

Q. PLEASE DESCRIBE FR 16(7)(q).

A. FR 16(7)(q) consists of the independent auditor's annual opinion report for Duke Energy Kentucky. The auditor did not note any material weaknesses in internal controls.

Q. PLEASE DESCRIBE THE INFORMATION YOU SUPPORT IN RESPONSE TO FR 16(8)(i), SCHEDULES I-1 THROUGH I-5.

A. Schedule I-1 contains comparative income statements for the Company. Schedules I-2.1 through I-5 contains comparative revenue and sales statistical information as required by the Commission's filing requirements. I support the historic information contained on these schedules.

Q. PLEASE DESCRIBE THE INFORMATION YOU SUPPORT IN RESPONSE TO FR 16(8)(k), THE "K" SCHEDULES.

A. The information I support in response to FR 16(8)(k) consists of the Consolidated Condensed Income Statement for Duke Energy Kentucky. I provided this information to Mr. Jacobi for his use in preparation of the forecast.

V. CONCLUSION

Q. WAS THE INFORMATION YOU SPONSORED IN SCHEDULES B-8, I-1, I-2.1, I-3, I-4, I-5 AND K AS WELL AS FR 12(2)(i), FR 16(7)(i), FR 16(7)(k), FR 16(7)(m), FR 16(7)(n), FR 16(7)(o), FR 16(7)(p), FR 16(7)(q), FR16(8)(i), AND FR 16(8)(k) PREPARED BY YOU OR UNDER YOUR DIRECTION AND SUPERVISION?

A. Yes.

Q. IS THE INFORMATION YOU SPONSORED IN THOSE SCHEDULES AND FILING REQUIREMENTS ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

The undersigned, Danielle L. Weatherston, Manager Accounting II, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of her knowledge, information and belief.

Danielle L. Weatherston

Danielle L. Weatherston, Affiant

Subscribed and sworn to before me by Danielle L. Weatherston on this 9th day of August, 2019.

GEORGIANNA A ANDERSON
NOTARY PUBLIC
MECKLENBURG COUNTY, NC

NOTARY PUBLIC

My Commission Expires: August 18, 2021

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Electric Rates; 2) Approval of New Tariffs; 3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; and 4) All Other Required Approvals and Relief.	)))))))	Case No. 2019-00271

DIRECT TESTIMONY OF

JAMES E. ZIOLKOWSKI

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

September 3, 2019

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James E. Ziolkowski, and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS) as Director, Rates & Regulatory Planning. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science degree in Mechanical Engineering from the U.S. Naval Academy in 1979 and a Master of Business Administration degree from Miami University in 1988. I am also a licensed Professional Engineer in the state of Ohio. I received certification as a Chartered Industrial Gas Consultant in 1994 from the Institute of Gas Technology and the American Gas Association. I have attended the EUCI Cost of Service seminar.

After graduating from the Naval Academy, I attended the Naval Nuclear Power School and other follow-on schools. I served as a nuclear-trained officer on various ships in the U.S. Navy through 1986. From 1988 through 1990, I worked for Mobil Oil Corporation as a Marine Marketing Representative in the New York City area.

I joined The Cincinnati Gas & Electric Company n/k/a Duke Energy Ohio, Inc., (Duke Energy Ohio) in 1990 as a Product Applications Engineer, in which capacity I designed and managed some of Duke Energy Ohio's demand side management programs, including Energy Audits and Interruptible Rates. From 1996 until 1998, I was an Account Engineer and worked with large customers to resolve various service-related issues, particularly in the areas of billing, metering, and demand management. In 1998, I joined the Rate Department, where I focused on rate design and tariff administration. I was appointed to my current position in January 2014.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS DIRECTOR RATES & REGULATORY PLANNING.

A. As Director Rates & Regulatory Planning, I am responsible for cost of service studies, tariff administration, billing, and revenue reporting issues in Kentucky and Ohio. I also prepare filings to modify charges and terms in the retail tariffs of both Duke Energy Kentucky and Duke Energy Ohio, and I develop rates for new services. During major rate cases, I help with the design of the new base rates. Additionally, I frequently work with Duke Energy Kentucky's and Duke Energy Ohio's customer contact and billing personnel to answer rate-related questions, and to apply the retail tariffs to specific situations. Occasionally, I meet with customers and Company representatives to explain rates or provide rate training. I also prepare reports that are required by regulatory authorities.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I sponsor Schedules B-7, B-7.1, B-7.2, D-3, D-4, and D-5 in response to Filing Requirement FR 16(8)(b) and FR 16(8)(d), respectively. I also support the electric cost of service studies identified in response to Filing Requirement FR 16(7)(v).

II. SCHEDULES AND FILING REQUIREMENTS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE SCHEDULES B-7 AND D-3.

A. These schedules report the allocation factors used to determine the jurisdictional percentages of electric plant, expenses, *etc*., necessary to allocate the amount of the proposed new electric rates between jurisdictional and non-jurisdictional customers. These schedules indicate that 100 percent of the costs are jurisdictional, because Duke Energy Kentucky does not provide service to any non-jurisdictional electric customers.

Q. PLEASE DESCRIBE SCHEDULES B-7.1 AND D-4.

A. These schedules are the support for Schedules B-7 and D-3 described above. They provide the basis for the actual jurisdictional allocation factors.

Q. PLEASE DESCRIBE SCHEDULES B-7.2 AND D-5.

A. These schedules explain changes made to the jurisdictional allocation from the Company's prior electric rate proceeding in Case No. 2017-00321.

Q. PLEASE DESCRIBE FR 16(7)(v).

A. FR16(7)(v) contains 25 schedules: Schedules FR16(7)(v)-1 through FR 16(7)(v)-25 which represent the fully allocated, embedded cost of service study by rate class. I discuss these filing requirements in greater detail in my testimony below.

III. COST OF SERVICE STUDIES

Q. WHAT IS THE PURPOSE OF A COST-OF-SERVICE STUDY?

A. A cost-of-service study is an analytical tool used in traditional utility rate design to allocate costs to different classes of customers. When the process of preparing a cost-of-service study is completed, the resulting class cost-of-service study can (1) assist in determining the revenue requirement for the services offered by a utility; (2) analyze, at a very detailed level, the costs imposed on the utility's system by different classes of customers; (3) show the total costs the company incurs in serving each retail rate class, as well as the rate of return on capitalization earned from each class during the test year; and (4) establish cost responsibility that makes it possible to determine just and reasonable rates based on costs.

Q. WHAT INFORMATION DID THE COMPANY USE TO DEVELOP THE COST ALLOCATION FACTORS FOR THE COST OF SERVICE STUDIES USED IN THIS PROCEEDING?

A. The test year for this proceeding is the twelve months ending March 31, 2021, which is comprised of forecasted test period data. The development of the test year allocation factors is primarily based on historical data for the twelve months ended December 2018. Otherwise, forecasted test year information was used as appropriate. I will discuss the actual development of the various allocation factors used in this proceeding later in my testimony.

Q. HAS THE COMPANY PREPARED MULTIPLE COSTS OF SERVICE STUDIES?

A. Yes. The Company prepared three Class Cost of Service Studies that contain essentially the same data, except that different methodologies were used to develop the allocation factor for the demand component of Production-related costs. The demand allocation methods are as follows: (1) the Average of the Twelve (12) Coincident Peaks (12 CP) method; (2) the Average and Excess (A&E) method; and (3) the Production Stacking method.

Q. PLEASE DESCRIBE THE DEMAND METHODOLOGIES USED IN THESE COST OF SERVICE STUDIES.

A. The 12 CP method is designed to allocate capacity related costs to the customer classes using the system during maximum system load. The allocation of capacity costs to each customer class is based on the class load contribution to the maximum peak, at the time of peak, regardless of what their respective loads were at other times of the day.

The A&E method, also referred to as the "used and unused capacity method," recognizes both the class average use of the system capacity and the class contribution to the capacity required to meet the maximum system load. The capacity costs are allocated in a two-part formula. Attachment JEZ-3 shows the calculation of the production allocator K201 using the A&E method.

The "class-used" capacity component is the proportion of the class's respective average hourly kilowatt-hour (kWh) sales to the total average hourly sales. The "class-unused" capacity is the class excess hourly peak demand contribution ratio, which is the difference between the class average hourly demands and the hourly class peak demands. The used and unused capacity factors for each class are combined to allocate capacity costs to the respective rate classes.

The Production Stacking method is a time-differentiated method that allocates baseload plant costs on energy (kWh) and peaker plants costs on peak demands. As shown in Attachment JEZ-4, net plant associated with the East Bend plant is allocated to each rate class based on annual kWh. Net plant associated with the Woodsdale facility is allocated to each rate class based on 12 CP. The K201 production allocator combines both allocations.

Q. DID YOU COMPARE THE CLASS DEMAND RATIOS FOR EACH OF THE DEMAND METHODOLOGIES?

A. Yes. Attachment JEZ-1 shows the demand ratios for the different methods. Attachment JEZ-2 shows the rate impacts using the different methods.

Q. BASED UPON YOUR COMPARISON OF THE 12 CP, A&E AND PRODUCTION STACKING METHODOLOGIES, WHICH DO YOU RECOMMEND THE COMMISSION APPROVE IN THIS PROCEEDING?

A. I recommend using the Average 12 CP methodology for three reasons. First, the 12 CP method is generally accepted in the utility industry and was approved by the Commission in the Company's last electric base rate case. The 12 CP demand methodology has been used in other jurisdictions including Duke Energy Ohio's and Duke Energy Indiana's rate proceedings. Second, this methodology recognizes that Duke Energy Kentucky's current generating facilities are in place precisely to meet the monthly maximum peak loads of customers. Third, there was no compelling reason to adopt a new methodology. Rate subsidies will generally occur among customer classes, regardless of the cost of service methodology used. Changing to either the A&E or Production Stacking methodology will not change this fact. The

Company believes that the use of the 12 CP methodology is the appropriate means to align capacity costs with the customer classes that are imposing the costs.

Q. PLEASE DESCRIBE THE ELECTRIC COST OF SERVICE STUDY.

A. The electric cost of service study contained in Schedules FR-16(7)(v)-1 through FR-16(7)(v)-25 is an embedded, fully allocated cost of service study by rate class for the test period ended March 31, 2021. In preparing the cost of service study, I used information provided by other Company employees. The cost of service study functionalizes, classifies, and allocates cost items such as plant investment, operating expenses, and taxes to the various customer classes and calculates the revenue responsibility of each class. Finally, the cost of service study calculates the revenue responsibility of each rate class required to generate the recommended rate of return.

Q. PLEASE DESCRIBE HOW THE COST OF SERVICE STUDY IS ORGANIZED IN SCHEDULES FR-16(7)(v)-1 THROUGH SCHEDULE FR-16(7)(v)-25.

A. The schedules provided in the cost of service study are organized as shown in the table below. The detailed calculation and derivation of the allocation factors utilized in the cost of service study are included in the workpapers filed in these proceedings.

Table 1		
Schedule	Page No.	Description
Schedule 1	1	Summary of Results
Schedule 2	2	Gross Plant in Service
Schedule 3	3	Depreciation Reserve
Schedule 4	4	Net Electric Plant in Service
Schedule 5	5	Subtractive Rate Base Adjustments
Schedule 5.1	6	Additive Rate Base Adjustments
Schedule 5.2	7	Working Capital
Schedule 6	8	O&M Expenses
Schedule 6.1	9	O&M Expenses
Schedule 7	10	Depreciation Expense
Schedule 8	11	Taxes Other Than Income Taxes
Schedule 9	12	Federal Income Tax Based on Return
Schedule 9.1	13	State Income Tax Based on Return
Schedule 10	14	Cost of Service Computation
Schedule 11	15	ROR, Tax Rates & Special Factors
Schedule 12	16	Allocation Factors
Schedule 12.1	17	Allocation Factors
Schedule 12.2	18	Allocation Factors

Q. WHAT JURISDICTIONAL RATE CLASSES WERE USED IN THE CLASS COST OF SERVICE STUDY?

A. The cost of service is organized showing the following rate classes:

Residential: (Rate RS);

Secondary Distribution Small: (Rates DS, GS-FL, EH and SP);

Secondary Distribution Large: (Rates DT);

Primary Distribution: (Rate DT and DP);

Transmission: (Rates TT);

Lighting: (Rates NSU, NSP, OL, SC, SE, SL, TL and UOLS combined); and

Other: (Flood Control Water Pumping Stations).

Q. WHAT ARE THE ELEMENTS OF A COST OF SERVICE STUDY?

A. Much like the components of the overall revenue requirement, the elements of a cost of service study consist of the following elements, which are allocated to each function, classification and rate class:

Operating & Maintenance Expense

\+ Depreciation

\+ Other Taxes

\+ Federal Income Tax

\+ State Income Tax

\+ Return (Jurisdictional Capitalization x Rate of Return (ROR))

\- <u>Revenue Credits</u>

= Class Revenue Requirement or Cost of Service

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-1.

A. Schedule FR-16(7)(v)-1 is a functional cost of service study that separates the cost items into the production, transmission and distribution functions.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-2.

A. Schedule FR-16(7)(v)-2 is a classified cost of service study that separates the cost items contained in the production function on Schedule FR-16(7)(v)-1 between the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-3.

A. Schedule FR-16(7)(v)-3 is an allocated cost of service study that allocates the cost items contained in the production demand classification from Schedule FR-16(7)(v)-2 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-4.

A. Schedule FR-16(7)(v)-4 is an allocated cost of service study that allocates the cost items contained in the production energy classification from Schedule FR-16(7)(v)-2 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-5.

A. Schedule FR-16(7)(v)-5 is an allocated cost of service study that allocates the cost items contained in the production customer classification from Schedule FR-16(7)(v)-2 to the various rate groups. As is evident on the schedule, there are no production costs classified as customer related.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-6.

A. Schedule FR-16(7)(v)-6 is a classified cost of service study that separates the cost items contained in the transmission function on Schedule FR-16(7)(v)-1 between the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-7.

A. Schedule FR-16(7)(v)-7 is an allocated cost of service study that allocates the cost items contained in the transmission demand classification from Schedule FR-16(7)(v)-6 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-8.

A. Schedule FR-16(7)(v)-8 is an allocated cost of service study that allocates the cost items contained in the transmission energy classification from Schedule FR-16(7)(v)-6 to the various rate groups. As is evident on the schedule, there are no transmission costs classified as energy related.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-9.

A. Schedule FR-16(7)(v)-9 is an allocated cost of service study that allocates the cost items contained in the transmission customer classification from Schedule FR-16(7)(v)-6 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-10.

A. Schedule FR-16(7)(v)-10 is a classified cost of service study that separates the cost items contained in the distribution function on Schedule FR-16(7)(v)-1 between the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-11.

A. Schedule FR-16(7)(v)-11 is an allocated cost of service study that allocates the cost items contained in the distribution demand classification from Schedule FR-16(7)(v)-10 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-12.

A. Schedule FR-16(7)(v)-12 is an allocated cost of service study that allocates the cost items contained in the distribution energy classification from Schedule FR-16(7)(v)-10 to the various rate groups. As is evident on the schedule, there are no distribution costs classified as energy related.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-13.

A. Schedule FR-16(7)(v)-13 is an allocated cost of service study that allocates the cost items contained in the distribution customer classification from Schedule FR-16(7)(v)-10 to the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-14.

A. Schedule FR-16(7)(v)-14 is a total class cost of service study that sums the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-4, FR-16(7)(v)-5, FR-16(7)(v)-7, FR-16(7)(v)-8, FR-16(7)(v)-9, FR-16(7)(v)-11, FR-16(7)(v)-12 and FR-16(7)(v)-13, by the various rate groups.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-15.

A. Schedule FR-16(7)(v)-15 is a classified cost of service study for the residential class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-16.

A. Schedule FR-16(7)(v)-16 is a classified cost of service study for the Distribution Secondary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-17.

A. Schedule FR-16(7)(v)-17 is a classified cost of service study for the GSFL Secondary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-18.

A. Schedule FR-16(7)(v)-18 is a classified cost of service study for the EH Secondary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-

16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-19.

A. Schedule FR-16(7)(v)-19 is a classified cost of service study for the SP Secondary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-20.

A. Schedule FR-16(7)(v)-20 is a classified cost of service study for the DT Secondary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-21.

A. Schedule FR-16(7)(v)-21 is a classified cost of service study for the DT Primary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-22.

A. Schedule FR-16(7)(v)-22 is a classified cost of service study for the Distribution Primary class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-23.

A. Schedule FR-16(7)(v)-23 is a classified cost of service study for the Time-of-Day Rate for Service at Transmission Voltage (Rate TT) class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-24.

A. Schedule FR-16(7)(v)-24 is a classified cost of service study for the Lighting class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. PLEASE DESCRIBE SCHEDULE FR-16(7)(v)-25.

A. Schedule FR-16(7)(v)-25 is a classified cost of service study for the Other – Water Pumping class that shows the allocated costs from Schedules FR-16(7)(v)-3, FR-16(7)(v)-7 and FR-16(7)(v)-11, summarized by the demand, energy, and customer classifications.

Q. HOW DID YOU DEVELOP THE COST OF SERVICE STUDY THAT YOU USED TO ALLOCATE COSTS TO THE DIFFERENT RATE CLASSES?

A. First, I developed various allocation factors based on customer, energy usage, and demand statistics for the test period. Next, I functionalized costs into the specific utility functions, *i.e.,* production, transmission and distribution. I then classified the costs as demand, energy or customer related, or a combination in some instances. Lastly, I allocated the demand, energy and customer related costs to rate classes based on the cost causation guidelines published in the NARUC "Electric

Utility Cost Allocation Manual," my utility company experience, and my knowledge of cost of service studies.

A. Functionalizing Costs

Q. PLEASE EXPLAIN HOW YOU FUNCTIONALIZE COSTS.

A. The production function includes the costs associated with power generation and power purchases and their delivery to the bulk transmission system. The transmission function consists of costs associated with the high voltage system utilized for the bulk transmission of power to and from interconnected utilities to the load centers of the utility's system. The distribution function includes the radial distribution system that connects the transmission system and the ultimate customer.

The Company's accounting records use the Uniform System of Accounts of the Federal Energy Regulatory Commission (FERC). These accounts functionalize the Company's investment into the primary categories of production (generation), transmission, distribution, and general plant. Similarly, the Company's operating costs are categorized into production, transmission, distribution, customer services, and administrative and general (A&G) functions.

B. Classifying Costs

Q. PLEASE EXPLAIN THE CLASSIFICATION OF COSTS.

A. Next, functionalized costs are grouped according to their cost-causation characteristics. This process is known as classification of costs. Typically, these cost-causing characteristics are defined as demand-related, energy-related, or customer-related.

Q. PLEASE DEFINE DEMAND-RELATED COSTS.

A. Demand-related costs are fixed costs incurred regardless of the level of energy sales and have a direct relationship to the kilowatts (kW) of demand that customers place on the various segments of the system. Costs that are classified as demand-related include major portions of the Company's investment and related expenses in its production and transmission facilities and a significant portion of the investment and related expenses of its distribution system. Until the Company has the full ability to bill all customers based on demand (both from a technical and a regulatory perspective), the Company will continue to use fixed charges as a proxy for demand-based billing.

Q. PLEASE DEFINE ENERGY-RELATED COSTS.

A. Energy-related costs are costs incurred that vary in direct relationship to the amount of energy or kilowatt hours (kWh) generated and delivered. These costs are often referred to as variable costs. Fuel is an example of an energy-related cost.

Q. PLEASE DEFINE CUSTOMER-RELATED COSTS.

A. Customer-related costs are costs incurred primarily as a result of the number of customers being served. These fixed costs include items of investment and related expenses in functional categories such as metering, and costs associated with customer accounting and sales. Customer costs do not vary significantly with the customers' volume of usage, but are influenced more by factors such as number of customers.

C. Allocation of Costs

Q. PLEASE EXPLAIN HOW COSTS ARE ALLOCATED TO VARIOUS CUSTOMER CLASSES.

A. The allocation of costs is the process of multiplying the functionalized and classified costs by allocation factors, resulting in costs being assigned to customer classes. Some costs are directly assignable to a single class of customers. Most costs, however, are attributable to more than one type of customer. Costs are allocated to the various customer groups in relationship to how those customers influence the Company to incur the costs. This relationship is referred to as "cost causation." Specific allocation factors are developed that relate to the demand, energy, and customer classifications identified above, to accomplish a proper matching of the costs to the customer groups, based on cost causation.

Q. PLEASE DESCRIBE THE ALLOCATION METHODOLOGY YOU USED IN THIS PROCEEDING TO ALLOCATE DEMAND-RELATED COSTS.

A. Each customer class' cost responsibility (*i.e.*, the percentage of the demand related costs assigned to each customer class) is equal to the ratio of their demand in relation to the total demand placed on the system. The cost of service study supporting the Company's proposed rate design in this proceeding allocates production and transmission demand-related costs based upon the 12 monthly coincident peaks (12 CP).

Q. HOW WERE THE DEMAND VALUES DEVELOPED FROM COMPANY CUSTOMER LOAD RESEARCH DATA?

A. kWh sales and load research data for the twelve months ended December 31, 2018, were used to calculate the monthly peak contributions. The calculations of the monthly demands appear on pages 11 through 32 of work paper FR-16(7)(v). The following is an example of how the class group demand was calculated for rate RS for the month of December 2018.

Step 1 – Determine the average demand by dividing the total kWh by the number of hours in the month.

137,578,627 kWh ÷ 744 hours = 184,918 kW

Step 2 – Determine the coincident peak demand by dividing the average demand from Step 1 by the coincident peak load factor supplied by load research.

184,918 kW ÷ 69.04 percent = 267,834 kW

Step 3 – To determine the demand at generation, line losses are added by multiplying the coincident peak demand from step 2 by the loss factor.

267,834 x 1.0358 = 277,422 kW (with losses)

This process was followed for all customer classes for the twelve months of the test year to determine each class' monthly peak coincident with Duke Energy Kentucky's monthly system peak. I used a similar procedure to develop each class's diversified class peak and highest (single) non-coincident peak demands.

Q. PLEASE DESCRIBE HOW THE 12 CP DEMAND ALLOCATOR WAS USED TO ALLOCATE COSTS.

A. The 12 CP demand allocator was used to allocate Production and Transmission capacity related investments and expenses to the customer groups.

Q. PLEASE DESCRIBE THE METHODS USED TO ALLOCATE DISTRIBUTION RELATED COSTS TO THE VARIOUS RATE CLASSES.

A. Several different allocation factors were used to allocate distribution plant to the customer classes. First, distribution plant was grouped by the type of plant such as substations, poles, conductors, *etc.* Then it was determined whether each type is customer- or demand-related factor. Finally, each customer- or demand-related cost was allocated to rate class.

Substations are considered 100 percent demand-related and were allocated using the average class group coincident peak demand ratios for the twelve months ending December 31, 2018. This factor takes into consideration the load diversity by rate group at the distribution substation level.

Poles and conductors are allocated partially on demand and partially based on customer counts using the minimum size method.

Transformers were allocated between customer and demand using the minimum size method. Transformers, as well as other distribution plant facilities, are considered to have a customer component because the number of facilities needed on the system, are dependent on the number of customers. The remaining costs are demand-related. I allocated the demand portion of transformers among the customer classes using the maximum non-coincident peak load ratios. The maximum non-coincident peak demand allocator is appropriate because transformers are sized to meet the maximum demand and are close to the customer so there is little or no load diversity. I then allocated the customer portion of transformers among the customer classes based on the total number of customers.

Services are considered 100 percent customer-related and were allocated based on a weighted-average number of customers (K217). The weighting is based on an engineering analysis that prices various service drop costs based on demands. For example, it is twice as costly for a service drop at 100 kVA versus a service drop at 25 kVA. Customers with an average demand of 100 kVA are weighted at twice the cost of customers with an average demand of 25 kVA.

Other distribution and customer service related costs can be more directly associated with a customer statistic such as the cost of meters (K407), customer charge-offs (K411) and other customer-related studies. As an example, the investment in meters can be directly associated with the costs of metering the various customer groups (K407).

Street lights were directly assigned to the street lighting rate class.

Q. PLEASE DESCRIBE THE MINIMUM SIZE METHOD USED TO ALLOCATE TRANSFORMER COSTS BETWEEN CUSTOMER- AND DEMAND-RELATED COSTS.

A. The minimum size study is shown on Work Paper FR-16(7)(v), page 53. The minimum size method assumes that a minimum size distribution system can be built to serve the minimum load requirements of the customer. For transformers, the study involved determining the minimum size transformer currently installed by Duke Energy Kentucky. In this case, it is a 25 kVa transformer. Duke Energy Kentucky's 2018 average cost of a 25 kVa transformer was $1,633.

I used asset accounting records to determine the number of overhead and pad-mounted transformers installed each year from 1910 to 2018. I then used the Handy-Whitman Index for Utility Plant Materials (specifically line transformers) to calculate the cost per transformer for each of the years 1910 to 2018, beginning with a 2018 Handy-Whitman index of 995 and 2018 cost of $1,633. For each year, I multiplied the number of transformers by the cost per transformer to get the minimum size cost per year. I summarized each of the years 1910 to 2018 to arrive at the minimum size transformer cost of approximately $15 million. This was classified as a customer-related cost. The difference between this customer-related cost and the balance in FERC Line Transformer account 368 is the demand component, resulting in allocation factors of 24.53 percent to customer and 75.47 percent to demand. I allocated all transformer-related cost (plant, accumulated depreciation) to customer and demand using these factors.

Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE COMMON AND GENERAL PLANT.

A. I functionalized common and general plant based on functional salaries and wages as presented on pages 354-355 of Duke Energy Kentucky's 2018 FERC Form 1 annual report. I then used distribution kW and various weighted O&M expense ratios to allocate each function to customer classes.

Q. PLEASE EXPLAIN HOW YOU ALLOCATED A & G EXPENSES USING THIS METHODOLOGY.

A. I functionalized A&G expenses based on the same functional salaries and wages used for general and common plant. After I functionalized the expenses, I allocated the expenses to rate classes based on the allocation of direct O&M for that function.

For example, A&G expenses functionalized as distribution were allocated to rate classes based on each rate class' allocation of direct distribution O&M.

Q. WHAT ARE THE RATE BASE ADJUSTMENTS THAT YOU IDENTIFY IN THE COST OF SERVICE?

A. While net plant is the largest single component of rate base, there are other items which must be added to or subtracted from rate base. These items include accumulated deferred income taxes (ADIT), miscellaneous deferrals, and working capital which includes materials and supplies and prepayments.

Q. HOW DID YOU ALLOCATE THE ADJUSTMENTS THAT WERE SUBTRACTED FROM RATE BASE?

A. I allocated the subtractive adjustments based on the net plant ratios and other allocators for each rate class.

Q. HOW DID YOU ALLOCATE ADJUSTMENTS THAT WERE ADDED TO RATE BASE?

A. I used various factors to allocate the amounts reflected in the Accumulated Deferred Income Tax Account 190.

Q. HOW DID YOU ALLOCATE WORKING CAPITAL?

A. Working capital consists of the following items: fuel inventories, emission allowances, materials and supplies, prepayments, cash, and other miscellaneous items. Fuel Inventories and emission allowances were allocated to rate groups based on K301, class kWh ratios; materials and supplies were allocated using PD29, class net plant ratios; general insurance and excise tax were allocated to rate groups using net plant ratios NP29, Collateral asset was allocated to rate groups based on K301 class kWh ratios.

Cash working capital is equal to 1/8 of non-fuel O&M expense minus the fuel costs and fuel and purchased power adjustment.

Q. HOW DID YOU ALLOCATE DEPRECIATION EXPENSES?

A. I allocated depreciation expenses to rate class based on the functional class net-depreciable plant ratios.

Q. HOW DID YOU ALLOCATE REAL ESTATE AND PROPERTY TAXES?

A. I allocated real estate and property taxes to rate class based on the functional class net plant ratios.

Q. HOW DID YOU ALLOCATE PAYROLL AND HIGHWAY TAXES, THE PSC ASSESSMENT AND OTHER MISCELLANEOUS TAXES?

A. I allocated the PSC Maintenance Taxes to class based on each rate class revenue ratio. I allocated Payroll, Highway and Other Miscellaneous Taxes to rate class based the class-weighted A&G expense ratio (A315).

Q. HOW DID YOU ALLOCATE FEDERAL AND STATE INCOME TAX ADJUSTMENTS AND DEDUCTIONS?

A. I reviewed each income tax adjustment and deduction to determine the functional cause of the adjustment and deduction, then selected the appropriate allocation factor. For example, an "Other Deductions" item, tax depreciation in excess of book depreciation, was allocated to the rate classes based on the class depreciation expense ratio (DE49).

Q. HOW DID YOU ALLOCATE OTHER OPERATING REVENUES?

A. I evaluated each other operating revenue item to determine the source of the revenue, then selected the appropriate allocation factor. The class ratio of present revenues was the primary allocation factor used to allocate the revenue credits to the respective rate groups.

Q. DID YOU USE ANY OTHER ALLOCATION FACTORS IN THE COST OF SERVICE STUDY?

A. Yes, there are many plant and expense ratios that were developed internally in the cost of service study. The cost of service study lists each item's allocation factor under the column identified as "ALLO."

IV. RESULTS OF COST OF SERVICE STUDY

Q. WHAT DO THE RESULTS OF THE COST OF SERVICE STUDY SHOW?

A. Schedule FR-16(7)(v)-14, page 1 of 15, is a summary of the cost of service study that shows the costs allocated to each rate class.

Q. HOW WERE THE RESULTS OF YOUR COST OF SERVICE STUDY USED IN THESE PROCEEDINGS?

A. The results of the fully allocated cost of service study by rate class were supplied to Duke Energy Kentucky witness Jeff Kern, who used this data to develop the proposed rate design for these proceedings.

V. DISTRIBUTION OF PROPOSED REVENUE INCREASE

Q. DID THE COST OF SERVICE STUDY SHOW THAT THE INCREASE REQUIRED FOR EACH CUSTOMER CLASS WAS PROPORTIONAL?

A. No. The cost of service study revealed that there are significant differences among the rate classes when comparing the actual return earned by each rate class to the 6.711 percent overall return on rate base being requested in this case. Put another way, developing rates that generate the amount of revenue that equals the allocated revenue requirement for each rate class will mean much greater increases for some rate classes, in terms of percentage increases, than other classes.

To mitigate the rate shock that may come from eliminating the subsidy/excess (or rate disparities) among the rate classes, the Company is proposing to use a two-step process to distribute the proposed revenue increase. The first step eliminates 5 percent of the subsidy/excess revenues between customer classes based on present revenues. The second step allocates the rate increase to customer classes based on electric original cost depreciated (OCD) rate base.

Q. THE WATER PUMPING RATE CLASS APPEARS TO BE RECEIVING A VERY LARGE RATE INCREASE. PLEASE EXPLAIN HOW THIS IS BEING HANDLED IN THE PROPOSED RATES.

A. The customers in this class are served under special contracts. The rates for these customers will not change. The proposed rate increase for this class was added to the proposed revenues for Rate DS.

Q. PLEASE EXPLAIN IN GREATER DETAIL THE FIRST STEP THAT ELIMINATES 5 PERCENT OF THE SUBSIDY/EXCESS REVENUES.

A. Again, it is a general tenet of ratemaking that each class should, to the extent practicable, pay the costs of providing service to that class. The elimination of a portion of the subsidy/excess takes into consideration that the Company is not earning the same rate of return on all customer classes. It is unlikely that equal rates of return across all rate classes are achievable; nonetheless, to the extent possible, large variances among the customer classes should be eliminated. A comparison of revenues under present rates and at the retail average rate of return is made and then 5 percent of that amount is added to, or subtracted from, the rate increase to determine the proposed revenues in this proceeding.

Admittedly, this proposal lets a subsidy/excess persist but it will reduce the gap so that each class is paying rates that more closely reflect their costs of service.

Q. HOW DID THIS RATE DISPARITY ARISE?

A. Rate disparities exist mostly because over the years rates have not been set based on the cost to serve customers as determined by a cost of service study. Other factors include: (1) customer mix often changes between rate cases, *i.e.,* residential, for example, may make up more or less of the total today than it did the last time rates were set; (2) different asset classes depreciate at different rates and because different asset classes are allocated differently, long periods between rate cases can shift the relative costs to serve each rate class. Also, regulators may purposely allow subsidy/excesses to persist in the interest of rate gradualism.

Q. WHY DID YOU PROPOSE A FIVE PERCENT REDUCTION OF THE SUBSIDY/EXCESS REVENUES IN THESE PROCEEDINGS?

A. The present rate of returns by class shown on Work Paper FR-16(7)(v), page 1, indicate that there is a significant difference in those returns. To ensure that each rate class pays the actual cost to serve that class, and move each class to the average rate of return, 100 percent of the subsidy/excess would need to be eliminated. However, given the wide disparity among rate classes, complete elimination of the subsidy excess would cause a dramatic swing in rate impacts between and among various rate classes. By proposing to eliminate only five percent of the subsidy/excess, the Company is choosing to invoke the rate making principle of gradualism so to mitigate the volatility of 100 percent subsidy/excess elimination.

VI. <u>CONCLUSION</u>

Q. WERE ATTACHMENTS JEZ-1 THROUGH JEZ-4, SCHEDULES B-7, B-7.1, B-7.2, D-3, D-4 AND D-5, AS WELL AS, FR 16(7)(v), AND WORKPAPER FR 16(7)(v), PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, James E. Ziolkowski, Director, Rates & Regulatory Planning, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

James E. Ziolkowski Affiant

Subscribed and sworn to before me by James E. Ziolkowski on this 30th day of August, 2019.

NOTARY PUBLIC

My Commission Expires: July 8, 2022

NOTARY PUBLIC
STATE OF OHIO

E. MINNA ROLFES-ADKINS
Notary Public, State of Ohio
My Commission Expires
July 8, 2022

DUKE ENERGY KENTUCKY, INC.
ELECTRIC COST OF SERVICE STUDY
CASE NO: 2019-00271
ALLOCATION FACTORS FOR COST OF SERVICE STUDY

Attachment JEZ-1
Witness Responsibl
James E. Ziolkowsk
Page 1 of 1

LINE NO.	RATE GROUP	12 CP DEMAND RATIO %	AVG & EXCESS RATIO %	DIFFERENCE %	PROD STACKING RATIO %	DIFFERENCE %
1		A	B	C = B - A	D	E = D - A
2	**Retail:**					
3	Residential	45.078%	51.035%	5.957%	40.216%	-4.862%
4	Dist Secondary - DS	27.064%	23.429%	-3.635%	26.955%	-0.109%
5	Dist Secondary - GS-FL	0.130%	0.105%	-0.025%	0.144%	0.014%
6	Dist Secondary - EH	0.513%	0.596%	0.083%	0.455%	-0.058%
7	Dist Secondary - SP	0.007%	0.007%	0.000%	0.007%	0.000%
8	Dist Secondary - DT	13.494%	11.968%	-1.527%	15.515%	2.021%
9	Dist Primary - DT	8.921%	7.847%	-1.074%	10.641%	1.720%
10	Dist Primary - DP	0.431%	0.438%	0.007%	0.503%	0.072%
11	Transmission	4.227%	4.091%	-0.137%	5.206%	0.979%
12	Lighting	0.124%	0.456%	0.332%	0.336%	0.212%
13	Other	0.011%	0.029%	0.018%	0.022%	0.011%
14	Total Retail	100.000%	100.000%	0.000%	100.000%	0.000%

K201 Generation Allocator Using 12 CP

Line No.	Rate Class	Jurisdictional Electric Rate Base (A)	Present Revenues (B)	Net Operating Income (C)	Present ROR (D)	Present Revenues At Average ROR (E)	Inter Class Subsidization Overcollected (Undercollected) (F)	Inter Class Subsidization times 5.00% (G)	Rate Increase (Allocated to class based on Rate Base) (H)	Proposed Revenues 95.00% Interclass Subsidization (I)	Proposed Percent Increase (J)	ROR At Proposed Rates (K)	Proposed Increase Less (Subsidy) Excess (L)
		FR-16(7)(v)-14, page1	FR-16(7)(v)-14, page1	Work Paper FR-16(7)(v), Page 2	(C) / (A)	(C))/(1-CompositeTaxRate))	(B) - (E)	(F) * 5.00%	(H) Line 5 * ((A) / (A) Line 5)	(B) - (G) + (H)	((H) - (G)) / (B)	((((H) - (G))*(1-CompositeTaxRate)+ (C)) / (A)	(H) - (G)
1	Rate RS	$ 468,128,678	$ 123,883,637	$ 1,538,370	0.3286%	$ 141,108,988	$ (17,225,351)	$ (861,268)	$ 22,572,034	$ 147,196,005	18.818%	4.086674%	$ 23,433,302
2	Rate DS	242,499,761	90,318,223	16,285,957	6.7159%	78,609,822	11,708,401	585,420	11,692,734	101,425,537	12.298%	10.154550%	11,107,314
3	Rate GS-FL	1,195,789	577,046	157,588	13.1786%	416,373	160,673	8,034	57,636	626,648	8.596%	16.292748%	49,602
4	Rate EH	4,690,299	600,937	(430,713)	-9.1831%	1,367,764	(766,827)	(38,341)	226,164	865,442	44.016%	-4.949277%	264,505
5	Rate SP	71,824	29,960	7,474	10.4060%	22,962	6,998	350	3,468	33,078	10.408%	13.665347%	3,118
6	Rate DT - Secondary	117,799,323	46,910,116	6,718,600	5.7034%	42,811,121	4,098,995	204,950	5,679,984	52,385,150	11.671%	9.192731%	5,475,034
7	Rate DT-Primary	77,794,031	29,943,872	3,000,244	3.8567%	29,150,584	793,288	39,664	3,751,061	33,655,269	12.395%	7.438323%	3,711,397
8	Rate DP	3,811,936	1,361,377	90,448	2.3728%	1,397,850	(36,473)	(1,824)	183,816	1,547,017	13.636%	6.028871%	185,640
9	Rate TT	25,639,048	14,062,168	1,780,987	6.9464%	12,745,535	1,316,633	65,832	1,236,237	15,232,573	8.323%	10.373503%	1,170,405
10	Lighting	4,693,957	1,876,470	116,115	2.4737%	1,915,071	(38,601)	(1,930)	226,347	2,104,747	12.165%	6.124760%	228,277
11	Other - Water Pumping	103,180	16,848	(10,126)	-9.8139%	34,584	(17,736)	(887)	4,974	22,709	34.788%	-5.549277%	5,861
12													
13	Total	$ 946,427,826	$ 309,580,654	$ 29,254,944	3.0911%	$ 309,580,654	$ -	$ -	$ 45,634,456	$ 355,094,176	14.702%	6.711020%	$ 45,634,456

K201 Generation Allocator Using Average and Excess Method

Line No.	Rate Class	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
1	Rate RS	$ 499,122,193	$ 123,883,637	$ 262,391	0.0526%	$ 144,084,707	$ (20,201,070)	$ (1,010,053)	$ 24,066,462	$ 148,839,218	20.144%	3.824425%	$ 25,076,515
2	Rate DS	223,587,870	90,318,223	17,064,637	7.6322%	76,793,950	13,524,273	676,214	10,780,865	100,422,874	11.188%	11.025058%	10,104,651
3	Rate GS-FL	1,070,320	577,046	162,951	15.2245%	404,063	172,983	8,649	51,608	620,005	7.445%	18.237779%	42,959
4	Rate EH	5,118,985	600,937	(448,520)	-8.7619%	1,409,133	(808,196)	(40,410)	246,825	888,172	47.798%	-4.549312%	287,235
5	Rate SP	71,824	29,960	7,473	10.4046%	22,963	6,997	350	3,463	33,073	10.391%	13.658689%	3,113
6	Rate DT - Secondary	109,858,177	46,910,116	7,045,493	6.4133%	42,048,734	4,861,382	243,069	5,297,095	51,964,142	10.774%	9.867083%	5,054,026
7	Rate DT-Primary	72,205,430	29,943,872	3,230,328	4.4738%	28,614,010	1,329,862	66,493	3,481,571	33,358,950	11.405%	8.024596%	3,415,078
8	Rate DP	3,848,532	1,361,377	88,975	2.3119%	1,401,319	(39,942)	(1,997)	185,567	1,548,941	13.778%	5.970806%	187,564
9	Rate TT	24,928,057	14,062,168	1,810,192	7.2617%	12,677,360	1,384,808	69,240	1,201,970	15,194,898	8.055%	10.673067%	1,132,730
10	Lighting	6,424,384	1,876,470	45,011	0.7006%	2,081,029	(204,559)	(10,228)	309,768	2,196,466	17.053%	4.440080%	319,996
11	Other - Water Pumping	192,054	16,848	(13,987)	-7.2828%	43,386	(26,538)	(1,327)	9,260	27,435	62.841%	-3.144188%	10,587
12													
13	Total	$ 946,427,826	$ 309,580,654	$ 29,254,944	3.0911%	$ 309,580,654	$ -	$ -	$ 45,634,456	$ 355,094,176	14.702%	6.711020%	$ 45,634,456

K201 Generation Allocator Using Production Stacking Method

Line No.	Rate Class	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
1	Rate RS	$ 442,841,437	$ 123,883,637	$ 2,579,985	0.5826%	$ 138,680,391	$ (14,796,754)	$ (739,838)	$ 21,352,741	$ 145,855,282	17.736%	4.327952%	$ 22,092,579
2	Rate DS	241,929,922	90,318,223	16,309,315	6.7413%	78,555,246	11,762,977	588,149	11,665,274	101,395,348	12.265%	10.178755%	11,077,125
3	Rate GS-FL	1,268,979	577,046	154,581	12.1815%	423,392	153,654	7,683	61,187	630,550	9.272%	15.346916%	53,504
4	Rate EH	4,387,082	600,937	(418,293)	-9.5347%	1,338,736	(737,799)	(36,890)	211,534	849,361	41.340%	-5.283435%	248,424
5	Rate SP	71,824	29,960	7,473	10.4046%	22,963	6,997	350	3,463	33,073	10.391%	13.658689%	3,113
6	Rate DT - Secondary	128,312,584	46,910,116	6,285,530	4.8986%	43,820,839	3,089,277	154,464	6,186,922	52,942,574	12.860%	8.428161%	6,032,458
7	Rate DT-Primary	86,744,157	29,943,872	2,631,796	3.0340%	30,009,866	(65,994)	(3,300)	4,182,593	34,129,765	13.979%	6.656760%	4,185,893
8	Rate DP	4,183,116	1,361,377	75,006	1.7931%	1,433,702	(72,325)	(3,616)	201,700	1,566,693	15.082%	5.477891%	205,316
9	Rate TT	30,731,000	14,062,168	1,571,378	5.1133%	13,234,388	827,780	41,389	1,481,774	15,502,553	10.243%	8.632149%	1,440,385
10	Lighting	5,797,039	1,876,470	70,683	1.2193%	2,021,004	(144,534)	(7,227)	279,519	2,163,216	15.281%	4.932818%	286,746
11	Other - Water Pumping	160,686	16,848	(12,510)	-7.7854%	40,127	(23,279)	(1,164)	7,748	25,760	52.896%	-3.621602%	8,912
12													
13	Total	$ 946,427,826	$ 309,580,654	$ 29,254,944	3.0911%	$ 309,580,654	$ -	$ -	$ 45,634,456	$ 355,094,176	14.702%	6.711020%	$ 45,634,456

DUKE ENERGY KENTUCKY
COST OF SERVICE STUDY
CALCULATION OF AVERAGE & EXCESS ALLOCATOR
CASE NO. 2019-00271

Attachment JEZ-3
Witness Responsible:
James E. Ziolkowski
Page 1 of 1

Line No.	Rate Group	Annual Usage (a) (kWh)	System Hour CP (b) (kW)	Class Maximum NCP Demand (c) (kW)	Average Hourly Demand (kW) (Col. 1 / 8,760 hrs)	Excess Demand (Hourly kW) (Col.3 - Col.4)	Excess Demand Ratio (%)	Allocated Excess Demand (kW)	Average & Excess Hourly Demand (kW) (Col.4 + Col. 7)	Average & Excess Hourly Demand (Ratio) K201
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1										
2										
3	Residential	1,573,474,084		899,439	179,620	719,819	69.2120%	238,358	417,978	51.0351%
4	Dist Secondary - DS	1,117,233,456		321,857	127,538	194,319	18.6842%	64,346	191,884	23.4291%
5	Dist Secondary - GS-FL	6,253,450		1,158	714	444	0.0427%	147	861	0.1051%
6	Dist Secondary - EH	17,753,941		10,653	2,027	8,626	0.8294%	2,856	4,883	0.5962%
7	Dist Secondary - SP	290,270		109	33	76	0.0073%	25	58	0.0071%
9	Dist Secondary - DT	684,960,142		138,051	78,192	59,859	5.7556%	19,822	98,014	11.9675%
10	Dist Primary - DT	475,731,674		84,382	54,307	30,075	2.8918%	9,959	64,266	7.8469%
8	Dist Primary - DP	22,308,907		5,687	2,547	3,140	0.3019%	1,040	3,587	0.4380%
11	Transmission	240,327,025		45,755	27,435	18,320	1.7615%	6,066	33,501	4.0905%
12	Lighting	18,114,621		7,098	2,068	5,030	0.4836%	1,665	3,733	0.4558%
13	Other	1,156,042		444	132	312	0.0300%	103	235	0.0287%
14	Total	4,157,603,612	819,000	1,514,633	474,613	1,040,020	100.0000%	344,387	819,000	100.0000%

DUKE ENERGY KENTUCKY
COST OF SERVICE STUDY
CALCULATION OF PRODUCTION STACKING (TOD) ALLOCATOR
CASE NO. 2019-00271

Attachment JEZ-4
Witness Responsible:
James E. Ziolkowski
Page 1 of 1

Line No.	Rate Group	Annual Usage (a) (kWh)	**Baseload** East Bend Net Plant (Allocated on kWh)	12CP Demand (kW)	**Peak** Woodsdale Net Plant (Allocated on 12CP)	Total Revenue Requirement	Allocator K201
		(1)	(2)	(3)	(4)	(5)	(6)
1							
2							
3	Residential	1,573,474,084	$131,774,101	323,558	$74,584,940	$206,359,041	40.2163%
4	Dist Secondary - DS	1,117,233,456	$93,565,211	194,112	$44,745,708	$138,310,919	26.9547%
5	Dist Secondary - GS-FL	6,253,450	$523,709	933	$215,070	$738,780	0.1440%
6	Dist Secondary - EH	17,753,941	$1,486,843	3,682	$848,756	$2,335,599	0.4552%
7	Dist Secondary - SP	290,270	$24,309	51	$11,756	$36,066	0.0070%
9	Dist Secondary - DT	684,960,142	$57,363,517	96,516	$22,248,376	$79,611,893	15.5152%
10	Dist Primary - DT	475,731,674	$39,841,212	64,029	$14,759,639	$54,600,850	10.6409%
8	Dist Primary - DP	22,308,907	$1,868,309	3,090	$712,291	$2,580,600	0.5029%
11	Transmission	240,327,025	$20,126,723	28,569	$6,585,580	$26,712,304	5.2058%
12	Lighting	18,114,621	$1,517,049	891	$205,389	$1,722,438	0.3357%
13	Other	1,156,042	$96,815	79	$18,211	$115,026	0.0224%
14	Total	4,157,603,612	$348,187,800	715,510	$164,935,716	$513,123,516	100.0000%