2.5.2   ULS Analysis

Design combination: (*)1.00DL1+1.00FLOOR FINISHES+1.00LL4+0.80LL7+0.80LL5+0.80LL5+0.80LL6+1.00SPE_NEW14 (A)(SEIS. Joint X +)
Internal forces:
   Nsd = 375.22 (kN)   Msdy = 0.00 (kN*m)   Msdz = -1351.76 (kN*m)
Design forces:
Upper node
   N = 375.22 (kN)   N*etotz = 7.50 (kN*m)   N*etoty= -1355.73 (kN*m)

Eccentricity:	ez (My/N)	ey (Mz/N)
Static	eEd: 0 (mm)	-3603 (mm)
Imperfection	ei: 0 (mm)	11 (mm)
Initial	e0: 0 (mm)	-3592 (mm)
Minimal	emin: 20 (mm)	20 (mm)
Total	etot: 20 (mm)	-3613 (mm)

2.5.2   ULS Analysis

Design combination: 1.00DL1+1.00FLOOR FINISHES+1.00LL4+0.80LL5+0.80LL5+0.80LL5+0.30LL1+0.30LR1+0.80LL5+1.00SPE_NEW12 (C)
Internal forces:
   Nsd = 451.95 (kN)   Msdy = -1.35 (kN*m)   Msdz = 1.54 (kN*m)
Design forces:
Cross-section in the middle of the column
   N = 451.95 (kN)   N*etotz = -9.04 (kN*m)   N*etoty= 9.22 (kN*m)

Eccentricity:	ez (My/N)	ey (Mz/N)
Static	eEd: -3 (mm)	3 (mm)
Imperfection	ei: 0 (mm)	11 (mm)
Initial	e0: -3 (mm)	14 (mm)
Minimal	emin: 20 (mm)	20 (mm)
Total	etot: -20 (mm)	20 (mm)

2.4   Loads:

Case	Nature	Group	γ_f	N (kN)	My(s) (kN*m)	My(i) (kN*m)	Mz(s) (kN*m)	Mz(i) (kN*m)			
DL1	dead load(Structural)	12	1.350	269.92	-4.39	5.77	0.36	-0.54			
LL1	live load	12	1.500	221.14	-8.63	8.79	0.13	-0.37			
FLOOR FINISHES	dead load(Non-structural)	12	1.350	118.00	-8.79	9.40	0.13	-0.25			
LR1	live load(Category H)	12	1.500	2.39	-1.17	1.38	0.01	-0.01			
LL4	dead load(Non-structural)	12	1.350	-1.65	-3.62	2.87	-0.06	0.05			
LL5	live load(Category E)	12	1.500	5.16	1.15	-0.92	-0.09	0.09			
SPE_NEW11	seismic	12	1.000	0.56	8.25	7.96	4.13	-4.14			
SPE_NEW12	seismic	12	1.000	-3.88	-23.25	-22.99	3.36	-3.37			
SPE_NEW13	seismic	12	1.000	6.90	50.24	49.33	2.40	-2.41			
SPE_NEW14	seismic	12	1.000	-7.90	-54.74	-53.84	-0.15	0.15			
LL6	live load(Category E)	12	1.500	-1.01	9.33	-9.15	0.02	-0.02			
LL7	live load(Category E)	12	1.500	-0.66	5.08	-5.00	-0.11	0.11			
LL5	live load(Category E)	12	1.500	-1.84	-1.81	2.28	0.20	-0.18			
LL5	live load(Category E)	12	1.500	0.24	-0.66	0.59	-0.02	0.02			
LL5	live load(Category E)	12	1.500	-0.43	-0.59	0.53	-0.04	0.04			

γ_f - load factor

	FX (kN)	FY (kN)	FZ (kN)	MX (kNm)	MY (kNm)	MZ (kNm)
MAX	864.86	1.67	24.11	0.49	76.93	5.15
Bar	12	12	12	12	12	12
Node	23	23	23	23	23	24
Case	ULS/210	ACC/2582	19 (C) (CQC)	ACC/1876	ACC/3089	ACC/1417
Mode						
MIN	-7.90	-2.20	-34.32	-0.46	-77.65	-4.77
Bar	12	12	12	12	12	12
Node	23	23	23	23	24	23
Case	19 (C) (CQC)	ACC/1417	ACC/3089	ACC/2225	ACC/3089	ACC/1417
Mode						

Internal Forces Table filtered for column in question

Values / Envelope / **Global extremes** / Info

View | Plan | Dynamic Analysis Results | Forces | Displacements

	UX (mm)	UY (mm)	UZ (mm)	RX (Rad)	RY (Rad)	RZ (Rad)
MAX	15.445	12.354	0.139	0.001	0.000	0.000
Node	24	24	24	24	23	24
Case	ACC/2002	ACC/3465	19 (C) (CQC)	ACC/268	16 (C) (CQC)	ACC/2481
Mode						
MIN	-16.042	-12.977	-8.363	-0.001	-0.001	-0.000
Node	24	24	24	24	24	24
Case	ACC/2094	ACC/540	ULS/178	15	ULS/132	ACC/1620
Mode				CQC		

Values \ Envelope \ Global extremes \ Info

Nodal displacement table filtered for column in question

View | Plan | Dynamic Analysis Results | Forces | Displacements | Stories

Case/Story	Name	Mass (kg)	G (x,y,z) (m)	R (x,y,z) (m)	Ix (kgm2)	Iy (kgm2)	Iz (kgm2)	ex0 (m)	ey0 (m)	ex2 (m)	ey2 (m)
1/ 1	Level +5.460	2183627.53	0 15.458 3.514	7 14.326 3.514	213401083.11	197205156.47	404041211.08	1.147	1.132	0.0	0.0
1/ 2	Level +9.964	777672.31	8 15.094 9.168	518 1.072 9.168	83155452.68	69041241.52	150070658.75	3.230	14.022	0.0	0.0
1/ 3	Story +13.714	356695.80	14.548 13.589	15.905 13.589	16082903.30	35577550.43	51477543.62	1.996	1.357	0.0	0.0

The only similarity is the value of Eccentricity ex0 - The distance between the center of rigidity and the center of gravity projected onto the X axis, but I don't see the direct link between this value and the eccentricity used for the column