Chapter 16
Structural Design

- Section 1605 Equations 16-20 should read $D+L+S+\alpha E$, Equation 16-21 should read $0.9D+\alpha E$, equation 16-21a should read $0.9D+\omega W$. (posted January 3, 2008)

Revise Equation 16-20 as follows:

$D+L+S+\underline{a}E$ **(Formula 16-20)**

Revise Equation 16-21 as follows:

$0.9D+\underline{a}E$ **(Formula 16-21)**

Add Equation 16-21a as follows:

$0.9D+\omega W$ **(Formula 16-21a)**

- Table 1608.2 is missing McCreary County through Pendleton County in the table. (posted January 3, 2008) (updated Table on continuing page)

TABLE 1608.2
DESIGN ENVIRONMENTAL LOADS FOR KENTUCKY COUNTIES

COUNTY	GROUND SNOW LOAD, p_g (psf)[a]	ICE LOADS		SPECTRAL RESPONSE ACCELERATION COEFFICIENTS (percent)[i]			
		NOMINAL ICE THICKNESS, t (in)[b]	CONCURRENT WIND SPEED, V_c, (MPH)[c]	S_S[d]	$S_{S,0}$[e]	S_1[d]	$S_{1,0}$[e]
Adair	15	0.75	30	24.3	22.9	10.5	9.9
Allen	15	0.75	30	42.6	32.3	15.2	12.8
Anderson	15	0.75	30	21.9	21.7	9.5	9.0
Ballard	15	1.00	30	337.7	187.3	129.5	60.0
Barren	15	0.75	30	30.0	25.7	12.1	10.9
Bath	15	0.75	30	25.4	24.3	8.4	8.1
Bell	15[g]	0.50[h]	30	42.3	33.1	10.7	9.7
Boone	20	0.75	40	26.0	17.6	9.8	7.7
Bourbon	15	0.75	30	24.9	22.7	8.5	8.5
Boyd	20	0.75	30	20.5	19.2	7.4	7.1
Boyle	15	0.75	30	22.1	22.0	9.6	9.1
Bracken	20	0.75	30	22.5	19.7	7.9	7.7
Breathitt	15	0.75	30	26.5	23.7	8.9	8.2
Breckenridge	15	0.75	30	39.4	30.1	14.0	11.8
Bullitt	15	0.75	30	27.1	22.6	10.9	9.7
Butler	15	0.75	30	46.0	33.8	15.8	13.0
Caldwell	15	0.75	30	95.7	74.1	26.2	22.0
Calloway	15	1.00	30	121.8	81.9	33.0	23.2
Campbell	20	0.75	40	19.4	17.8	7.8	7.5
Carlisle	15	1.00	30	326.0	150.0	95.5	49.9
Carroll	20	0.75	30	20.4	19.3	8.9	8.4
Carter	20	0.75	30	23.2	20.1	7.8	7.3
Casey	15	0.75	30	22.7	21.9	9.7	9.3
Christian	15	0.75	30	76.2	53.7	22.4	17.6
Clark	15	0.75	30	25.0	23.4	8.8	8.6
Clay	15	0.75	30	33.7	25.8	9.7	9.0
Clinton	15	0.75	30	24.6	23.8	10.3	10.0
Crittenden	15	1.00	30	108.4	79.2	29.5	22.9
Cumberland	15	0.75	30	24.9	23.5	10.7	10.1
Daviess	15	0.75	30	61.5	43.1	18.7	14.8
Edmonson	15	0.75	30	35.4	29.0	13.3	11.8
Elliott	15	0.75	30	23.2	21.2	7.9	7.5
Estill	15	0.75	30	24.6	24.6	8.6	8.5
Fayette	15	0.75	30	23.9	23.3	8.7	8.6
Fleming	15	0.75	30	25.0	23.1	8.2	7.8
Floyd	20	0.50[h]	30	27.4	22.5	8.6	7.9
Franklin	15	0.75	30	21.5	21.0	9.1	8.7
Fulton	15	1.00	30	335.1	138.2	129.1	36.8
Gallatin	20	0.75	30	19.7	18.7	8.4	8.1
Garrard	15	0.75	30	23.0	22.1	9.0	9.0
Grant	20	0.75	30	21.3	19.1	8.3	8.0
Graves	15	1.00	30	182.5	104.2	60.0	28.0
Grayson	15	0.75	30	39.7	28.6	14.3	11.6
Green	15	0.75	30	25.2	23.2	10.8	10.1
Greenup	20	0.75	30	21.1	18.6	7.4	6.9
Hancock	15	0.75	30	47.0	38.5	15.5	13.7
Hardin	15	0.75	30	32.0	24.8	12.4	10.5
Harlan	20[f]	0.50[h]	30	40.9	31.7	10.4	9.4
Harrison	15	0.75	30	23.4	21.2	8.4	8.1

COUNTY	GROUND SNOW LOAD, p_g (psf)[a]	ICE LOADS		SPECTRAL RESPONSE ACCELERATION COEFFICIENTS (percent)[i]			
		NOMINAL ICE THICKNESS, t (in)[b]	CONCURRENT WIND SPEED, V_c, (MPH)[c]	S_S[d]	$S_{S,0}$[e]	S_1[d]	$S_{1,0}$[e]
Hart	15	0.75	30	30.4	24.8	12.1	10.6
Henderson	15	0.75	30	79.7	56.3	22.4	17.5
Henry	20	0.75	30	21.4	20.0	9.2	8.6
Hickman	15	1.00	30	251.3	135.2	64.5	36.1
Hopkins	15	0.75	30	81.8	57.7	23.4	18.2
Jackson	15	0.75	30	26.2	23.6	9.1	8.9
Jefferson	15	0.75	30	27.2	22.2	11.0	9.6
Jessamine	15	0.75	30	22.7	22.2	8.9	8.9
Johnson	15	0.75	30	23.1	21.8	8.0	7.7
Kenton	20	0.75	40	22.6	19.3	8.8	7.9
Knott	20	0.50[h]	30	28.7	24.5	8.9	8.4
Knox	15	0.75	30	37.5	29.3	10.3	9.5
Larue	15	0.75	30	27.1	23.5	11.2	10.2
Laurel	15	0.75	30	29.8	24.5	9.6	9.1
Lawrence	15	0.75	30	27.9	21.7	8.7	7.7
Lee	15	0.75	30	25.0	24.6	8.7	8.5
Leslie	20	0.50[h]	30	35.2	26.8	9.8	8.9
Letcher	20[f]	0.50[h]	30	33.1	27.5	9.5	8.7
Lewis	20	0.75	30	23.7	19.2	7.9	7.0
Lincoln	15	0.75	30	23.1	22.8	9.5	9.2
Livingston	15	1.00	30	150.0	103.0	43.9	28.0
Logan	15	0.75	30	48.5	36.7	16.4	13.9
Lyon	15	1.00	30	107.3	82.9	29.2	23.6
McCracken	15	1.00	30	281.3	138.3	87.5	37.3
McCreary	15	0.75	30	34.1	25.7	10.3	9.7
McLean	15	0.75	30	65.7	49.3	19.7	16.3
Madison	15	0.75	30	23.8	23.2	8.8	8.8
Magoffin	15	0.75	30	24.8	22.5	8.4	7.9
Marion	15	0.75	30	23.8	22.2	10.3	9.7
Marshall	15	1.00	30	140.5	92.6	37.9	25.4
Martin	20	0.50[h]	30	23.8	22.2	10.3	9.7
Mason	20	0.75	30	23.9	20.8	8.0	7.6
Meade	15	0.75	30	34.6	27.7	12.7	11.1
Menifee	15	0.75	30	25.3	24.2	8.4	8.1
Mercer	15	0.75	30	22.1	21.9	9.5	9.0
Metcalfe	15	0.75	30	25.9	24.1	11.0	10.4
Monroe	15	0.75	30	27.7	24.6	11.5	10.5
Montgomery	15	0.75	30	25.4	24.9	8.6	8.4
Morgan	15	0.75	30	23.8	22.1	8.3	7.8
Muhlenberg	15	0.75	30	61.6	44.5	19.2	15.5
Nelson	15	0.75	30	25.4	21.9	10.6	9.5
Nicholas	15	0.75	30	25.3	23.3	8.4	8.2
Ohio	15	0.75	30	52.3	37.5	17.1	13.7
Oldham	15	0.75	30	23.3	21.1	9.9	9.1
Owen	20	0.75	30	21.2	19.4	8.4	8.2
Owsley	15	0.75	30	27.4	24.5	9.0	8.8
Pendleton	20	0.75	30	21.9	19.3	8.0	7.6
Perry	20	0.50[h]	30	32.1	25.3	9.4	8.6
Pike	20[f]	0.75[h]	30	27.7	23.3	8.7	8.0
Powell	15	0.75	30	25.0	24.6	8.6	8.5
Pulaski	15	0.75	30	26.6	23.2	9.7	9.6
Robertson	15	0.75	30	24.1	22.0	8.2	7.9
Rockcastle	15	0.75	30	25.1	22.8	9.4	9.1

Rowan	15	0.75	30	25.1	23.2	8.2	7.8
Russell	15	0.75	30	23.6	22.9	9.9	9.7

COUNTY	GROUND SNOW LOAD, p_g (psf)[a]	ICE LOADS		SPECTRAL RESPONSE ACCELERATION COEFFICIENTS (percent)[i]			
		NOMINAL ICE THICKNESS, t (in)[b]	CONCURRENT WIND SPEED, V_c, (MPH)[c]	S_S[d]	$S_{S,0}$[e]	S_1[d]	$S_{1,0}$[e]
Scott	15	0.75	30	23.2	21.1	8.6	8.3
Shelby	15	0.75	30	22.5	21.1	9.6	8.9
Simpson	15	0.75	30	38.2	32.3	14.3	12.8
Spencer	15	0.75	30	23.4	21.8	10.0	9.3
Taylor	15	0.75	30	24.3	22.7	10.5	9.9
Todd	15	0.75	30	55.7	45.3	18.0	15.8
Trigg	15	0.75	30	98.9	69.4	26.9	20.9
Trimble	20	0.75	30	21.4	20.2	9.3	8.8
Union	15	1.00	30	91.2	75.1	25.1	21.8
Warren	15	0.75	30	38.5	29.6	14.3	12.0
Washington	15	0.75	30	22.9	21.9	10.0	9.5
Wayne	15	0.75	30	26.6	23.5	10.0	9.8
Webster	15	0.75	30	85.1	60.6	24.0	18.7
Whitley	15	0.75	30	39.3	27.2	10.5	9.6
Wolfe	15	0.75	30	24.5	24.4	8.5	8.3
Woodford	15	0.75	30	22.3	21.9	8.8	8.8

- Section 1615.5.3 should be 1613.5.3, Explanation is for 1613.5.2 and not 1613.5.3 – Section 1613.5.3 needs the Equations as well as other equation descriptions. (posted January 3, 2008)

1613.5.3 Site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters. The maximum considered earthquake spectoral response acceleration for short periods, S_{ms}, and at 1-second period, S_{m1}, adjusted for site class effects shall be determined by Equations 16-37 and 16-38, respectively: For Occupancy Categories I and II, S_s need not exceed 1.5 (150%) and S_1 need not exceed 0.6 for irregular structures.

$S_{ms} = F_a S_s$ (Equation 16-37)

$S_{m1} = F_v S_1$ (Equation 16-38)

Where:
F_a = Site coefficient defined in Table 1613.5.3(1)
F_v = Site coefficient defined in Table 1613.5.3(2)
S_s = The mapped spectral accelerations for short periods as determined in Section 1613.5.1
S_1 = The mapped spectral accelerations for a 1-second period as determined in Section 1613.5.1.