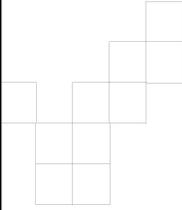


June 2011



Fire-Safe Schools

Concepts and Concerns

Presented By:

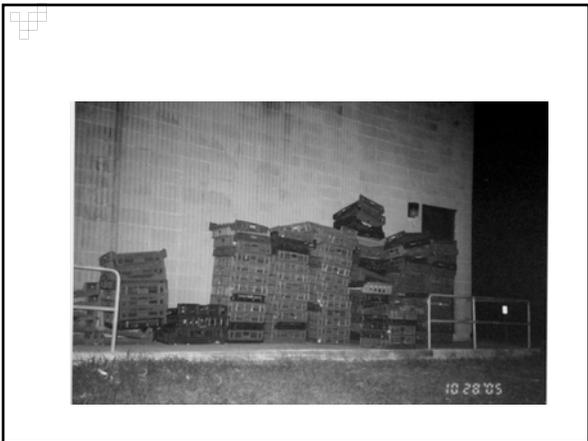
Barry W. Rickert	Carmen Rao
Deputy State Fire Marshal	Wallingford Fire Marshal











 **Educational**

- Application
 - Part III applies to new buildings, or portions thereof, constructed, renovated, altered or undergoing a change of occupancy as educational

 **Educational-Existing**

- Application
 - Part IV Chapter 15 applies to existing buildings and portions of buildings currently occupied as educational

 **OCCUPANT LOADS**
[no change]

- Classrooms; 1 person/20 net sq. ft
- Shops, laboratories and similar vocational rooms; 1 person/50 net sq. ft.
- Assembly spaces per Chapter 13; Existing Assembly Occupancies
[1/7 sq. ft., 1/15 sq. ft., # of fixed seats etc.]

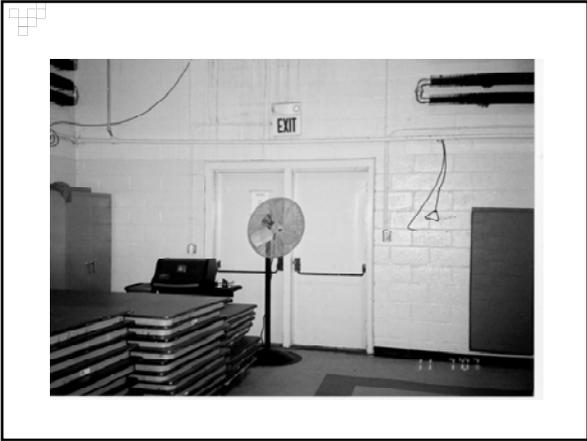




Means of Egress

- Preschool, kindergarten or 1st grade students must be located on a level of exit discharge unless by 15.2.1.4.
- 2nd grade students must **not** be located more than 1 story above a level of exit discharge unless by 15.2.1.4.
- Preschool, kindergarten, 1st grade or 2nd grade students where provided with independent means of egress can be located on floor levels other than specified above



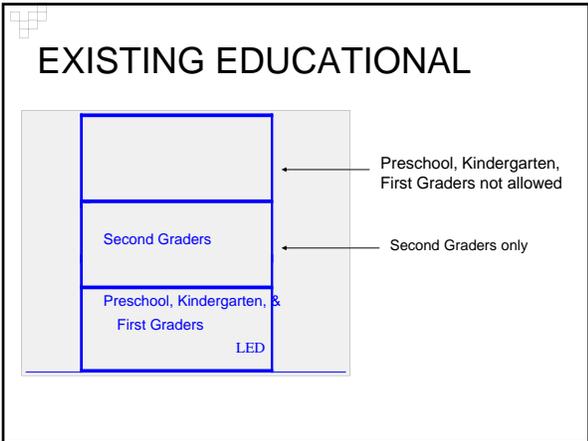


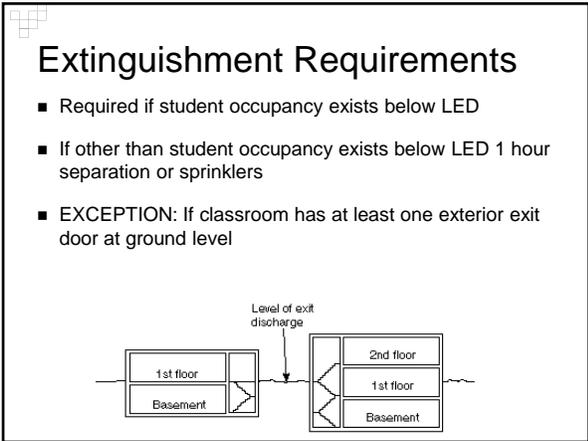


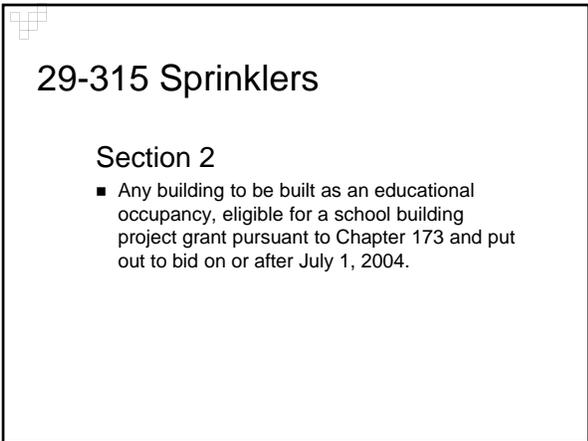












 **Windows for Rescue**

- Every room or space greater than 250 sq. feet used as classroom or other educational purpose, or subject to student occupancy must have not less than one window for emergency rescue unless otherwise permitted by 15.2.11.1.2

 **Emergency Lighting**

- Per Section 7.9 or unless otherwise permitted by what other Sections ?

 **Emergency Lighting**

15.2.9.3
Is not required if the educational occupancy is permitted to have a single means of egress per 15.2.4.1.





EXISTING EDUCATIONAL
PART V

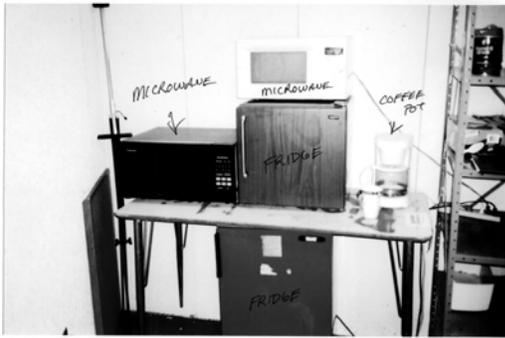
20.2.3.1 Emergency Egress and Relocation Drills

- 20.2.3.1.1* Emergency egress and relocation drills shall be conducted in accordance with the applicable provisions of Section 10.6 and 20.2.3.1.2 through 20.2.3.1.3. [101:14.7.2.1; 101:15.7.2.1]
- 10-231 Each Board of Ed shall provide for a fire drill to be held in the schools at least once each month, except that once every three months a crisis response drill may be substituted for a fire drill.



Existing Educational

- Classification of Hazard of Contents
 - The contents of educational properties are classified per Section 6.2



DANBURY HIGH SCHOOL











Protection from Hazards

- One hour or auto. extinguishing per 8.7
 - Boiler & furnace rooms where any piece of equipment exceeds 400,000 Btu.
 - Rooms/spaces storing combustible supplies in quantities deemed hazardous by the AHJ.
 - Rooms/spaces storing hazardous materials or flammable or combustible liquids in quantities deemed hazardous by AHJ.
 - Janitor closets
 - Laundries over 100 sq. ft.

Code Enforcement – “You can’t make this stuff up.”

- Resources:
 - CT General Statutes
 - 29-291A-D CT Fire Prevention Code
 - 29-292 CT Fire Safety Code
 - 29-143A Amusement/Public Assembly
 - 29-315 Sprinkler Schools
- CT Fire Prevention Code, modeled after 2003 edition of NFPA1 with amendments
- CT Fire Safety Code Guidebook, NFPA 101, NFPA 1, IFC







 **Our Lady of the Angels School**

The Building

- Two-story building, built in 1910
- Remodeled and added to numerous times
- Legally in compliance
- One fire escape located near the North Wing
- No sprinklers
- No automatic fire alarm
- No smoke/heat detectors



- No fire-resistant stairwells
- No fire-rated doors from stairwells to second floor
- Fire extinguishers mounted 7ft. off the floor
- Had to pass through main corridor to reach fire escape

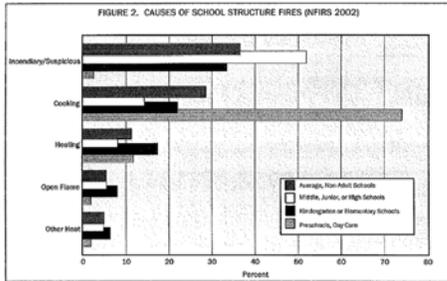
 **The Fire**

- December 1, 1958
- 92 children dead
- 3 nuns dead
- Approximate start time 2:15pm
- Approximate time of discovery, by those in 2nd floor classroom 2:30pm
- First call to fire department 2:41:30pm
- Approximate time of units on-scene 2:44pm
- Approximate time of roof collapse 2:55pm

\$12 Million Dollar Fire at Dogwood Elementary School

Reston, Virginia
November 2000

- Fire occurred at night
- Discovered by police patrol
- No automatic alarm
- No sprinkler system
- Total loss
- Two years to rebuild



Leading Areas of Origin of School Fires (NFIRS 2002)

Structure Fires		All School Fires	
Bathroom	23%	Bathroom	12%
Kitchen	9%	Outside Area, other	12%
Assembly Area (>100 persons)	6%	Open Area, field	8%

King Street Intermediate School Danbury High School

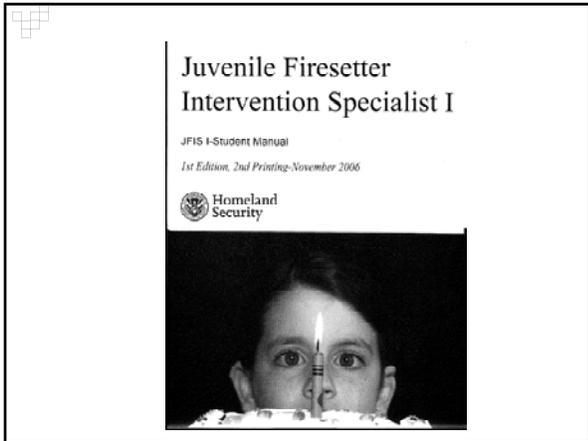
May 2008
Within 15 minutes

- 2 simultaneous bomb threats
- 1 dumpster fire
- 1 bank robbery
- Severe weather

Educational Properties (NFPA 1999-2002)

- 7070 structure fires
- 133 average civilian injuries annually
- \$112 million average in direct property damage annually





- Schools
 - Crisis Procedures
 - Fire
 - Threats
 - Natural Disasters
 - Students
 - Safety Education – not just at school, but also at home
 - Safety Education to bridge independence

- Public / Government
 - Legislation
 - Awareness
 - Interagency Communication
 - Local
 - State
 - Federal

- Juvenile Firesetter Intervention Program
 - National Certification
 - Statewide Coalitions

- Challenges
 - Language barriers
 - Cultural differences
 - Special education
 - Physical
 - Mobility
 - Sensory

- Tools
 - Audio/Visual
 - Handouts
 - Personnel in Fire Service
 - Fire Prevention Bureau
 - Firefighters
 - Outside Resources

 Websites : www.OLAFIRE.com
www.USFA.DHS.gov
www.homesafetycouncil.org
www.nist.gov
www.FEMA.gov
www.collegefiresafety.org
www.firesafe.com
www.UL.com
www.FMGlobal.com
www.CPSC.gov
