



Society of Fire Protection Engineers

New Jersey Chapter

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FUSIBLE LINK

www.njsfpe.com

<http://groups.yahoo.com/group/sfpenjchapter>

June 2003

The following will be a series of articles in the *Fusible Link* on the above study. It has been taken from “*The Sixth Fire Suppression & Detection Research Application Symposium, Tampa, FL 23-25 January 2002.*”

FIRE DETECTION AND SUPPRESSION STUDIES AT KEMANO VILLAGE (Part I)

1.0. INTRODUCTION

Kemano, British Columbia, was a company town built 50 years ago by Alcan Smelters and Chemicals Ltd. to support its hydroelectric station. When the station became essentially automated, making the town obsolete, an idea was born. The deserted town was donated to British Columbia’s fire services for training and research, which has been known as the Kemano Public Safety Initiative (KPSI).

In addition to becoming a proving ground for firefighting, abandoned houses filled with donated furniture and props made an ideal, full-scale experimental site. Using this unique opportunity, the National Research Council of Canada (NRC)

completed two series of fire experiments at the Kemano Village: one to study the response of smoke detectors in houses, and the other to evaluate the performance of a cross-linked-polyethylene (PEX-a) pipe sprinkler system.

The sprinkler project is now complete and the results of the experiments are presented in this paper. NRC researchers are still analyzing the experimental data produced from the smoke detector tests. This paper includes an overview of the smoke detector project.

2.0 PEX-A PIPE SPRINKLER SYSTEM TESTING

A wood-framed bi-level house (approximately 1000 square feet per floor, 2000 square feet total) was used for fire experiments. A sprinkler system with 11 sprinkler heads and 2 plumbing fixtures was designed and installed by Wirsbo for fire experiments in accordance with NFPA 13D [1]. The system covered the entire ground floor and a basement recreation room of the test house with quick response sprinkler heads (with a temperature rating of 68.3° C or 155° F). Each sprinkler head was screwed onto a multi-port fitting with

connections to 4 water pipe lines. The cross-linked-polyethylene pipes (with a diameter of 12.7 mm) were rated for 1103 kPa (160 psi) at 23° C (73.4°F) and 552 kPa (80 psi) at 93°C (200°F). Designated flow rate was 50 L/min for the hydraulically remotest sprinkler head and 55 L/min for the hydraulically nearest sprinkler head. The system was under a static pressure of 552 kPa (80 psi); during sprinkler activation, the main manifold was under a flowing pressure of 241 kPa (35 psi).

NRC conducted 2 experiments with fire origin in the basement recreation room, one experiment with fire origin in the ground floor bedroom and one experiment with fire origin in the living room, using fuels typically found in an occupied residence. Smoke detectors, carbon monoxide detectors and heat detectors were installed in the experimental house. Measurement included temperatures in the fire room and egress route, CO and CO2 concentrations, activation times of sprinklers and smoke, heat and CO detectors, and video records of smoke movement.

2.1 SPRINKLER TEST 1

The first experiment was conducted in the recreation room (5.9 m long, 3.8 m wide and 2.3 m high). The recreation room had an additional 0.25 m height of cavity with open wood joists. Two sprinkler heads were spaced at 3.55 m apart and the designated flow rate was 54.9 L/min for each of the 2 sprinkler heads. The plastic pipes and fittings were installed, without protection, on the open wood joists at the height of the furring. Figure 1 is a schematic drawing of the recreation room and experiment set-up.

The ignition source was a wastebasket beside a wooden end table in one corner and between a sofa and a chair with a long curtain behind. The wastebasket was filled with newspaper that touched the curtain. Because the furniture was very damp, a small amount of diesel (100 ml) was dripped onto the sofa arm for each of ignition. The fire was started by igniting the newspaper in the wastebasket. The door of the recreation room was then closed.

About 1 and a half minutes after the ignition, the flame developed to more than 1 m high, involving

the sofa, end table and drape and the smoke layer reached the eye level. A heat detector, rated at 57°C (135°F) and temperature rise of 8.4° C/min (15°F/min) and installed at the center of the room, was actuated by the rate of temperature rise 104 s after the ignition. The nearby ceiling temperature was below 57°C at the time. One sprinkler head (32) was actuated 114 s after the ignition. Within 26 seconds, the water spray from this single sprinkler head controlled the fire and confined the fire to the space under the end table. The flame became obscured 91 seconds after sprinkler activation due to loss of visibility from smoke build-up.

The sprinkler quickly controlled the fire and the room was cooled down to below 20°C during the water spray. The plastic pipe surface temperature at the position closest to the fire was below 50°C during the test. The exposed pipes and fittings had no visible damage during this experiment. The CO concentration inside the room was 100 ppm at the beginning of the water spray and 500 ppm at the end of the water spray.

Temperatures in the hallway outside the recreation room were basically not affected by the fire inside the room. An ionization-photoelectric smoke detector in the hallway actuated 4 s later than the sprinkler, due to the fact that this smoke detector was located outside of the fire room whose door was closed.

After the water supply was shut off, firefighters were sent into the recreation room to manually extinguish the fire hidden underneath the end table and to ventilate the room. Fire damage was limited to the sofa, the end table and the drape. The walls and open wood joists of the recreation room had soot deposition but no major damage.

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In accordance with our Chapter bylaws we are running the officer nomination letter again.

2003-2004 NOMINATIONS FOR OFFICERS AND DIRECTORS

In compliance with the Nomination Section of the Constitution and By-Laws of the New Jersey Chapter of the Society of Fire Protection Engineers, the nominating Committee submits the following slate for Officers and Directors. The election will be conducted at the next Annual Business Meeting, scheduled for Monday, June 2, 2003, at the Hanover Manor.

President	Sarge Slicer
First VP	Rich Reitberger
Second VP	Glenn Deitz
Treasurer	Dave Gluckman
Asst. Treasurer	John Cholin
Secretary	Edward Armm
Asst. Secretary	Brad Hart

The following Board of Directors members-at-large are nominated for a second two-year term as director:

Member-at-large	Bob Murray
Member-at-large	Frank Savino

Board of Directors member-at-large Bob Hall is entering the second year of his first term as director. Board of Directors member-at-large Pat Egan is entering the second year of his second term as director.

The existing slate of officers is willing to continue serving in the same capacity for the 2003-2004 fiscal year. The Nominating Committee, and the present Board of Directors, welcomes volunteers to serve in leadership capacity within our organization. This includes Committee activities, and the Board itself. No other members made their interest and willingness to serve known to the Nominating committee prior to our February 2003 meeting.

Any member with a desire to run as a candidate for Chapter Officer or Director is encouraged to do so. They must contact Ed Armm (212) 695-6670 at least four weeks prior to the Annual Business Meeting (June 2, 2003). In accordance with New Jersey Chapter By-Laws, candidates must submit the signatures of five voting members of the New Jersey Chapter SFPE along with their letter of

intention to run for any of the above positions. The deadline is Monday, May 5, 2003.

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Another Sprinkler Recall - Star Dry Fire Sprinklers

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission (CPSC) and American Household Inc. (AHI), formerly known as Sunbeam Corporation, of Boca Raton, Fla., today announced the nationwide recall of about 60,000 Star ME-1 dry fire sprinklers. Chemetron Corporation, an inactive subsidiary of AHI, manufactured these sprinklers from 1977 through 1982. This recall announcement follows the resolution of an administrative proceeding filed by CPSC on October 9, 2001, in which CPSC alleged these sprinklers are defective and are likely to fail to operate in a fire, thereby exposing consumers to the risk of death or serious injury.

CPSC reports that samples of Star ME-1 sprinklers removed from several locations and tested by independent testing laboratories did not operate as intended. Although there have been no reports that Star ME-1 dry sprinklers manufactured by Chemetron Corporation have failed to operate while in use, CPSC has received reports of two failures involving Star ME-1 dry sprinklers manufactured by other companies. One report involved a 1976 sprinkler, and the other, sprinklers installed in 1990.

Chemetron's Star ME-1 sprinklers have the following information molded onto the sprinkler: the name "Star," the designation "ME-1," and the year of manufacture, starting with 1977 and ending with 1982. These sprinklers were typically installed in areas of buildings where the sprinklers or water supply pipes may be subject to freezing. Examples of such areas include unheated attics, freezers and coolers, porches, and parking garages. The types of facilities in which the sprinklers were installed include nursing homes, convalescent and long-term care facilities, supermarkets

and other stores, warehouses, hospitals, and office buildings.

Although Sunbeam Corporation filed for bankruptcy protection in February 2001, AHI has agreed to pay up to \$1 million to assist in the replacement of the Star ME-1 dry sprinklers that Chemetron manufactured from 1977 through 1982.

To receive payment for sprinkler replacement, consumers must follow specific procedures and must submit claims by September 29, 2005. For more information, consumers should call (888) 551-5014 toll-free anytime or visit the recall Web site at www.starmerecall.com. CPSC previously announced that Mealane Corporation voluntarily agreed to recall Star ME-1 sprinklers manufactured from 1961 through 1976 and Central Sprinkler Company voluntarily agreed to replace Star ME-1 fire sprinklers manufactured from 1996 through 1998. The Sprinkler Corporation of Milwaukee, which manufactured Star ME-1 sprinklers from 1983 through 1995, has no assets with which to fund a recall, but is issuing a safety notice warning building owners to replace these sprinklers. Consumers can obtain information about those recalls and safety notices on CPSC's web site and see pictures of the recalled product at :

www.cpsc.gov/cpscpub/prerel/prhtml03/03116.html

CAREER OPPORTUNITIES

More detailed information is contained in previous Fusible Link issues and on www.njsfpe.com

The U.S. General Services Administration - Public Buildings Service is the federal government's largest real estate organization, owning and leasing over 8000 properties. (see www.gsa.gov/pbs) The Northeast and Caribbean Region is currently seeking a fire protection engineer for their Manhattan office. Salary range is \$71560-\$93031 commensurate with experience. To apply go to www.gsa.gov, click on "GSA Jobs" and refer to announcement 0320854DEU. Job will be open from 5/5/2003 to 6/2/2003. You can send an e-mail to "safety.r2@gsa.gov" or call 212-264-4461 for help or additional information.



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Robert E. Murray, P.E.
President

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Risk Logic Incorporated (RLI) is looking for a Property Loss Control Consultant to conduct Highly Protected Risk ("HPR") type loss prevention inspections and write technical reports. The position is virtually open to most any region of the country. Candidates will need to work from home and be expected to travel overnight 5 nights per month. Primary responsibilities will include conducting property loss prevention evaluations with detailed Construction / Occupancy/Protection/ Exposure ("COPE") information as well as fire protection analyses, process hazard reviews and roofing system evaluations. The technical risk analyses will be conducted for large commercial and industrial manufacturing facilities and warehouses.

RLI is a property loss prevention and fire protection consulting engineering company that provides comprehensive unbundled services for insurance brokers, insurance carriers and direct with clients. Most of our services are performed nationwide. RLI has been in business for over 5 years and has over 40 clients. Go to www.risklogic.com for more information.

Position Requirements: BS – Engineering Degree from an accredited college, PE license a plus. Minimum five (5) years Factory Mutual or equivalent experience. Expertise in conducting PML's, NLE's and MFL's. Understanding of FM & NFPA codes. Strong technical writing skills. Self motivated person who can work efficiently from a home office. Computer literate (Microsoft Windows, Word, Excel, etc.). Adequate interpersonal skills to communicate effectively with various clients.

Position includes a competitive salary paid semi-monthly and a full benefit package including health

insurance, dental discount plan, long term disability, 401K, company bonus plan, and holiday / personal day vacation package.

If interested, please contact John Durante at jdurante@risklogic.com or (201) 930-0700.

HSB Professional Loss Control has possible part time opportunities for retired, semi-retired and underemployed loss control and fire protection engineers. Anyone that is interested can contact:

Maurice Marvi
HSB Professional Loss Control
(800) 222- 0483 x8020

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Link Technologies is looking for Fire Safety Engineers. Anyone interested should contact:

Lindsay Banko
Link Technologies
Office: 702.233.8703
lindsayb@linktechconsulting.com

Project Manager – New Jersey

The individual will work in the Building and Fire Systems area on various projects in an environment of electronics and sensors. The position is located in Pine Brook, NJ and is a full time direct hire position (formerly known as a permanent position). The company offers a competitive salary and benefits.

Please forward all resumes to John Palmer at jpalmer111@intelegra.com.

John Palmer
Intelegra, Inc.
P.O. Box 505
Far Hills, NJ 07931-0505
jpalmer111@intelegra.com
908-876-5900
908-876-1788 Fax

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The following article is reprinted from the *NJ Professional Engineers and Land Surveyors Newsletter*

UNAUTHORIZED USE OF THE TERM “ENGINEER”

Many large firms use the title “engineer” for some of their unlicensed personnel. The Board has experienced an increase in the unlicensed use of the term, and is trying to alert everyone, especially its licensees, that this is not a acceptable practice. The licensees of the Board should alert the principals of their companies, who may not be licensed by the Board, that the use of the term “environmental engineer,” “structural engineer,” or just “engineer” is unacceptable, unless that person is licensed by the Board.

Likewise, the Board has seen the term “engineer” used by an employee of a firm who signs a letter in such a way as to imply that he or she is an engineer. It should be noted that N.J.S.A. 45:8-28b states that:

“...it shall be unlawful for any person to practice or to offer to practice engineering or land surveying in this State, or to use the title professional engineer or land surveyor or any other title, sign, card or device in such manner as to tend to convey the impression that such person is practicing engineering or land surveying or is a professional engineer or land surveyor, unless such person is duly licensed under the provisions of this chapter.”

N.J.S.A. 45:8-28b also states that:

“...A person shall be construed to practice or offer to practice engineering, within the meaning and intent of this chapter, who practices any branch of the profession of

engineering; or who, by verbal claim, sign, advertisement, letterhead, card, or in any other way represents himself to be a professional engineer, or through the use of some other title utilizing or including the word engineer, implies that he is a professional engineer...”

Additionally, any indication of an offer to practice engineering is unacceptable unless the person making the overture is licensed.

Again, the Board looks to its licensees to alert the senior managers of their firm when they learn of the improper use of the word engineer because a violation could impose a penalty on both the firm and the individual using the title.

Although the Board has not experienced this situation with the land surveying profession, this should be considered an alert to land surveying firms and licensees that it is not acceptable to use the title unless the individual is duly licensed as a land surveyor.



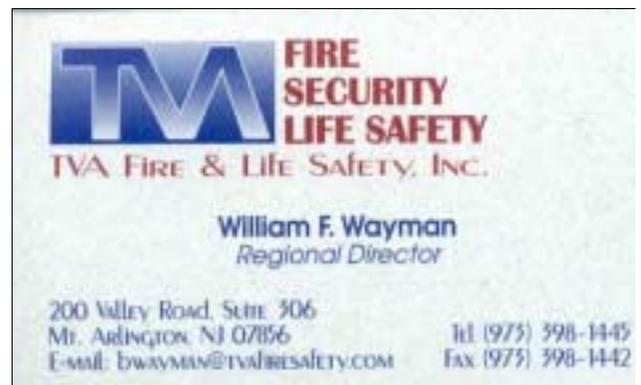
FPE EXAM REVIEW

The NJ Chapter continues to sponsor a customized series of classes to prepare members for the National FPE exam in the fall. Of those students that have taken the test and the Chapter’s review course, there has been a 100% pass rate. With the national level being in the 40's, it says a lot about the course, its Chapter instructors and the Chairman of this committee, John Cholin. The course

would be one day a week (Monday) from the beginning of July to the first week in October. Being that this takes a huge commitment of time and effort on behalf of the instructors, a minimum class size of three people is needed. So far two have been signed up. If you have an interest or further questions on the course, please contact John Cholin at:

jmcholin@bellatlantic.net.

In order to take the test this fall, the applications forms should be filed no later than mid June.



SFPE Golf Outing

30 JUNE 2003

The joint NY/NJ annual golf outing has been sold out. We are still looking for tee and hole sponsors. There is still room for the buffet dinner festivities.

Location:

West Point Golf Course
Building 1230
West Point, NY 10996

Directions:

1. Palisades Parkway North to the Bear Mountain Bridge Traffic Circle.
2. Go three quarters of the way around the circle and take 9W toward West Point.
3. Go 5.5 miles and take the Rte. 218 / Rte. 293 / Rte. 6 exit (Note: You will go under a golf cart bridge just before the exit.) You can see the golf course on the right off of 9W.
4. Exit right off the ramp into the parking lot.

Hotel Accommodations (If needed):

Rooms available at the Hotel Thayer - www.thethayerhotel.com phone: (845) 446-4731
Holiday Inn Express, which is 2 miles away on 9W; phone: (845) 446-4277

For More Information About The Outing, Call:

John Durante (201) 930-0700
Jim Goerl (212) 367-7658

Lost? Call the Club at (845) 938-2435

Check here if you would like to sponsor a Tee or Green for \$200. Call John Durante (201) 930-0700 for details, support and donations.

The fixed cost to the Country Club for the outing is \$100.00 per person. Our goal is to contribute 25.00 per person x 144 golfers. This would profit \$3,600 into the Scholarship Fund.

Our real profit is the tee & green sponsors. At \$200 per sponsor, we can profit \$400 per hole or \$7,200.

With the 50/50 drawing and raffles during our buffet luncheon and other donations, we hope to reach our goal for the Outing. Door prizes and gifts would be greatly appreciated to support this effort.

If you are not a golfer and are interested in coming to the buffet only, the cost will be \$40.00 per person.

MEETING DATES/PROGRAM

(Programs Subject to Change)

Watch web page concerning cancellation in case of possible inclement weather conditions

June 2 Gaseous Suppression Systems Update (NFPA 2001 – “Clean Agent Protection”) – Phil DiNenno, PE,
Hughes Associates
Annual/Election

June 30 GOLF OUTING – SOLD OUT but open for dinner after. See details above

July 16 NJ Chapter Board Mtg. 9:00 am at FM Global - Parsippany

***Watch Web Page for Weather Announcement**

POSITIONS TAKEN BY SPEAKERS ARE NOT NECESSARILY THE POSITION OF THE NJ S.F.P.E.

All meetings are held at the Hanover Manor, Eagle Rock Road, Hanover, NJ (approximately 1½ miles west of Eisenhower Parkway). Get Acquainted Hour 5:00-6:00 p.m. Adjournment is usually before 8:30 p.m. The Executive Committee meets at 4:00 p.m.

Editors Note--If you would like to advertise your company and help offset the cost of this publication, as well as having your business card in front of over 150 Fire Protection Professionals please call John Cholin at (201) 337-8621 for further information. The cost is \$100 for 10 issues.

COMMITTEES 2002-2003

Standing Committees

Program:

Mike Newman, Peter Rullo, Co-Chairs, with
input from all members
Consulting – Nick Chergotis & Chuck Gandy

Arrangements:

Mike Newman, Peter Rullo, Co-Chair

Membership:

Rich Reitberger, Chairman

Nominating:

Chuck Gandy, Chairman
Glenn Deitz
Bob Murray

Scholarship Fund:

Rich Reitberger, Chairman
Robert Hall
Mike Machette

Auditing:

Joe Janiga

Archivist:

Rich Reitberger (FM Global Library)

Historian:

Jim Tolos

Communications:

Fusible Link: Brad Hart, Editor

Dave Gluckman, Asst. Editor
Ana Crisostomo, Publishing
Vicky Serafin, Mailing/Automation

Special Committees

Bylaws: Jim Tolos, Chairman

Joe Janiga – Co-Chairman

Career Recruitment:

Al Dopart, Chairman
Tom Brereton
Joe Stavish
Glenn Deitz
Dave Gluckman

Golf Outing:

Richard Reitberger, Chairman

Awards: John Ed Ryan

Jim Tolos
Frank Savino

NY Chapter Liaison:

Rich Reitberger (Pat Egan back-up liaison)

PE Examination:

John Cholin, Chairman
Joe Janiga
Mike Newman
Chuck Gandy

Joint Seminar/Chapter Seminar

Richard Reitberger, Chairman
Nick Chergotis
Pat Egan
Dave Gluckman

Legislative:

Rich Reitberger, Chairman

Special Executive Assistant to the Board:

Vicki Serafin

Michael T. Newman, P.E.
Manager
Property Loss Prevention
Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933
Phone: (732) 524-3224
Fax: (732) 524-2196

MEETING NOTICE

Date: Monday, June 2, 2003

Place: Hanover Manor
16 Eagle Rock Avenue
East Hanover, NJ

Price: In Advance - \$22 At Door - \$25

Dinner: 5:00-6:00 (Cash bar for mixed drinks)
Dinner at 6 PM

Speaker: Phil DiNenno, PE, - Hughes Associates

Topic: Gaseous Suppression Systems Update (NFPA 2001 – “Clean Agent Protection”)

All officers, directors, and committee chairman are requested to attend a meeting at 4:00 p.m. at the Hanover Manor.

Please note for this meeting:

PLEASE COMPLETE AND RETURN WITH YOUR CHECK PAYABLE TO "SFPE N.J. CHAPTER" TO:

Michael Newman
Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933

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COMPANY: _____ TELEPHONE _____

ALL RESERVATIONS SHOULD BE RECEIVED BY **FRIDAY, May 30, 2003**. TELEPHONE RESERVATIONS OR CANCELLATIONS SHOULD BE RECEIVED BY NOON OF THE MEETING DAY.

Fusible Link Editors NJSFPE
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Affiliated FM Ins. Co.
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Parsippany, NJ 07054