NC Department of Insurance – Engineering Division

LIFE SAFETY PLAN REVIEW GUIDELINE rev. 12/02/05

This guideline is not intended to limit the scope of review of construction plans nor is it intended to limit the enforceable requirements of other areas in the codes. The primary purpose is to provide a minimum guideline of some of the critical factors that need to be addressed in the plans.

1) Site plans
   a) Access by fire/emergency responders
   b) Adequate water supply (flow test for sprinklers within last 12 months)
   c) Property line locations
      i) True or assumed
      ii) Fire Separation Distance Table
      iii) Adjacent buildings/structures
   d) Accessible egress – NC Accessibility Code
   e) Fenced/gated areas outside of buildings
      i) Play areas/pools
      ii) Refuge areas (correctional & institutional/Alzheimer's facilities)
   f) Building(s) in a flood zone?
      i) Base flood elevation
      ii) Floor elevations
   g) Building in a fire district?

2) Building Area, size, and height
   a) Occupant use/category/mixed occupancy
   b) Construction type
   c) Allowable Height & Area Table limits – area increase
   d) Effects on existing buildings by Additions/renovations, including years of original construction & last renovation

3) Occupants can safely exit the building during emergency situations
   a) Building Code Summary (Appendix B)
   b) Life Safety Plan
      i) Area/size of spaces
      ii) Occupant loads – Types
      iii) Travel Distance
      iv) Common path of travel (single exits)
      v) Dead ends
      vi) Adequate number, location & size of exits (exits are remote)
      vii) Door swings
      viii) Stairs – load/occupants/capacity
      ix) ARA (area of rescue assistance)
      x) Wall fire ratings
   c) Egress Components
      i) Stairs – tread depths, riser heights, stair widths, stair heights, obstructions, handrails, guards
      ii) Ramps – slopes, landings
      iii) Corridors – widths, fire rating, dead ends

iv) Lighting/Signage – egress lighting, emergency exit lighting, exit discharge lighting, exit signage, exterior egress lighting
v) Seismic sway bracing for exit lighting
vi) Door hardware – closers, panic hardware, exit devices, magnetic hold-opens
vii) Egress Windows – locations, opening sizes, window details

d) Emergency power
i) Generator set
ii) Battery
iii) UPS (uninterruptible power supply) system

4) Building provides a safe environment
a) Chapter 4 – Special occupancy requirements
b) Interior finishes; insulation, foam plastics
c) Building systems – Kitchen and lab exhaust hoods
d) Tempered safety glass/Hazardous locations
e) Windborne debris protection
f) Fire rated shafts
i) Stairs
ii) Elevators
iii) Mechanical/HVAC/plumbing

5) Structural Soundness
a) Use and Occupancy – design based on correct importance factors
b) Adequate structural details (all parts & pieces of building)
i) Foundation
ii) Shell/Frame
iii) Connections
iv) Roof system
v) Materials – specifications – strength/sizes
vi) Correct design loads – wind, snow, live loading, seismic, soil bearing, etc. per Code requirements
vii) Firewall structural independence
viii) Wall, floor, ceiling & roof construction details
c) Structural drawings are consistent with architectural drawings
d) Special inspections

6) Fire protection
a) Active
i) Sprinklers – Dry or wet – Zones, seismic bracing
ii) Alarm systems
iii) Standpipes
iv) Smoke evacuation – include analysis as necessary
v) Dry chemical suppression
b) Passive
i) Fire barriers and openings
ii) UL details on drawings: assemblies, penetration & joint details
iii) Fire areas (locations of fire barriers, fire partitions, firewalls)
iv) Smoke compartments
v) Smoke/fire dampers

7) Other – Miscellaneous
    a) Bleachers
    b) Canopies
    c) Covered/enclosed connectors
    d) Tunnels
    e) Courtyards
    f) Hazardous materials – locate control areas on plans; tabulate chemicals and materials per control area