

Residential Fire Sprinkler Topical Bibliography, May 2008

Note: Items of special note or significance are in italics.

Historical Data Regarding Fires in One- and Two-Family Dwellings

Ahrens, Marty.

Home Structure Fires.

National Fire Protection Association, Quincy, MA; 63p. 2007

For general information on residential fire causes, losses, etc.

<http://www.nfpa.org/assets/files//PDF/OS.Homes.pdf>

Badger, S. G.

Catastrophic Multiple-Death Fires for 2006.

NFPA Journal, Vol. 101, No. 5, 52-63, September/October 2007.

Baker, Susan P.

What Keeps the Home Fires Burning?

New England Journal of Medicine, Vol. 327, No. 12, p.887-888, September 17, 1992

Bragdon, Clyde A.

United States Fire Administration Publishes Position Paper on Residential Sprinkler Systems

Southern Building, p. 15-16, November-December 1987

Brown, P.

Twenty-Seven Years Later, America Is Still Burning.

American Fire Sprinkler Assoc.

Sprinkler Age, Vol. 12, No. 5, 10, May 2000.

Common Voices/National Fire Sprinkler Association.

Identification of America's Fire Problem. Statistics Related to Injury/Property Death/Damage. [Undated Web document, 2p.]

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Council, Hugh.

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American Fire Journal, Vol. 43 , No. 9, p.18-21, Sept. 1991.

Courtney, Neil
Residential Sprinkler Douses Fire: Maryland
Fire Journal, Vol. 84, No. 5, p. 18, September-October 1990

Courtney, Neil
Residential Sprinkler Snuffs Incipient Fire: Arizona
Fire Journal, Vol. 82, No. 6, p. 14+, November-December 1988

Courtney, Neil
Residential Sprinkler Controls Arson Fire: California
Fire Journal, Vol. 83, No. 6, p. 21, November-December 1989

Courtney, Neil
Residential Sprinkler Extinguishes Fire: Michigan
Fire Journal, Vol. 81, No. 5, p. 22, September-October 1987

Courtney, Neil.
Apartment Building: Residential Sprinklers Save Lives; Maryland.
Fire Journal, Vol. 83, No.6, p.19, November-December 1989

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On the Job: Texas. Mansion Fire Largest Loss of Private Home in Dallas History.
Firehouse, Vol. p.42-44+, February 2003.

Federal Emergency Management Agency
Fire in the United States, 1995-2004. 14th Edition.
Federal Emergency Management Agency, Emmitsburg, MD
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Fire Marshals Quarterly.
Value of Sprinklers in Board and Care Homes Again Demonstrated.
Fire Marshals Quarterly, Vol. p.10, April-May-June 1990.

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What Residential Sprinklers Can Do.
Fire Journal, Vol. 82, No. 5, 60-61, September/October 1988.

Fire Prevention
Inadequate Staff Training and Open Fire Doors Led to the Deaths of Six Residents in a U.S. Residential Care Home.

Fire Prevention, No. 295, 31-34, December 1996.

Fire Command

A Residential Sprinkler Success Story

Fire Command, Vol. 52, No. 12, p. 23, December 1985

Introduction to an NFPA investigation report documenting the life-saving activation of a residential sprinkler system in a child's bedroom after an electrical fire ignited other combustibles.

Fleming, Russell P.

The Lessons of Bessemer.

Sprinkler Quarterly, Vol. 80, p.27+, Fall 1992.

Gomberg, A.; Buchbinder, B.; Offensend, R. L.

Evaluating Alternative Strategies for Reducing Residential Fire Loss--The Fire Loss Model.

National Bureau of Standards, Gaithersburg, MD

NBSIR 82-2551;66 p. August 1982. Available from National Technical Information Service
PB82-263369

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Polo Club Condominium Fire, Denver, Colorado.

Boulder Fire Dept., CO

Journal of Applied Fire Science, Vol. 2, No. 1, 85-95,
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Residential Fire Sprinklers: A Success Story.

Town of Babylon, Long Island, NY

Firehouse, Vol. 18, No. 5, 64,66, May 1993.

Hazard Monthly

Firefighters, Victims Agree: Residential Sprinklers Save Lives

Hazard Monthly, Vol. 8, No. 11, p. 12-13, November 1988

Hernandez, Joaquin

Palm Beach County (FL) Fire-Rescue;

Residential Sprinklers - The Twenty-four Hour Sentinel

Emmitsburg, MD : National Fire Academy; 20 p., 1992

Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project

Abstract: The purpose of the research was to describe the continued fire problem in the United States and the
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National Fire Protection Association, Quincy, MA, 29 p., n.d.
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Successful Residential Sprinkler Activation. Cobb County, Georgia, May 2, 1985. 1 Child, 3 Adults Saved.
Summary Investigation Report.
Federal Emergency Management Agency, Washington, DC
National Bureau of Standards, Gaithersburg, MD
Fire Command, Vol. 53, No. 1, 22-27, January 1986.
NFPA-GA-CO-1;24 p. 1985.

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National Fire Protection Assoc., Quincy, MA
Fire Command, Vol. 53, No. 5, 38-49, May 1986.

Klem, Thomas J.

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Fire Command, Vol. 57, No. 12, p.13-15, Dec. 1990.

Klem, Thomas J.

Fatal Board and Care Fire. September 19, 1990
12 p., undated.
Summary fire investigation report of the boarding house fire in Bessemer, AL

Lowe, Chris.

High Profile.
Fire Prevention & Fire Engineers Journal, p.34-35, December 2005.
This issue combines Fire Prevention Issue 399 with Fire Engineers Journal Volume 65 No. 263
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Manson, Robert E.

In the Name of Fire Safety: FDNY Chiefs Call for Life Saving Legislation.
Quick Response, Vol. p.4-6, May 1993.

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Catastrophic Fires of 1999.
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Minnick, Benjamin.

Most Americans Live in Substandard Housing.
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Mirkhah, Azarang Ozzie.

Same Old Lines: Builders Use Faulty Stats to Fight Sprinklers.
Sprinkler Age, Vol. Vol. 26, no. 1, No. p.20, 22-24, January 2007.

Mirkhah, Azarang Ozzie.

Save Lives & Then Some : Will Americans Start Installing Residential Sprinklers When They Realize That the Nation's Fire Problem Costs More Money and Ends in More Lives Than Military Conflict?
Fire Chief, Vol. Vol. 51 no.2, No. p.38, 40, 42, February 2007.
http://firechief.com/awareness/firefighting_save_lives

Patton, Richard M.

The American Home Is a Fire Trap
Citrus Heights, CA : The Crusade Against Fire Deaths, Inc.
388 p., 2001

Paul, Peg.

Residential Fire Sprinklers: a Growing Trend in Home Fire Safety.
PM Engineer, March 2008
http://www.pengineer.com/Articles/Feature_Article/BNP_GUID_9-5-2006_A_1000000000000289462
Abstract: Includes general overview of home fire deaths and property losses, growing acceptance of residential sprinklers, and installation issues.

Quick Response.

Deadly Florida Fire Prompts State to Review All 1,817 Adult Group Homes - Owner Had Refused to Install Sprinklers.
Quick Response, Vol. p.4, April-May 1995.

In the wake of a deadly fire that claimed the lives of five residents of a Fort Lauderdale group home on December 2, 1994, the state of Florida has ordered a review of all of its 1,817 adult group homes. The December issue of the U.S. Fire Sprinkler Reporter reported that the owner of the group home that burned, the Assisted Living Community Home, was being fined \$150 each day since last year for refusing to install a sprinkler system.

Quick Response.

Residential Sprinklers Extinguish Christmas Tree Fire.

Quick Response, Vol. p.9, April-May 1995.

Reprinted from NFPA's Fire News, December-January 1995.

The Greeley, Colorado Fire Department has successfully defended a requirement to install residential sprinklers in homes within a gated community based on obstructed access for emergency vehicles. This project is the second security gated subdivision in Greeley; both developments are required to provide residential fire sprinkler systems.

Shannon, James M.
2007 Year in Review
NFPA Journal; Vol. 102, No.1, p. 6+, January/February 2008

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Attacking the Fire Problem
NFPA Journal; Vol. 101, No. 3, p. 6+, May/June 2007

Solomon, R. E.
Fire Problem in One- and Two-Family Dwellings.
National Fire Protection Assoc., Quincy, MA
National Conference of States on Building Codes and Standards; Council of American Building Officials;
Department of Housing and Urban Development; National Association of Home Builders; National Fire
Protection Association; National Fire Sprinkler Association and National Institute of Standards and
Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC,
Natl. Conf. States on Bldg. Codes and Standards, McIntyre, M., Editor(s), 25-41 pp, 1990.

Sprinkler Age.
A Tale of Two Fires in Mesa: Sprinklered Vs. Nonsprinklered Demonstrates Value of Systems
Sprinkler Age, Vol. 21, No. 9, p. 56, September 2002

Sprinkler Age.
Automatic Sprinklers in Multi-family Dwellings: Non-obtrusive Devices Provide Very Real Protection
Sprinkler Age, Vol. 22, No. 3, p. 10-11, March 2003
Tra Vigne Villas, Cupertino, CA, three-story townhome/condominium project over a parking garage;
Georgetown, San Jose, CA, three-story townhomes with garages

Sprinkler Age.
Pediatricians Release New Fire Safety Guidelines
Sprinkler Age, Vol. 19, No. 9, p. 24, September 2000

Tremblay, Kenneth J.
Sprinkler Controls Fire Caused by Cigarette: New Jersey
NFPA Journal; Vol. 88, No. 1, p. 32, January-February 1994

Tremblay, Kenneth J.
Sprinklers Extinguish Unattended Cooking Fire: Massachusetts.
NFPA Journal; Vol. 90, No. 6, p. 22, November-December 1996

Tremblay, Kenneth J

Residential Sprinkler Controls Unattended Cooking Fire: Washington
NFPA Journal; Vol. 90, No. 1, p. 22-23, p. 22-23 January-February 1996

Tremblay, Kenneth J.
Sprinkler Extinguishes Cooking Fire: Washington.
NFPA Journal; Vol. 91, No. 1, p. 25-26, January-February 1997

Tremblay, Kenneth J.
Residential Sprinklers Extinguish Christmas Tree Fire: Arizona
NFPA Journal; Vol. 88, No. 6, p. 34, November-December 1994

Tremblay, Kenneth J.
Sprinkler Protects Homeless Shelter
NFPA Journal, Vol. 98, No. 3, p.20+, May-June 2004.

Tremblay, Kenneth J.
Grill Ignites Combustibles on Apartment Building's Balcony: Utah
NFPA Journal; Vol. 90, No. 2, p. 23, March-April 1996

Tremblay, Kenneth J.
Sprinklers control fire - Washington
NFPA Journal, Vol. 97, No. 2, p.22-23, March-April 2003

Tremblay, Kenneth J.
Sprinkler Extinguishes Cooking Blaze
NFPA Journal, Vol. 92, No. 5, p. 15-16, September-October 1998

Tremblay, Kenneth J.
Residential Sprinkler Extinguishes Cooking Fire: California
NFPA Journal; Vol. 87, No. 5, p. 35, September-October 1993

Tremblay, Kenneth J.
Sprinkler Extinguishes Apartment Building Fire - New Jersey
NFPA Journal, Vol. 99, No. 2, p.22+, March/April 2005

Tremblay, Kenneth J.
Residential Sprinklers Extinguish Two Cooking Fires: Florida
NFPA Journal; Vol. 87, No. 1, p. 27, January-February 1993

Tremblay, Kenneth J.

Residential Sprinkler Saves Plumber, Limits Damage: Pennsylvania
NFPA Journal; Vol. 90, No. 6, p. 23, November-December 1996

Tremblay, Kenneth J.
Residential Sprinkler Saves Home
NFPA Journal; Vol. 95, No. 1, p. 20-21, January-February 2001

Tremblay, Kenneth J.
Sprinkler Extinguishes Apartment Fire - New Hampshire.
NFPA Journal, Vol. 98, No. 4, p.17, July/August 2004

Tremblay, Kenneth J.
Single Sprinkler Controls Fire in Apartment Building: Florida
NFPA Journal; Vol. 88, No. 6
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Tremblay, Kenneth J.
Sprinkler Extinguishes Unattended Cooking Fire.
NFPA Journal, Vol. 98, No. 3, p.18, May-June 2004.

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Sprinklers Douse Fourth Cooking Fire in Two Years
NFPA Journal; Vol. 94, No. 6, p. 17, November-December 2000

Tremblay, Kenneth J.
Fire Sprinkler Extinguishes Cooking Fire.
NFPA Journal, Vol. 98, No. 1, p.15, January-February 2004

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Sprinkler Contains Boarding House Fire: Massachusetts.
NFPA Journal; Vol. 91, No. 1, p. 26, January-February 1997

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Residential Sprinkler Contains Dwelling Fire
NFPA Journal; Vol. 94, No. 4, p. 18-19, July-August 2000

Tremblay, Kenneth J.
Damaged Wiring Ignites Blaze
NFPA Journal; Vol. 92, No. 5, p. 15, September-October 1998

Tremblay, Kenneth J.
Residential Sprinkler Extinguishes Christmas Fire: California
NFPA Journal; Vol. 87, No. 6, p. 29, November-December 1993

Tremblay, Kenneth J.
Sprinkler Extinguishes Fire
NFPA Journal, Vol. 95, No. 4, p. 23, July-August 2001

United States Fire Administration.
Civilian ire Injuries in Residential Buildings in 2005
Topical Report Series, Vol. 8, No. 3, March 2008
<https://www.usfa.dhs.gov/downloads/pdf/tfrs/v8i3.pdf>

Van Benschoten, Guy J.
Ithaca (NY) Fire Department
Two Fires in Ithaca, NY - a Case Study for Residential Sprinklers
National Fire Academy, Emmitsburg, MD, 27 p., 1992
Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.
Executive Fire Officer Program. Applied Research Project

Abstract: A case study of two fires occurring in the same Fire District, in similar occupancies, one non-sprinklered, the other equipped with residential sprinklers did not exist. The purpose of this research was to conduct such a study. The research questions to be answered were: 1. What does the research say about residential sprinkler systems? 2. What were the similarities or dissimilarities with two fires occurring in multiple housing residential units in Ithaca, NY? 3. What was the background that lead to a residential sprinkler system law for Ithaca, NY?

Van Benschoten, Guy J. (Ithaca, NY Fire Department)
Two Fires in the 1000 Block of Danby Rd, Ithaca, NY - a Case Study for Residential Sprinklers
National Fire Academy, Emmitsburg, MD, 23 p., 1992
Strategic Analysis of Fire Department Operations

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.
Executive Fire Officer Program. Applied Research Project

Abstract: Two fires occurred in the same block in Ithaca, NY. One property was protected by a residential sprinkler system, the other was not. The first resulted in only minor water damage, while five children died in the second. The purpose of this research was to study the two fires and identify the impact of a residential sprinkler system on fire outcomes. The research questions to be answered were: 1. What does the research say about residential sprinkler systems? 2. What were the similarities or dissimilarities with two fires occurring in Ithaca, NY? 3. What was the background that led to a residential sprinkler system law in Ithaca, NY? 4. Why was one residential property sprinklered, while the other was not sprinklered?

Statistical Information Regarding Increased Safety Achieved Through Installation

Barton, A. L.

Residential Fire Sprinklers: the Necessity Is Now If We Want to Be Successful in Reducing the Fire Loss and Fire Protection Costs

Saint Mary's College, St. Mary's City, MD, 72 p., 1984

Colville, J.; Behnami, B.

Study of Fire Losses in Multi-Family Residences. Final Report.

Maryland Univ., College Park

Final Report; 297 p. April 1982.

Available from National Technical Information Service

PB82-214701

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Estep, M. H.; Kelly, J. L.

Residential Fire Sprinkler Systems: As the Track Record Develops.

Prince George's County Fire Dept., MD

International Connections, Vol. 2, No. 5, 3-6, September/October 1988.

Federal Emergency Management Agency

Report on 1980 Property Loss Comparison Fires--An Insurance Industry Assessment of the Impact of Residential Sprinklers on Fire Loss.

Federal Emergency Management Agency, Washington, DC

FA-53; 25 p. March 1981.

Ford, Jim.

Automatic Sprinklers: a 10 Year Study. A Detailed History of the the Effects of the Automatic Sprinkler Code in Scottsdale, Arizona.

Rural/Metro Fire Department, Scottsdale, AZ; 98p. 1997

<http://www.fireteamusa.com/Documents/ScottsdaleRpt10yr.pdf>

[15-year data summary also available at <http://www.homefiresprinkler.org/FS/Scottsdale15.html>]

Haagensen, Dana

NFPA 13D Installations Protect Where Most Fire Deaths Occur

NFPA Journal, Vol. 97, No. 1, p. 24, January-February 2003

Hall, J. R., Jr.

U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?

National Fire Protection Assoc., Quincy, MA; 40 p. June 1995.

Superseded by latest edition (2007), also by Hall

Hall, J. R., Jr.

U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?
National Fire Protection Assoc., Quincy, MA; 41 p. August 1996.
Superceded by latest edition (2007), also by Hall

Hall, J. R., Jr.

U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?
National Fire Protection Association, Quincy, MA
NFPA Journal, Vol. 87, No. 6, 44-45,47-51,53-55, November/December 1993.
Superceded by latest edition (2007), also by Hall

Hall, John R. Jr.

U.S. Experience With Sprinklers and Other Automatic Extinguishing Equipment.
NFPA, Quincy, MA; 76p. 2007

Available for free download to members at the NFPA website, and included on the NFPA "One-Stop Data Shop Statistical Reports & Fact Sheets" CD-rom compilation.

<http://www.nfpa.org/assets/files//PDF/OSsprinklers.pdf>

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U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?
National Fire Protection Assoc., Quincy, MA; 39 p. October 1991.
Superceded by latest edition (2007), also by Hall

Hall, J. R., Jr. U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?

National Fire Protection Assoc., Quincy, MA
Report USS 14; 36 p. November 1989.
Superceded by latest edition (2007), also by Hall

Horton, Tom

Room & Board

Fire Chief, Vol. 48, No. 9, p. 38-41, September 2004

http://firechief.com/suppression/tactics/firefighting_room_board/index.html

Lerner, Michele,

Residential Sprinklers Prove Their Value.

Washington Times [DC], July 28, 2006, Friday Home Guide Section, p.F1.

Abstract: Overview of residential sprinkler basics, and their track record in various jurisdictions in the Washington metro area.

Miller, G. A.

Residential Fire Loss Trends: Sprinklers Make the Difference.

National Association of State Fire Marshals, Washington, DC
National Conference of States on Building Codes and Standards; Council of American Building Officials;
Department of Housing and Urban Development; National Association of Home Builders; National Fire
Protection Association; National Fire Sprinkler Association and National Institute of Standards and
Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC,
Natl. Conf. States on Bldg. Codes and Standards, McIntyre, M., Editor(s), 155-172 pp, 1990.

Mirkhah, Azarang

Save lives & then some

Fire Chief, Vol. 51, No. 2, p.38+, February 2007

http://www.firechief.com/awareness/firefighting_save_lives/

Nicholson, John.

*Welcoming Sprinklers into the Home: It Is Hard to Argue Against the Statistics, the Advances in Technology,
and Life-Safety Benefits of Residential Sprinklers.*

NFPA Journal, Vol. 99, No. 4, p.36-43, July-August 2005.

Operation Life Safety.

Nearly 200 Residential Sprinkler Activations.

Operation Life Safety, Vol. 6, No. 5, p.1, May 1991.

Figures are broken down in tables and graphs to show where and why the activations occurred; lives saved was
estimated to be about 236.

Petruzzello, C.

Residential Fire Losses: A Local Point of View.

City of Santa Ana, CA

National Conference of States on Building Codes and Standards; Council of American Building Officials;
Department of Housing and Urban Development; National Association of Home Builders; National Fire
Protection Association; National Fire Sprinkler Association and National Institute of Standards and
Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC, Natl.
Conf. States on Bldg. Codes and Standards, McIntyre, M., Editor(s), 125-138 pp, 1990.

Rohr, K. D.

U.S. Experience With Sprinklers.

National Fire Protection Assoc., Quincy, MA; 70 p. November 2003.

Superceded (latest edition by John Hall).

Rohr, K. D.

U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?

National Fire Protection Assoc., Quincy, MA; 41 p. September 1997.

Superceded (latest edition by John Hall).

Rohr, K. D.

U.S. Experience With Sprinklers: Who Has Them? How Well Do They Work?
National Fire Protection Assoc., Quincy, MA; 41 p. October 1998.
Superceded by newer edition (by John Hall).

Rohr, K. D.
U.S. Experience With Sprinklers.
National Fire Protection Assoc., Quincy, MA; 57 p. January 2000.
Superceded (latest edition by John Hall).

Rohr, K. D.
U.S. Experience With Sprinklers.
National Fire Protection Assoc., Quincy, MA; 60 p. September 2001.
Superceded (latest edition by John Hall)

Seaton, M.
Thirty Years of Suppression Systems.
NFPA Journal, Vol. 90, No. 5, 75-78, September/October 1996.

Size Up.
Sprinkler Successes Approaching 100: Residential Sprinkler Activation Cumulative Report.
Size Up, Vol. p.19-21, Feb. 1990.
List of sprinkler activations. Details include: type of occupancy; room of origin; sprinkler activations per fire; potential lives saved; successes by year from 1983-1989.

Size Up.
Are Residential Sprinklers Effective?
Size Up, Vol. p.20-21, February 1988.

Size Up.
At Last.
Size Up, Vol. p.28-29, February 1988.
On residential sprinkler effectiveness as experienced in Cobb County, GA.

Smeby, Charles.
The Secret to Prince George's Success.
Fire Chief, Vol. 37, No. 7, p.56+, July 1993.
This Maryland county is one of the first in the nation to require sprinklers in all residences.

Smith, Tim.
Fighting Fire With Technology.
Firehouse, Vol. 19, No. 11, p.66+, Nov. 1994.
On the impact residential sprinklers may have on America's fire losses. Article includes good statistics and

examples of local ordinances and installation requirements.

Smith, Dennis S.

Are Our Lives Worth It?

Voice, Vol. 25, No. 1, p.45-48, January 1996.

Description of fires which resulted in loss of lives and property, and the reasons why a residential fire sprinkler system should be required in all new residential construction. The National Institute of Standards and Technology (NIST) examined the estimated impact of sprinklers on home fires, and reported that sprinklers installed in dwellings that did not have smoke detectors would be expected to produce a 69 percent reduction in fire deaths.

Sprinkler Age

Residential Sprinkler Activations Report Tops 300.

Sprinkler Age, Vol. 11, No. 5, 21, May 1992.

Sprinkler Age

Scottsdale Tracks: Ten-Year Experience Can't Be Denied.

Sprinkler Age, Vol. 15, No. 1, 10-12, January 1996.

United States Fire Administration.

Residential Fire Sprinkler Activation Report: a Database of Residential Fire Sprinkler Activations. January 1, 2003 - June 30, 2007.

United States Fire Administration, Emmitsburg, MD; 41p. 2007

http://www.usfa.dhs.gov/downloads/pdf/publications/sprinkler_activation_report.pdf

Cost Impact, Financial Incentives, etc.

Residential Fire Safety Institute.

Incentives for Installing Residential Fire Sprinklers. [Web page dated 2007]

<http://www.firesafefhome.org/sprinklers/incentives.asp>

A. T. Hansen Consulting Services

Analysis of Costs and Benefits of Installing Fire Sprinklers in Houses. Phase 1. Selecting an Appropriate Assessment Procedure.

A. T. Hansen Consulting Services, Ontario, Canada

Summary Report; 64 p. August 31, 1988.

Beever, Paula et al.

Research into Cost-Effective Fire Safety Measures for Residential Buildings.

Centre for Environmental Safety and Risk Engineering, Victoria University of Technology, Melbourne,

Australia; 138p. 1998

Includes bibliographical references (p. 102-105).

Blankenship, Charles R., Keller (TX) Fire-Rescue

Insurance Premiums: the Effect on the Installation of Residential Sprinklers in One- and Two-family Dwellings

National Fire Academy, Emmitsburg, MD, 13 p., 1991

Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography.

Executive Fire Officer Program. Applied Research Project

Abstract: The primary obstacle in getting one -and two-family residences sprinklered is the cost. The purpose of this paper was to determine what affect, if any, insurance companies, through premiums, have on the installation of automatic fire sprinklers in one -and two-family residences. Procedures included research of reports and studies on the cost-benefit analysis of installing automatic fire sprinklers in one -and two-family residences. Personal communication interviews were conducted with insurance company district representatives and agents in the state of Texas. The findings indicated that the primary reason not to install fire sprinkler systems in one -and two-family dwellings was the cost of the system. Economic incentives are needed to offset installation cost, therefore increasing the number of system installations. Reductions in insurance premiums for these sprinkler systems can provide these needed incentives. The recommendations were, for the fire service nationwide to provide the data base to justify premium reductions. Second, to educate the insurance industry on the loss savings sprinklers provide, and their reliability. Third, was that as premium reductions become available, to inform the home builders of the cost recovery method for potential home buyers.

Bowers, Barbara.

A burning question: as the suburbs sprawl even farther, homeowners insurers are adding new factors into their underwriting consideration.

Best's Review, September 2003, p.64-70

Abstract: "In the fiercely competitive homeowners line, insurance companies these days are focusing more on identifying the hazards that a risk is exposed to before they spend underwriting dollars to inspect the site and determine coverage. This approach can be very important in evaluating fire peril, especially for newly built, higher-end housing in suburban and rural are-as where development is burgeoning. In a 2001 study, the Insurance Services Office, Jersey City, N.J., reported that areas graded at the lower end of its fire protection scale--generally, more suburban and rural locales--have seen home values rise faster than those areas with better fire classifications. Furthermore, from 1994 to 1998, the average amount of homeowners insurance being purchased in those areas had been growing 14 times faster than in better protected communities, ISO said..."

Brower, W. Keith, Loudoun County.(VA) Fire and Rescue Services

Residential Sprinklers: Their Use as a Tool Toward Municipal Savings

National Fire Academy, Emmitsburg, MD, 15 p., 1994

Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography.

Executive Fire Officer Program. Applied Research Project

Abstract: "...The purpose of this research was to establish a cost comparison basis for evaluating "traditional" community fire protection against the costs of providing residential sprinklers in housing and to demonstrate that residential sprinklers can represent a reduction in municipal tax rates. This research utilized the descriptive research methodology. ...Research indicated that residential sprinklers can be used to significantly offset the cost of "traditional" fire protection, thus reducing municipal expenditures. Two (2) recommendations resulted from this research. First, the nationwide fire service needs to better convince itself that "traditional" fire

protection has a cost limitation and that the promotion of residential sprinklers as a cost saving alternative is not a threat to existence. Second, fire service leaders at all levels need to continue to effectively liaison within their communities' political and social circles to ensure proper education relative to residential sprinklers.”

Brown, H.

Economic Analysis of Residential Fire Sprinkler Systems.
National Institute of Standards and Technology, Gaithersburg, MD
NISTIR 7277;67 p. December 2005.
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<http://fire.nist.gov/bfrlpubs/build05/PDF/b05013.pdf>
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Carson, Chip.

Bills Offer an Economic Incentive.
NFPA Journal, Vol. 99, No. 3, p.38, May-June 2005.

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International Fire Chief, Vol. 51, No. 9, p. 22-24, September 1985

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Coughlin, Pat
Incentives
Sprinkler Age, Vol. 19, No. 1, p. 22-23, January 2000

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United States Fire Administration, N.p.; 159p. 1988

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Home Fire Sprinklers: Lifesaver or Financial Burden?
Fire Chief, Vol. 38, No. 12, December 1994

Damioli, C.
Home Fire Sprinklers: Lifesaver or Financial Burden?
Fire Chief, Vol. 38, No. 12, 32-36, December 1994.

Dewar, Buddy
Residential Fire Sprinklers for Life Safety: an Economic and Insurance Perspective
National Fire Sprinkler Association, Inc, Patterson, NY. 38 p., 2001
<http://www.nfsa.org/info/residential/econsprinklers.pdf>

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BUILD, 11, September/October 2000.

Duncan, C.R., et al, New Zealand. Fire Service Commission.
Cost-effective Domestic Fire Sprinkler Systems
Building Research Association of New Zealand Porirua City, New Zealand, 133 p., 2000
New Zealand Fire Service Commission research report. No. 1
http://www.fire.org.nz/research/reports/reports/Report_1.pdf

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Dollars and Sense: a New Analysis From the USA Has Put Further Weight Behind Calls to Fit More Sprinklers in Homes.

Fire Prevention & Fire Engineers Journal, Vol. 65, No. 263, p.39-42, Dec. 2005.

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FIRE.GOV, Vol. 15, p.4, Fall 2006.

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What Drives the Cost of Residential Sprinklers?

NFPA Journal, Vol. 96, No. 6, 24, November/December 2002.

Hall, Kurt A.

Addison (TX) Fire Department.

Enhancing the Addison Fire Sprinkler Ordinance Through a Retrofit Tax Abatement Incentive Program for Existing Multi-family Dwellings

Emmitsburg, MD : National Fire Academy; 2004

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography. Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that the Town of Addison's sprinkler ordinance grandfathered existing multi-family dwellings when it was originated adopted which resulted in identifiable life/safety hazards within the community. The purpose of this applied research project (ARP) was to develop a tax abatement incentive program to making it feasible for multi-family residences to retrofit sprinkler systems thereby reducing identified life/safety hazards within the community...

Hansen, A. T.; Platts, R. E.

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National Research Council of Canada, Ottawa, Ontario

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Hazard Monthly, Vol. 12, No. 8, p. 10, August 1992

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Sprinklers Mean Affordable Construction.
National Fire Sprinkler Assoc., Patterson, NY
Sprinkler Quarterly, No. 72, 15-17, Fall 1990.
National Conference of States on Building Codes and Standards; Council of American Building Officials;
Department of Housing and Urban Development; National Association of Home Builders; National Fire
Protection association; National Fire Sprinkler Association and National Institute of Standards and
Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC,
McIntyre, M., Editor(s), 1990.

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Vol. 47, No. 7, p. 10-13, July 1981

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What Have We Learned About the Benefits and Costs of Residential Fire Sprinkler Legislation?
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Koester, Larry L.
Palm Beach County (FL) Fire-Rescue Department
Building a New Home? You're Convinced Fire Sprinklers Save Lives and Property - But Will You Decide to
Install Them?
National Fire Academy, Emmitsburg, MD, 17 p., 1991
Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.
Executive Fire Officer Program. Applied Research Project
Abstract: ...The area served by Palm Beach County Fire-Rescue has a current population of 430,000 and is
projected to have as many as 1,000,000 residents by the year 2020. In view of the large existing population and
explosive projected growth, it is imperative to analyze the residential fire situation for this service area and to
explore "residential sprinkler programs" which have proven successful in other communities in the United
States. Palm Beach County Fire-Rescue is in the very early stages of developing a residential sprinkler
program. The purpose of this paper will be to explore the common elements of ten successful residential
sprinkler programs which are well established in their respective communities...

Loweth, Lyndon
Cost of Living

Fire Engineers Journal, volume 62 no. 221, p. 30-32, June 2002 and Fire Prevention issue 357
This issue combines Fire Prevention with Fire Engineers Journal

Macey, Michael P. (Laguna Beach. Fire Department)

Evaluating the Installation Rate of Automatic Fire Sprinkler

Systems for Residential Occupancies Located in Laguna Beach, California

National Fire Academy, Emmitsburg, MD, 72 p., 2007

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that no data had been collected to identify the effectiveness of the [Laguna Beach, CA] City's residential fire sprinkler ordinance limiting the ability to objectively review recommendations for future amendments. The purpose of the research was to determine the effectiveness of the City's residential fire sprinkler ordinance, and to analyze installation rates based on altering the existing valuation threshold. The evaluative research methodology was used in formulating this project, and the research was conducted through the collection and analysis of data. Three research questions focused on residential fire sprinkler system installation rates. The results demonstrated the correlation between valuation thresholds and saturation rates. Recommendations included reducing the City's valuation threshold to increase the rate of residential fire sprinkler system installations.

Moyers, R. E.

Smoke Alarms and Residential Sprinklers: Costs and Benefits.

Summary Report. ARL-MR-65;26 p. April 1991.

National Fire Protection Association

Home Fire Sprinkler Cost Assessments [Description of Project in Progress]

National Fire Protection Association

<http://www.nfpa.org/displayContent.asp?categoryID=259&itemID=38080>

"Research Objective: To provide a national perspective on the cost of home fire sprinklers by developing data on installation costs and cost savings for ten communities, distributed throughout the United States. In the course of the study, key issues that impact the cost and cost savings to communities and individuals will be explored in more detail. Description: A detailed cost analysis of sprinkler installation using local labor and materials rates will be prepared for a small development of new single family homes in ten North American communities using nationally recognized cost estimating protocols. Specific cost concerns identified in the literature will be explicitly addressed in the development of the protocol. An independent survey of insurance premium credits/surcharges available in these communities will be carried out through third party contacts with local insurance agents. In the course of the study, key issues that impact the cost and cost savings to communities and individuals will be identified for further study. Schedule: Completion October 2008."

Nystedt, F.

Residential Sprinklers Providing Life Safety and Lowering Costs.

Lund Univ., Sweden

Volume 2; For more information contact: Interscience Communications, West Yard House, Guildford Grove, London SE10 8JT, England. Fax: +44(0)208 692 5155, Email: intercomm@dial.pipex.com,

Website: <http://www.intercomm.dial.pipex.com>

Interscience Communications Ltd.; Building Research Establishment; National Fire Protection Association; National Institute of Standards and Technology; Society of Fire Protection Engineers; and Swedish National

Testing and Research Institute. Interflam 2001. (Interflam '01). International Interflam Conference, 9th Proceedings. Volume 2. September 17-19, 2001, Edinburgh, Scotland, Interscience Communications Ltd., London, England, 1249-1254 pp, 2001.

Operation Life Safety Newsletter.

HUD Grant for Sprinklers.

Operation Life Safety Newsletter, Vol. 8, No. 2, p.2, Feb. 1993.

The Clallam County Housing Authority recently received a federal grant to retrofit 170 senior citizen residential units in 3 complexes in the Port Angeles, WA area.

Pamplin, Donald.

There Are Two Fundamental Rules to Be Successful in Business: Rule One: Don't Lose Money. Rule Two: Remember Rule Number One.

Sprinkler Quarterly, No. 135, p. 17+, March/April 2006

Parsons, Davis R. (Los Angeles City Fire Department)

Residential High-rise Fire Sprinklers - a Public Safety Issue

National Fire Academy, Emmitsburg, MD, 37 p., 1991

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: In June 1988, the City of Los Angeles passed into law a retroactive requirement for the full automatic sprinklering of all "existing" commercial high-rise buildings. The Fire Department made a determined attempt to include residential high-rise buildings, but backed off in the face of unrelenting pressure from owners and occupants and the desire to achieve the Commercial Ordinance while the issue was ripe. There are 80 residential high-rise buildings in the City of Los Angeles that remain unsprinklered; and the majority of them will never be sprinklered unless a mandatory retroactive ordinance is passed. The issue became a heated and controversial political battleground, bringing in the issues of "affordable housing" and the cost/benefit aspect of safety from fire. LAFD experience and documentation of fire and life loss involving residential high-rise buildings was the starting point for creating an awareness of the need for sprinklers in these buildings. National statistics were also evaluated. A national survey was conducted in order to determine the extent to which other cities have created retroactive fire sprinkler legislation affecting commercial and residential high-rise buildings. Local studies were undertaken in an effort to determine a realistic basis for accurately computing the costs of retroactive installation of sprinklers in these buildings. In addition, and based upon the results of the cost study, research was conducted to determine the impact that a retroactive sprinkler ordinance would have upon the City's stock of "affordable" housing. Briefly stated, the study's findings determined the following: (1) Retroactive installation of fire sprinklers in residential high-rise buildings is costly, the cost per unit being possibly more than the average elderly resident on a fixed income can handle, (2) Retroactive residential high-rise sprinkler ordinances are rare, and only 6 affect condominiums or apartment houses, (3) In the City of Los Angeles, six preventable fire deaths have occurred in residential high-rise buildings since 1979, (4) The negative financial impact upon "affordable" housing could be significant. The recommendation that flows out of this study is a complex set of requirements for the eventual retrofitting of all residential high-rise buildings with automatic fire sprinklers with the minimum requirements of the NFPA 13R as the standard for sprinkler installation and coverage.

Randall, J. L.

Cost of Residential Sprinklers.

Consultant
Sprinkler Quarterly, No. 72, 8,19, Fall 1990.

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Residential Sprinklers Prove Economical for California Builder.
Sprinkler Age, Vol. 9, No. 3, 10-11, March 1990.

Ruegg, R. T.; Fuller, S. K.
Economics of Fast-Response Residential Sprinkler Systems.
Fire Journal, Vol. 79, No. 3, 18-22,115, May 1985.

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Economics of Fire Protection: Fast-Response Residential
Sprinklers.
National Bureau of Standards, Gaithersburg, MD
Construction Management and Economics, Vol. 3, 43-57, 1985.

Ruegg, Rosalie T. and Sieglinde K. Fuller.
A Benefit-Cost Model of Residential Fire Sprinkler Systems.
National Bureau of Standards, Gaithersburg, MD; 149p. 1984

Schmitt, Bob
Mandatory Home Sprinkler Systems, Fire Safety and Cost: What Are Our Priorities? A Home Builder's View
Building Official and Code Administrator; Vol. 22, No. 5, p. 16, September-October 1988

Schmitt, R. F.
Priorities: Sprinkler Systems, Fire Safety and Cost.
Bob Schmitt Homes, Inc., Strongsville, OH
National Conference of States on Building Codes and Standards; Council of American Building Officials;
Department of Housing and Urban Development; National Association of Home Builders; National Fire
Protection Association; National Fire Sprinkler Association and National Institute of Standards and
Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC, Natl.
Conf. States on Bldg. Codes and Standards, McIntyre, M., Editor(s), 111-124 pp, 1990.

Siarnicki, Ronald Jon.
State's Evidence.
Fire Prevention & Fire Engineers Journal, p. 56-58, March 2003
This issue combines Fire Prevention Issue 366 with Fire Engineers Journal Volume 63 No. 230
Research to evaluate the performance and cost-effectiveness of residential sprinklers in Prince George's
County, MD

Sprinkler Age

Residential Fire Sprinkler Cost Breakdown.
Sprinkler Age, Vol. 22, No. 1, 17, January 2003.

Sprinkler Age

Residential Sprinkler System Achilles Heel? Part 3. Do the Cost Comparisons Tell the Whole Story?
Sprinkler Age, Vol. 13, No. 10, 25-26, October 1994.

Streets, J.

Sprinklers - a Low Cost Option

Fire; Vol. 95, No. 1167, p. 44-48, September 2002

Tamim, A. S.

Cost-Benefit Analysis of Residential Sprinkler Systems in Single Family Dwellings.

Worcester Polytechnic Inst., MA

Thesis;305 p. December 1992.

Vrklan, Frank M.

Identifying Incentives That May Encourage Miramar Citizens to Install Residential Sprinkler Systems.

National Fire Academy, Emmitsburg, MD, 32p., 2005.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

<http://www.usfa.dhs.gov/pdf/efop/efo38322.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that single family homes in the City of Miramar [FL] were not protected by residential fire sprinklers, thus jeopardizing the life safety of the citizens residing in those structures. Three research questions were answered utilizing the descriptive research method. Two surveys and two interviews were conducted. The results showed that retrofit costs ranged from \$2 to \$3 per square foot, insurance discounts ranged from 3% to 13%, localized fire protection provided high benefit for low cost in retrofit situations, and grant funding could be pursued to assist the citizens who qualify for the fire assessment hardship exemption. Recommendations included pursuing a new construction ordinance, public education, advocating localized protection retrofits, temporary fire assessment fee exemption, and grant funding.

Walz, Jerry D. (Titusville, FL, Fire & Emergency Services)

Residential Sprinklers - the Alternative Strategy for Reducing Residential Fire Loss

National Fire Academy, Emmitsburg, MD, 12p., n.d.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: Are residential automatic sprinkler systems the most effective measure for minimizing fire threat and reducing loss of life and property damage? The purpose of this paper is to examine the successful life and property saving advantages of low cost residential automatic sprinkler systems, and for executive fire officers to show their community or municipality the appropriate considerations and justifications for same. The many arguments against residential sprinklers and some negative comments relating to cost factors were also addressed. Findings indicated the residential sprinkler can and is working and gaining acceptance in the United States today. In conclusion, the recommendations include that the executive fire officer, along with his local legislators and code officials, must aggressively encourage and support the installation of automatic sprinklers in one and two family dwellings in their community.

Williams, Robert. (Defense Supply Center Richmond. Fire Department)

An analysis of the feasibility of the Defense Supply Center Richmond requiring the installation of automatic fire sprinkler systems in resident family quarters.

National Fire Academy, Emmitsburg, MD, 35p., 2003.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

<http://www.usfa.dhs.gov/pdf/efop/efo36465.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: The problem addressed in this research is that the resident family quarters on the Defense Supply Center Richmond (DSCR) are not protected by automatic sprinkler systems. This is an exception, since most buildings on the Installation are protected by a fire suppression system. The purpose of this research was to study the financial impact, the regulatory implications and the feasibility of requiring the retrofit of automatic sprinkler systems.

Wolk, Allen

Camas (WA) Fire Department

Encouraging Voluntary Installation of Residential Sprinkler Systems in the City of Camas, Washington

National Fire Academy, Emmitsburg, MD, 29 p., 2002

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that fire sprinkler systems were not being installed in newly constructed houses in the City of Camas. The purpose of the study was to recommend what Camas may do to provide financial incentives to encourage voluntary installation of residential sprinkler systems in new homes...

<http://www.usfa.dhs.gov/pdf/efop/efo34684.pdf>

[Home Fire Sprinkler Coalition/Fire Protection Research Foundation?].

Project Statement: Cost Ramifications of Residential Sprinklers. A National View. 2p. Undated.

Potential Impact on Firefighter Safety and Fire Suppression Services

Benichou, N.; Yung, D.; Hadjisophocleous, G. V.

Impact of Fire Department Response and Mandatory Sprinkler Protection on Life Risks in Residential Communities.

National Research Council of Canada, Ottawa, Ontario

Home Office, London, England

Volume 1; Interscience Communications Ltd.; National Institute of Standards and Technology; Building Research Establishment; and Society of Fire Protection Engineers; Swedish National Testing and Research Institute. Interflam 1999. (Interflam '99). International Interflam Conference, 8th Proceedings. Volume 1. June 29-July 1, 1999, Edinburgh, Scotland, Interscience Communications Ltd., London, England, 521-532 pp, 1999.

Campbell, Henry A.

Residential Fire Sprinklers and the Fire Service: the Time Is Now!
Size Up, Vol. p.52-53, Winter 2004.

Chandler, Michael R.

Columbus (MS) Fire - Rescue.

Residential Sprinklers: Protection of Life and Property Through a Proactive Response

Emmitsburg, MD : National Fire Academy; 53 p, 2007

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project

Abstract: The City of Columbus annexed 10 years ago. Added territory without additional resources resulted in longer apparatus response times causing increased property loss while exposing civilians and Firefighters to injuries and death. Seeking to annex again, the research purpose was to determine how residential sprinklers would benefit the City. Descriptive research sought to identify safety measures commonly used in lieu of sprinklers, the advantages sprinklers offer, stakeholder attitudes, existing barriers, and the codes and standards regarding sprinklers other jurisdictions used...

Chaney, B.

Manual Fire Combat Antiquated, Dangerous and Expensive.

Palm Springs Fire Dept., CA

National Fire Prevention and Control Administration and National

Bureau of Standards. Low-Cost Residential Sprinklers. 3rd Conference Proceedings. November 29-30,
1977, Howard County, MD, 198-204 pp, 1978.

Coughlin, Pat

Can Sprinklers Help Your Fire Department

Sprinkler Age, Vol. 19, No. 8, p. 14+, August 2000

Because sprinklers control Fires when they are small, they can reduce demands on Fire departments, enabling departments to remain all-volunteer and improving life safety at the same time.

Davis, Larry

The Instant Firefighter: a Nontraditional Solution to the Rural Fire Control & Suppression Problems
Fire-Rescue Magazine, Vol. 21, No. 6, p. 111-112+, June 2003

Davis, Larry.

First Responders: Residential Sprinklers Can Douse Fires Long Before Rescuers Arrive on Scene.

Fire Rescue Magazine, Vol. 21, No. 5, p.101-105+, May 2003.

DiPietro, Marv

Sparks (NV) Fire Department.

Residential Sprinkler Ordinance for the City of Sparks

Emmitsburg, MD : National Fire Academy; 27 p. 1999

Strategic Management of Change

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that the Sparks Fire Department did not have a Fire station in the northern section of the city. This area is all new developments, mostly upscale single family dwellings ranging in price from \$150,000.00 to \$300,000.00. The average response time from the closest Fire station was 8.89 minutes. Because of the long response times, the Fire Chief directed the Fire marshal to work on a residential Fire sprinkler ordinance that would require Fire sprinklers in new single family dwellings at the time of construction. The purpose of this paper was to research residential Fire sprinklers and determine the feasibility of such an ordinance for the City of Sparks...

<http://www.usfa.fema.gov/pdf/efop/efo31045.pdf>

Franchuk, Darrell M. and W. Wayne Waggoner.

Engineers, Sprinklers, and the Authority Having Jurisdiction: Working Together to Benefit Fire Fighters and the Public.

NFPA Journal, Vol. 89, No. 2, p.85-89, March-April 1995.

Garrisi, Garland

Yuba City (CA) Fire Department.

Residential Sprinkler Systems in Yuba City

Emmitsburg, MD : National Fire Academy;

30 p., 2004

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: Residential home construction has significantly increased in the past several years and the City has projected additional population growth. The staffing levels at the Fire department are not currently projected to increase with the projected growth and alternative methods for Fire protection need to be examined. The problem was that the City of Yuba does not currently have a residential sprinkler ordinance. The purpose of this research project was to assess what problems would be encountered to enact a residential sprinkler ordinance...

<http://www.usfa.dhs.gov/pdf/efop/efo36959.pdf>

Higgs, Bill.

Fire Sprinklers: Sechelt (B.C.) Fire Department Conducts Sprinkler Test Versus Traditional Response.

Fire Fighting in Canada, Vol. 40, No. 5, p.5-6, June 1996.

Lacey, Brett and Paul Valentine.

Do the Math: Firefighter Safety. Take a Proactive Approach Instead of Reacting to an Incident.

[Firehouse.com forum article updated 6/26/2007]

<http://www.mail-archive.com/sprinklerforum@firesprinkler.org/msg04352.html>

Mirkhah, Azarang

What's It Going to Take? The Residential Sprinkler Code Vote is September.

Firehouse.com forum article, posted 3/11/2008.

<http://cms.firehouse.com/content/article/article.jsp?sectionID=9&id=58626>

Schulte, Richard.

The NASFM Viewpoint?
Plumbing Engineer, November 2007.

http://www.plumbingengineer.com/nov_07/fire.php

Abstract: Disputes claims that a significant number of firefighter lives will be saved if residential sprinklers are required.

Waters, John R.

Fire Department Response Times Vs. Flashover

Fire Engineering; Vol. 152, No. 2, p. 107-108+, February 1999

Installation Issues (General, including code requirements, installer certification, water supply, etc.)

Allstate Foundation

Quality Control of Residential Sprinkler Installations to Ensure Reliability

United States Fire Administration, Washington, DC, 32 p., n.d.

Australian Assembly of Fire Authorities

Code of Practice for Installation of Domestic Life Safety Sprinkler Systems in One and Two Family Dwellings

Australian Fire Protection Association, Melbourne, Australia, 25p., 1992

"This document has been produced to provide guidance in anticipation of the publication of the relevant Australian Standard."

"Portions of this material are reproduced with permission from NFPA 13D-1989, Installation of Sprinkler Systems in One- and Two-family dwellings and Mobile Homes, copyright 1989, National Fire Protection Association, Quincy, MA 12269, U.S.A."

Australian Assembly of Fire Authorities

Code of Practice for Installation of Residential Life Safety Sprinkler Systems in Buildings of up to Four Storeys

Australian Fire Protection Association, Melbourne, Australia, 24p., 1992

Melbourne, Australia : Australian Fire Protection Association

"This document has been produced to provide guidance in anticipation of the publication of the relevant Australian Standard."

"Portions of this material are reproduced with permission from NFPA 13R-1991, Sprinkler Systems in Residential Occupancies Up to Four Stories in Height, copyright 1989, National Fire Protection Association, Quincy, MA 12269, U.S.A."

Ballanco, Julius.

The Plumbing of Residential Fire Sprinklers : Installation, Design and Bidding of Hotel, Motel, Apartments, Condominiums, and Single Family Homes.

Illustrated Plumbing Codes, Inc., La Crosse, WI; 188p. 1992

Becker, Bruce.

On the Cutting and Gluing Edge: an Innovative Approach to a Combination Residential Sprinkler/Plumbing System. Operation Life Safety, Vol. 9, No. 6, p.6, June 1994.

Blackwell, Marion F., Timberlake (ID) Fire Protection District

Plumber Installation of the National Fire Protection Association, Standard 13D, in the Timberlake Fire Protection District

National Fire Academy, Emmitsburg, MD, 60p., 2000.

Abstracts for EFO papers are by the author, but may be abridged for the purpose of this bibliography.

<http://www.usfa.fema.gov/pdf/efop/efo31458.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: The problem is the lack of Idaho adopted guidelines for the installation of residential sprinkler systems by plumbers in homes of 3600 square feet or less. The purpose of this Applied Research Project was to develop minimum criteria for the installation of residential sprinklers in homes of 3600 square feet or less located within the boundaries of the Timberlake Fire Protection District. ...The results demonstrated approaches used by various organizations to gain approval within their jurisdictions. While each approach was unique, the underlying thrust appeared to be the obtaining of an approval of the National Fire Protection Association 13D appliances by state plumbing officials. Once approved, a licensed plumber could then install the appliances. Recommendation by the author was to have Appendix A adopted by the Timberlake Fire Protection District's Board of Commissioners. A further recommendation was for continued lobbying at the state level, specifically to the State of Idaho Fire Marshal's Office and the State of Idaho Plumbing Bureau.

Brown, P.

Closets and Sprinklers: NFPA 13R and NFPA 220.

Sprinkler Age, Vol. 25, No. 10, 22-23, October 2006.

Brown, P.

Placement of Residential Sprinklers: Sloped Versus Flat Ceilings.

American Fire Sprinkler Association

Sprinkler Age, Vol. 20, No. 1, 21-22, January 2001.

Brown, P.

Garages and NFPA 13D.

American Fire Sprinkler Assoc.

Sprinkler Age, Vol. 18, No. 6, 13-14, June 1999.

Brown, Phill and Roland J. Huggins

Residential Installations Pose Interesting Problems

Sprinkler Age, Vol. 17, No. 8, p. 27+, August 1998

Brown, Phil.

Residential Garages and Sprinklers: Does NFPA 13D Require Protection

Sprinkler Age, Vol. 23, No. 1, p. 8, January 2004

Bryan, J. L.
Automatic Sprinkler and Standpipe Systems. 4th Edition,
National Fire Protection Assoc., Quincy, MA, 887 p., 2006.

Dubay, Christian ed.
Automatic Sprinkler Systems for Residential Occupancies Handbook.
NFPA, Quincy, MA; 327p. 2007
Includes the complete texts of the 2007 editions of NFPA 13D and NFPA 13R.

Duvall, Nicole
Installing Fire Protection, Restoring a Family
Sprinkler Age, Vol. 25, No. 7, p. 8-9, July 2006
ABC network's 'Extreme Makeover: Home Edition' television program

Federal Emergency Management Agency
Express Residential Fire Sprinkler Design Guide.
Federal Emergency Management Agency, Emmitsburg, MD
FA 155;72 p. May 1995.
http://www.toolbase.org/PDF/DesignGuides/express_resi_fire_sprinkler.pdf

Huggins, Roland J., et al
Informal Interpretations Address NFPA 13R Questions
Sprinkler Age, Vol. 22, No. 3, p. 19+, March 2003

Kelly, Kevin J.
Sprinklers in Garages
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How many Communities Have a Residential Sprinkler Ordinance?

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Department of Housing and Urban Development; National Association of Home Builders; National Fire
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*Abstract: an example of 2003/2004 selling prices which attempts to show that a sprinklered house doesn't
necessarily cost more.*

Fritz, Floyd A.
Pinehurst (NC) Fire Department.
Home Fire Sprinkler Systems for Habitat for Humanity Homes
Emmitsburg, MD : National Fire Academy; 57 p., 2006

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: This applied research project (ARP) was used to establish a program for the installation of home Fire sprinklers in Habitat for Humanity homes utilizing the action method of research through use of published materials, personal interviews, and data collection to research the following questions: What is the justification for installing home Fire sprinkler systems in residential properties? What are the benefits of installing home Fire sprinkler systems in Habitat for Humanity constructed homes? What are the obstacles that will need to be overcome to initiate this program? What are the life safety benefits to the homeowners of Habitat for Humanity homes? The resulting research provided a program to install home Fire sprinklers in Habitat for Humanity homes.

<http://www.usfa.dhs.gov/pdf/efop/efo38744.pdf>

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Residential Sprinklers, Why Not in New York City?

New York Fire Sprinkler Contractors Association Update, Vol. 16, No. Summer 1998.

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USFA Not a Candy Store
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A Tale of Two Sprinklers
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The Pros and Cons of Integrated Systems.
Sprinkler Quarterly, No. 106, p.35-37, Spring 1999

Gaiser, Kenneth E.
Georgetown (SC) Fire Department.
Manufactured Homes - the Key to Improving Fire Safety in Future Homes
Emmitsburg, MD : National Fire Academy; 62 p., 1995
Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project
Abstract: Over the last decade, a great deal of legislative efforts has been placed on requiring fire sprinklers in high-rises, multi-family apartments, hotels and motels. In view of the fact that 68 percent of the residential fire deaths occur in one-and two-family dwellings, it appears perhaps we have been skirting the issue rather than targeting the problem. A type of housing that deserves special attention is the "mobile" or manufactured home. Today, more than 10 million Americans live in this type of housing. Manufactured homes have captured 25 percent of the home market for the last 10 years and their numbers are growing. It is estimated that manufactured homes will represent 30 percent of all new single-family homes sold in 1994. The 1995 sales are projected to exceed 325,000 and 1997 sales are predicted to reach 400,000. The manufactured homes have more than twice the fire deaths as they do fires. Deaths per fire are more than twice as high for manufactured homes as for other dwellings. Given these facts, the purpose of this research paper was to obtain information pertinent to manufactured homes by surveying state fire marshals...

Golinveaux, James

Listings and Applications of Residential Sprinklers: a Technical Analysis. Pt. 3
Sprinkler Age, Vol. 22, No. 5; p. 18-20, May 2003

Holmes, Craig A

NFPA 13D Residential Sprinklers Vs. NFPA 13 Standard Sprinkler Systems: a Difference in Levels of Protection

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Koffel, W. E.

Detectors and/or Sprinklers in Residential and Institutional Occupancies? Sprinklers Are Sufficient.
Koffel Associates, Inc.

Building Official and Code Administrator, Vol. 23, No. 3,
34-35,37-38, May/June 1989.

Morris, R. A.

Alternative Cost-Effective Methods of Reducing Fire Loss in Low-Rise Residential Structures.

National Association of Home Builders, Washington, DC

National Conference of States on Building Codes and Standards; Council of American Building Officials; Department of Housing and Urban Development; National Association of Home Builders; National Fire Protection Association; National Fire Sprinkler Association and National Institute of Standards and Technology. Sprinklers in Residential and Commercial Buildings. August 19-20, 1990, Charleston, SC, Natl. Conf. States on Bldg. Codes and Standards, McIntyre, M., Editor(s), 43-61 pp, 1990.

Notarianni, Kathy A. and Margaret A. Jackson .

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Natl. Instit. of Standards and Technology, Gaithersburg, MD; 34p. 1994

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O'Hagan, Joseph J.

Operation Turnaround - Report on the Residential Sprinkler System Retrofit of Building 48, Fort Myer, Virginia

s.l. : US Army. Corps of Engineers. 20 p., 1986.

Abstract: On 19 January 1985, the Office of the Chief of Engineers (QCE) approved funding to install the first low cost retrofit residential sprinkler system in the Department of Defense. Building 48, a 14-apartment Bachelor Officers' Quarters, located at Fort Myer, Virginia, was selected for this prototype project. The system was installed with applicable National Fire Protection Association Standards utilizing newly developed flexible polybutylene plastic pipe and fast response sprinkler heads. This report contains project background information, a description of the system components, the actual retrofit work, and testing procedures. The report also makes recommendations for future U.S. Army initiatives in the area of residential sprinkler systems for family housing.

Operation Life Safety Newsletter.
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Operation Life Safety Newsletter, Vol. 7, No. 12, p.1-3+, Dec. 1992.

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The Manufactured Home Sprinkler System (MHSS): What Is It?
Quick Response, Vol. p.2+, May 1993.

Saks, Ken
Considering a "Partial" Fire Sprinkler System
Sprinkler Age; Vol. 20, No. 1, p. 27, January 2001

Senter, Wayne.
Retrofit Kitchen Sprinkler Systems Could Be Important Step to Reducing National Fire Loss.
IAFC On Scene, Vol. 19, No. 14, p.8, August 15, 2005.
The article is presented in support of conducting a marketing program to retrofit kitchen sprinkler systems in residential home throughout the US. It is envisioned that marketing would be done in a similar manner as the successful home smoke detectors program.

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Champaign, IL : U. S. Army. Corps of Engineers; 26 p., 1987

Sprinkler Age
Sprinkler Costs Offset by Alternative Design Options.
Sprinkler Age, Vol. 15, No. 1, 14, January 1996.

United States Fire Administration.
Fire Sprinklers for Manufactured Homes.
United States Fire Administration, n.p.; 1p., January 2000
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Potential Impact (General) and Feasibility Studies

Binaski, John P., City of Tulare Fire Department
An Evaluation of Possible Benefits to the Citizens and the Fire Department of the City of Tulare Passed a Residential Sprinklers Ordinance
National Fire Academy, Emmitsburg, MD, 36p., 2005
Leading Community Risk Reduction
Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography.

<http://www.usfa.dhs.gov/pdf/efop/efo38105.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: Residential fires account for a majority of reported structure fires in the City of Tulare and statistically are the deadliest fires in our jurisdiction. The purpose of this descriptive research was to determine the benefits of residential sprinklers in new construction, the objections of local builders and/or elected officials, and what might be done to gain support for such an ordinance. . . Results indicated that residential sprinkler systems are both extremely effective for fire suppression and very cost effective, however local builders have failed to embrace an ordinance that would mandate implementation. The author's recommendation is that the City of Tulare Fire Department move forward to enact a residential sprinkler ordinance and establish an educational relationship with elected officials, builders, and residents.

Brinkley, Thomas E., Prince George's County. (MD) Fire Department

Quick Response Residential Sprinklers - Impact on the Community and Their Implementation

National Fire Academy, Emmitsburg, MD, 33 p., 1990

Strategic Analysis of Executive Leadership

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography.

Executive Fire Officer Program. Applied Research Project

Abstract: Sprinkler technology is not new. What is new is the concept of having sprinkler systems that are aesthetically pleasing, fast responding, and adaptable to the residential setting. In Prince George's County it was determined that the majority of deaths, 89% over 10 years, were in the home setting. A task force was formed at Fire Chief Estep's direction to review the problem, make recommendations, and investigate the feasibility of requiring mandatory sprinkler legislation. The committee did just that and provided a comprehensive report back. As a result, the Fire Department set off on an aggressive marketing campaign to convince the County government and the public how important residential sprinkler technology was and how it had the potential to save 14 lives a year.

Britt, David S., University of Memphis, Memphis (TN)

The Feasibility of Mandatory Residential Sprinkler Systems in Memphis, Tennessee

Open Learning Fire Service Program; 93 p., 1996

A special project submitted to the University of Memphis as part of the Open Learning Fire Service Program.

Abstract: The purpose of this proposal was to explore an alternative approach toward the ultimate reduction in property loss, human suffering, and death through advancements in research and technology. The desire was to determine if it was feasible or advisable to implement a mandatory residential sprinkler ordinance in Memphis, Tennessee or selected portions of Memphis, Tennessee. The methods employed were a combination of historical, descriptive, and evaluative. The results were formulated by surveys and interviews with political officials, private sector representatives, and the electorate, as well as a review of relevant literature published by credible organizations. The results of examining the data were that the technology is in place; the research has been done; residential sprinklers can save lives and property; there is support from most quarters; and there is little knowledge or acceptance of residential sprinklers in Memphis. It will be necessary to educate the citizens concerning the benefits and the availability of NFPA 13-D and NFPA 13-R systems. The recommendation is that a task force of representatives from all concerned segments of the community be assembled to carry out the above task and prepare a voluntary ordinance, enhanced with trade-offs, for one and two family dwellings and a mandatory ordinance, enhanced with trade-offs, for multi-family dwellings up to and including four stories.

Chase, Donald S.

Criteria for the Establishment of a Residential Fire Sprinkler Ordinance

Emmitsburg, MD: National Fire Academy; 2002

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: Franklin D. Roosevelt said, "The only limit to our realization of tomorrow will be our doubts of today" (Anderson, 1992). The town of Kiawah Island is a resort/retirement community located south of Charleston, South Carolina. Kiawah Island is a coastal community comprising of one- and two-family dwellings of wood frame construction requiring the first floor living area to be elevated above the anticipated flooding height in the event of a weather disaster. The majority of the structures are 4,000 square feet in size or larger, and three stories in height. These structures are primarily used for vacation or rental properties and are left unoccupied for much of the year. The problem with these large, combustible structures is that the available Fire fighting resources to address a fully involved structure Fire is not sufficient to either extinguish the Fire or prevent the Fire from extending to a close proximity exposure. The purpose of this applied research project was to identify and recommend measures that could be implemented to achieve Fire protection and loss mitigation to the community and to the homeowners through the establishment of a residential Fire sprinkler ordinance by the Town of Kiawah...

Chrisman, Edward Cary

Porterville (CA) Fire Department.

A Study of the Effectiveness of a Sprinkler Ordinance in Controlling Growth of a Fire Department While Providing Cost-effective Fire Protection to the Community

Emmitsburg, MD : National Fire Academy; February 1992

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: The City of Porterville is experiencing rapid growth in the areas of population, residential construction, commercial construction, and land annexations. While expanded growth is, in general, a positive attribute to the City of Porterville, it can have other effects, both positive and negative. One concern is in the area of fire protection. What can the City of Porterville do to maintain and/or improve the current level of fire protection? How can the City do this in a cost effective manner? As the City's boundaries grow larger, and the budget smaller, the Porterville Fire Department must look at other cost-effective options when designing an effective fire protection system for the community. This research project will look at one possible alternative to the growing demands for fire protection...residential sprinkler systems; their overall cost-effectiveness to the community and to the City.

Coleman, Ronny J.

Residential Sprinkler Ordinances: Successes and Failures

Fire Chief, Vol. 30, No. 7, p. 31-34, July 1986

Cox, Michael E.

Anne Arundel County. Fire Department.

A Case for Residential Sprinklers for Single Family Dwellings in Anne Arundel County, Maryland

Emmitsburg, MD : National Fire Academy; 56 p., October 2006

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract The problem was that without a residential sprinkler ordinance for single family dwellings, Anne Arundel County has experienced on average six Fire deaths and tens of millions of dollars in property damage due to residential structure fires. The research purpose was to identify existing sprinkler legislation for single family dwellings, issues that have prevented such legislation, as well as, the cost and benefits of such

legislation. Research questions included: What codes, issues, costs, and benefits regarding sprinklers for single family dwellings currently exist in Anne Arundel County? Historical and descriptive research methods including: an interview, survey, and data analysis were utilized to identify these issues...

Dmuchowski, Michael P.

Frederick County (MD) Fire/Rescue Services.

Residential Sprinklers for Frederick County, Maryland - a Quick Response

Emmitsburg, MD : National Fire Academy; 31 p., May 2004

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: This project analyzed the installation of residential sprinkler systems including legislation and benefits. The county did not have a residential sprinkler ordinance requiring sprinklers to be installed in new dwelling units in the county. The purpose of the project was to develop an action plan to follow to persuade the commissioners to adopt an ordinance requiring sprinklers be installed in all new dwelling units...

<http://www.usfa.dhs.gov/pdf/efop/efo37004.pdf>

Doefler, Douglas J.

Bay City (MI) Fire Department.

Overcoming Objections to a Residential Sprinkler System Ordinance

Emmitsburg, MD : National Fire Academy; ; 26 p., 2002

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: The City of Bay City is about to undergo several large development projects that will result in the addition of many one and two family dwellings. Realizing the potential life saving and property conservation benefits, it would be an advantageous time to adopt a residential sprinkler system ordinance. The problem is that there is no ordinance requiring sprinkler systems in one and two family residences. The purpose of this research was to identify the potential objections to such an ordinance and to find answers to them...

<http://www.usfa.dhs.gov/pdf/efop/efo33822.pdf>

Dominick, Donald A.

Northfield Township (MI) Fire Department.

Benefits of Residential Sprinkler Installation for New Construction in Northfield Township

Emmitsburg, MD : National Fire Academy; 40 p., 2004

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography Executive Fire Officer Program. Applied Research Project

Abstract: The problem is that Northfield Township has the potential for significant and rapid growth in the near future. This is the ideal time to consider reducing the risks of death, injury and property conservation pertaining to residential Fires, by the utilization of residential Fire sprinklers. Northfield Township Fire Department has not identified the benefits of residential sprinklers. The purpose of this descriptive research is to identify the benefits of residential sprinklers in new construction, to become the essential components of the Northfield Township Fire Department Residential Sprinkler Campaign...

<http://www.usfa.dhs.gov/pdf/efop/efo36544.pdf>

Fenton, Jerry

Residential Sprinklers - Are They for Alaska?

Emmitsburg, MD : National Fire Academy. 13p., 1990

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project

Abstract: ...Through a comprehensive review of the successful implementation of residential sprinkler systems in populated areas I shall research the feasibility of their use in Alaska, show how others have overcome common objections, and recommend the adoption of these systems in Alaska's Fire and Building Code.

Ford, J.

One City's Case for Residential Sprinkler Systems.

NFPA Journal, Vol. 91, No. 4, 40-44, July/August 1997.

Frain, Thomas D.

Costs, Effects, and Benefits of Residential Sprinkler Systems: a Study of Desoto County
Memphis, TN : University of Memphis; 120 p, 2001 [Degrees at a Distance Program]

Froehlich, Daniel

Feasibility of a Residential Sprinkler Ordinance in Owensboro, Kentucky

Emmitsburg, MD : National Fire Academy, 27 p. 1997

Strategic Analysis of Community Risk Reduction

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project

Abstract: The problem is that the fire service has the technology to help control fires in residential structures, but that the City of Owensboro, Kentucky has not imposed legislation to require the use of residential sprinklers. The purpose of this research paper was to determine if a sprinkler ordinance would be feasible in Owensboro, Kentucky...

Gregory, Curtis

Indianapolis (IN) Fire Department.

Residential Fire Sprinkler Systems. Are They Effective? Are They Worth It?

Emmitsburg, MD : National Fire Academy; 16 p. 1990

Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author

Executive Fire Officer Program. Applied Research Project

Abstract: Many fire service leaders are emphasizing the effectiveness and importance of residential fire sprinkler systems in their communities. This emphasis is usually met with skepticism and resistance for reasons ranging from cost to cosmetics. The two questions most often asked relating to residential fire sprinkler systems are 1) Are They Effective? and 2) Are They Worth It? The objective of today's fire service leaders are to thoroughly research these two questions for solid convincing evidence to support the position of the fire service in answering in the affirmative to both questions. Various studies have been conducted by organizations that have answered these and other questions. Approximately 100,000 fire incidents have been recorded in studies conducted from 1886-1978. The results indicate outstanding performance by fire sprinkler systems over a period of 92 years. Overall the results of these studies support the need and use of residential fire sprinkler systems...

Johnston, John D.

Waco (TX) Fire Department.

Reducing the Vulnerability to Risk from Structure Fires Within
the City of Waco Through Sprinkler Systems

Emmitsburg, MD : National Fire Academy; 46 p., 2003

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this bibliography
Executive Fire Officer Program. Applied Research Project

Abstract: The city of Waco has responded to many structure Fires since the inception of its organization. Already this year, the city of Waco has had three Fire deaths within residential structures. Fire will never be prevented as long as the human element is figured into the equation of risk. Yet, the vulnerability to risk can be reduced significantly. The problem is that the City of Waco faces a vulnerability to risk on a daily basis. The risk is the loss of property and lives from residential structure Fires. The purpose of this research was to determine how residential sprinklers would reduce the vulnerability of risk to the City of Waco...

<http://www.usfa.dhs.gov/pdf/efop/efo36369.pdf>

Koester, Larry L. (Palm Beach County, FL Fire-Rescue Department)

Residential Sprinkler Programs - a Case Study to Identify Common Elements of Successful Programs

National Fire Academy, Emmitsburg, MD, ; 30 p., 1990

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: ...Palm Beach County Fire-Rescue is in the very early stages of developing a residential sprinkler program. The purpose of this paper will be to explore the common elements of ten successful residential sprinkler programs which are well established in their respective communities. Information was gathered from each of the ten communities through telephone interviews and a twelve question survey which was completed by each of the communities. The focus of the survey was to establish the typical chronological development of a program and the stages of development of the program. The survey also points out how the need for the program was established and the key players in making the program successful.

Mefford, Keith.

Evaluating a Residential Sprinkler Requirement for the City of Bowling Green.

National Fire Academy, Emmitsburg, MD, 25p., 2003.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

<http://www.usfa.dhs.gov/pdf/efop/efo36898.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that the Bowling Green Fire Department had not determined the value of a residential sprinkler requirement. The lack of a complete evaluation limited the department's ability to ensure that the citizens of Bowling Green were being provided the best possible fire protection. The purpose of this study was to identify the primary advantages and potential barriers of a residential sprinkler requirement within the city of Bowling Green...

Mihelic, Steven G.

Residential Fire Sprinklers: Will They Help Remote Areas in Carson City, Nevada

National Fire Academy, Emmitsburg, MD, 25p., 1994.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: The fire problem in the United States seems to have been centered around residential type structures. These occupancies have accounted for 80% of the fire deaths, 74% of the civilian injuries, and over 55% of the direct dollar loss attributed to hostile fires in the United States. Remote areas of our country have suffered this somewhat worse than the more urban areas. Carson City, Nevada is a small urban community with several

remote areas surrounding the urban center. Protecting these remote residential areas adequately is challenging and done according to standard would be quite costly. The purpose of this research was to determine if the fire problem in Carson City was similar to the national average fire problem and if built in fire protection could effect these problems positively.

Moore, Frederick J.

Weston (CT) Fire Marshal

Residential Sprinklers, a Viable Solution for Small Towns

National Fire Academy, Emmitsburg, MD, 50 p., 2000

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Sections of this paper not on the Internet.

Executive Fire Officer Program. Applied Research Project

Abstract: The purpose of this research project was to review the findings of others regarding residential sprinklers and their effectiveness in reducing death and injuries as well as property damage. Would homes equipped with residential sprinklers be the answer to Weston, Connecticut's building frenzy and give the Fire Department added time in responding...

<http://www.usfa.fema.gov/pdf/efop/efo30793.pdf>

Nojiri, Wayne T.

Should the City and County of Honolulu require a fire sprinkler system for the construction and reconstruction of any residential building?

National Fire Academy, Emmitsburg, MD, 51p., 2003.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

<http://www.usfa.dhs.gov/pdf/efop/efo36792.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: Although it has been proven statistically that fire sprinklers are the most effective way to reduce loss of life from fire in residences, the City and County of Honolulu (C&C) does not have a fire sprinkler ordinance that covers all residential occupancies. The purpose of this research project is to determine, by using data and soliciting input from stakeholders, if the C&C should have a fire sprinkler ordinance.

Owens, David J.

Ogden (UT) City Fire Department

Is Establishing a Residential Sprinkler Ordinance Right for the Citizens of Ogden City?

National Fire Academy, Emmitsburg, MD, 50 p., 2002

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: The problem was that Ogden City was growing at an unprecedented rate. Much of that growth had occurred in the outlying areas of Ogden City Fire Department's (OFD) service area. Even though OFD had mutual and automatic aid agreements with the surrounding departments, it still was not able to put two 2½" lines in service within ten minutes of alarm receipt in those outlying areas. The purpose of the project was to determine if a residential sprinkler system (RSS) ordinance would help Ogden City mitigate the expected increase in life and property loss in the growing areas of their service district...

<http://www.usfa.dhs.gov/pdf/efop/efo34968.pdf>

Peterson, William

Automatic Fire Sprinkler Systems as an Element of the Community Fire Protection System: the Plano Experience
Fire Engineers Journal; Vol. 59, No. 200, p. 18-21, May 1999

Residential Fire Sprinkler Systems Requirement Feasibility Study
California. State Fire Marshal, Sacramento, CA, 61p., 1985.

Sherburne, Frank K.
Edmonton (Alberta) Fire Department
Residential Fire Sprinkler Systems
National Fire Academy, Emmitsburg, MD, 32 p., 1992

Strategic Analysis of Fire Prevention Programs

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

Executive Fire Officer Program. Applied Research Project

Abstract: The purpose of this study was to investigate the effectiveness and efficiency of residential fire sprinkler systems in reducing fire deaths and fire injury in one and two family residential dwellings. An historical evaluation method was utilized for the purposes of this project. Seven principle research questions were identified: is there reason for alarm at the number of fire deaths? where are fire deaths occurring? who is most susceptible to fire deaths? how do deaths occur from fire? what are the perceived drawbacks associated with residential fire sprinkler installations? what are the implications of residential fire sprinklers to effectively reducing fire death? and are residential fire sprinkler systems cost effective?

Smith, Randy M. (Placer Consolidated Fire Protection District)
Increasing the Installation of Residential Sprinkler Systems in New Construction Within the Placer Consolidated Fire Protection District
National Fire Academy, Emmitsburg, MD, 46p., 2004.

Abstracts for EFO papers are written by the author, but may be abridged for the purpose of this list.

<http://www.usfa.dhs.gov/pdf/efop/efo37321.pdf>

Executive Fire Officer Program. Applied Research Project

Abstract: Placer Consolidated Fire Protection District (PCFPD)[NV] has offered a 50 percent reduction in development fees since 1996 if the developer or owner installs a residential fire sprinkler system (RFSS). To date, no systems have been installed as a result in reduction of fees. The program has been a failure. The purpose of this research was to find ways to encourage the developer or owner to install a RFSS. Evaluative research methods were used to answer the following: 1) What percent of the total cost for the project is represented by the installation of a RFSS at the time of construction? 2) What percent of the cost of the RFSS is offset by the reduction in development fees? 3) What are the opinions of builders towards RFSS...

Sprinkler Age.

Sprinkler Ordinance Considered: Nolensville, Tenn. Addresses Home Fire Sprinklers
Sprinkler Age, Vol. 23, No. 1, p. 26, January 2004

Strategies for Residential Sprinklers: Things to Consider Before You Adopt a Residential Fire Sprinkler Ordinance
Residential Fire Safety Institute, Fairfax, VA, 17 p., n.d.

Water Supply & System Maintenance Issues

Bill, Robert G. Jr. and Hsiang-Cheng Kung.

Limited-Water-Supply Sprinklers for Manufactured (Mobile) Homes.
Fire Technology, Vol. 29, No. 3, p.203-225, 1993.

Blackham, C.

Island Limits Lead to Water Mist Systems.
Fire, Vol. 93, No. 1151, 21, May 2001.

For more information contact: DO Bill Boag-Munroe, Telephone: 0151 630 1184
<http://www.merseyside-fire.org.uk>

Coleman, Ronny J.

Preventative Maintenance

Sprinkler Age, Vol. 26, No. 9, p. 68-70, September 2007

Crawford, Jim.

Watering the WUI: Supplying Water to Interface Housing Developments Presents a Challenge.
Fire Rescue Magazine, Vol. Vol. 25, no. 6, No. p. 140-141, June 2007.

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Design Guide for Rural Fire Sprinkler Systems.
Building Standards, Vol. 58, No. 3, p.28-30, May-June 1989.

Gardiner, Daniel B.

Water Companies: Part of the Solution or Part of the Problem?
Health & Safety , Vol. 5, No. 6, p.1, June 1994.

Hart, Frederick L. et al.

Environmental Engineering Forum: Backflow Prevention and Water Quality in Residential Sprinkler Systems.
Journal of Environmental Engineering, Vol. 122, No. 1, p.78-82, Jan. 1996.

Hart, Frederick L.

Control Strategies for Minimizing the Potential Impact of Potable Water Deterioration Through the Installation of Residential Sprinkler Systems.

United States Fire Administration, Emmitsburg, MD; 100p. 1997

May be downloaded from <http://www.usfa.fema.gov/usfapubs/controls.htm>

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Backflow Protection for Residential Sprinkler Systems.
Worcester Polytechnic Inst., MA
File No. 12.054; 59 p. June 1993.
EMW-93-G-4191
<http://www.usfa.dhs.gov/downloads/pdf/publications/fa-12054.pdf>

Huggins, Roland J.
Hydraulic Calculation
Sprinkler Age, Vol. 20, No. 1, p. 15-16+, January 2001

Huggins, Roland J. and Jack Poole.
Evolving Backflow Prevention.
Sprinkler Age, Vol. 23, No. 9, p.14+, Sept. 2004.

Isman, Kenneth E.
Half-inch Pipe for Sprinkler Systems
Sprinkler Quarterly, No. 112, p. 29-33, Fall 2000

Isman, K. E.
Hydraulic Calculation Theory. Part 1.
National Fire Sprinkler Assoc., Patterson, NY
Sprinkler Quarterly, No. 113, 35-37,39, Winter 2000.

Kelly, Kevin J.
NFSA Helps Water Purveyors Prepare Their Jurisdictions for Sprinklers in Homes
Sprinkler Quarterly, No. 137, p. 19, July/August 2006

Kettler, James M.
Buckingham Township (PA) Fire Marshal
Development of a Residential Fire Sprinkler Maintenance
Educational Program for Buckingham Township, Pennsylvania
Emmitsburg, MD : National Fire Academy; 27 p., 2001
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Executive Fire Officer Program. Applied Research Project
Abstract: Residential Fire sprinkler systems are widely accepted and proven to vastly increase the life safety for the occupants of the home. However, like with all mechanical systems, Fire sprinklers need periodic maintenance to ensure proper operation. The problem was that Buckingham Township did not have a program to educate its residents about the maintenance of sprinkler systems in the home. The purpose of this applied research project was to develop an educational program for residential Fire sprinkler maintenance for the residents of Buckingham Township...
<http://www.usfa.dhs.gov/pdf/efop/efo32704.pdf>

Mikkila, J.

Making a Case for Local Waterflow Alarms.

Plumbing Engineer, Vol. 35, No. 5, 34,36, May 2007.

Milke, J. A.; Bryan, J. L.

Development of a Technique to Assess the Adequacy of the Municipal Water Supply for a Residential Sprinkler System.

Maryland Univ., College Park

NIST GCR 91-600;82 p. November 1991.

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NIST-GRANT-60NANB8D0814

Milke, J. A.; Bryan, J. L.

Development of Cost Effective Techniques for Alleviating Water Supply Deficiencies in a Residential Sprinkler System.

Maryland Univ., College Park

NBS GCR 87-533;75 p. November 1987.

Available from National Technical Information Service

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O'Brian, Michael.

Understanding Residential Sprinkler Systems and Related Codes. [Firehouse.com community forum page with discussion of water supply requirements and a brief mention of firefighter safety benefits.]

[http://cms.firehouse.com/web/online/In-the-Community/Understanding-Residential-Sprinkler-Systems-and-Related-Codes/9\\$54058](http://cms.firehouse.com/web/online/In-the-Community/Understanding-Residential-Sprinkler-Systems-and-Related-Codes/9$54058)

Rowe, Tim

Final Backflow Incident Report - Boyce Thompson Arboretum

Phoenix, AZ : Arizona. Department of Environmental Quality

13 p., 1993

Shaw, Harry.

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The change in NFPA 13D, Chapter 5, would greatly increase the installation of sprinkler systems in manufactured homes.

Shaw, Harry.

U.S. Fire Administration Program Develops Limited Water Supply Sprinkler System.

Operation Life Safety Newsletter, Vol. 7, No. 3, p.3+, March 1992.

Smith, D.

Residential Sprinkler Code Brings Water to the Tucson Desert.

Northwest Fire District, AZ

American Fire Journal, Vol. 49, No. 10, 11-14, October 1997.

Sprinkler Age.

NFPA 13D Focus of Discussion

Sprinkler Age, Vol. 22, No. 1, p. 21-23, January 2003

Questions regards: residential water supply; obstructions - ceiling fans; storage areas; residential stairs; sloped ceilings

U.S. Fire Sprinkler Reporter

Limited Water Supply Fire Suppression Technologies Demonstrated at NIST.

U.S. Fire Sprinkler Reporter, Vol. 10, No. 10, 1,3-10, April 1996.

Water Purveyor's Guide to Fire Sprinklers in Single Family Dwellings

National Fire Sprinkler Association, Inc., Patterson, NY, 14p., 2006

http://www.nfsa.org/info/Water_Purveyors_Guide.pdf