School Inspection Effectiveness

Jon Nisja

Minnesota State Fire Marshal Division
OBJECTIVES
Goal & Objectives

• Goal: Reduce the impact and severity of fires in schools

• Objectives:
  – Improve life safety
  – Ensure adequate egress
  – Reduce ignition scenarios
  – Provide automatic fire protection systems
History – School Inspections

- July, 1986 & January, 1987 – Two significant school fires in Minnesota
- State Legislature is concerned with the age of school buildings in Minnesota:
  - Passes public school inspection program (effective 8/1990)
  - Program begins – 9/1990
  - Initial budget – $200,000 per year
History – School Inspections

• Researched “baseline” data:
  – Number of educational occupancy fires
  – Common areas of origin / causes
  – Fire loss (total, average per fire, etc.)

• Prior to the program’s start-up and for first few years, there was a major school fire at least once every two years:
  – From 1995-2013, there were none
Process Evaluation

• Portable computers purchased
• Computerized database developed:
  – Inspections
  – Violations
• Divided state into “territories” or zones
• Inspectors bid based on seniority
Process Evaluation

• Close working relationship with Minnesota Department of Education (MDE)
• Philosophy: Work with schools instead of aggressive enforcement
• Toured with MDE to train school officials
IMPACT EVALUATION
Impact Evaluation

• Initially saw an increase in the number of school fires

• Using the data collected additional training was conducted:
  – Most common violations
  – By type of school

• Experienced 54% decrease in number of fires
Minnesota School Fires per Year


Fires: 56, 61, 102, 113, 116, 122, 56, 78, 68, 60, 57, 81, 92, 98, 71, 54, 52, 49, 41, 38, 46, 42, 45, 40, 44

Trend: Decreasing
School Fires per Year – National Average vs. Minnesota

National: 81
Minnesota: 43
Average School Fire Loss / Year

1985-1994: $2,392,069
2006-2015: $634,037
Average Loss Per School Fire

<table>
<thead>
<tr>
<th>Year Range</th>
<th>National</th>
<th>Minnesota</th>
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<tbody>
<tr>
<td>1985-1989</td>
<td>$11,504</td>
<td>$10,849</td>
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<tr>
<td>2009-2013</td>
<td>$17,241</td>
<td>$3,201</td>
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Outcome Measures

- The number of school fires in Minnesota is 40% less than the national average.
- School fire rate in Minnesota (fires per 100 schools) is 29% less than the national rate.
- Average school fire loss is:
  - 70% less than before the program.
  - 81% less than the national average.
Recommendations

- Research school fire loss – nationally and in your state/community
- Partner with your state department of education
- Use an educational and cooperative approach; avoid “heavy-handed’ enforcement tactics
- Prioritize on control of ignition sources and preventing fire spread
Recommendations

• Encourage, wherever possible, the use of automatic fire protection systems
• Understand that passive fire protection construction features can run counter to what schools need to educate students
• Be prepared to give schools time to comply
• Set-up some sort of data system to measure violations and inspection activity
Questions