



# Society of Fire Protection Engineers

## New Jersey Chapter

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## FUSIBLE LINK

[www.njsfpe.com](http://www.njsfpe.com)

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

November 2003

### President's Message

As fall approaches we had 2 great meetings in October. Due to a speaker cancellation for the Oct 6 meeting John Cholin gave us a presentation on the FDI Duct Smoke Detector Research Project? As always John thanks for stepping in on such short notice. On October 14 we had a mini seminar at FM Global on the RI Station Fire and Plastics in Construction. I want to thank Rich for putting it together and FM Global for providing the meeting place.

Some of you may have seen the articles on the Chicago fire of 10/17/03 in which 6 people died in a 35 story hi-rise that was un-sprinklered. We in our business all know sprinklers save lives when is the rest of the world going to understand?

You all should have received you dues notice included in the October Fusible Link. Please take a moment and return that form with your check and remember if you include your email address for an electronic copy of the *Fusible Link*. Dues are only \$15.00, otherwise they are \$25.00. Those of you that did not pay dues for 2002-2003, you will get getting a special reminder.

For those of you that are member of our International Society in the September/October SFPE Today, there was a blue paper talking about the SFPE Membership

Referral Rewards Program. If you have someone join SFPE you will get rewards points. For 1 referral, an SFPE Report. For 2 referrals, a \$100 credit on SFPE publications, events or merchandise. For 3 referrals, one year free SFPE Membership. If you would like more information or application forms give me a call.

Our November 3 meeting is on "a clean approach for testing Foam System", and I hope to see you all there.

### **SLICER & ASSOCIATES, L.L.C.**

Fire Protection and Loss  
Prevention Consulting

### **J. Sargent "Sarge" Slicer**

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Morris Plains, NJ 07950

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Member – SFPE & NFPA

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### **NJ SFPE Membership Meeting Minutes October 6, 2003**

1. The meeting was called to order by President Sarge Slicer.

2. Dave Gluckman read the Treasurer's Report and a motion was made and carried to accept it.
3. Brad Hart read the minutes from the September 8 meeting as recorded by Ed Armm and a motion was made and carried to accept them.
4. Rich Reiteberger announced three new people seeking membership to the Chapter. They were accepted by the general membership.
5. Dues notices went out in October with the Fusible Link. Delinquent notices from last year to go out as well.
6. Rich Reitberger announced a free Chapter Seminar to be held on October 14 at FM Global's offices. The topic will be "Plastics in Construction" – call Vicki Serafin for reservations.
7. Jim Tolos read note from Bill Crosby donating \$58 to Scholarship Fund on behalf of the former NJ Insurance Engineers Board. Our fund balance is now \$60K. We are giving out \$7,500 this year.
8. Sarge reviewed the recent SFPE national annual meeting.

6. Efficacy – Can detectors measure accurately in high velocity duct environments?

There will be a CD from FDI as to how to calculate smoke effect in virtually any building. The conclusion is that HVAC system is the strongest factor in smoke spread, thus it is best to shut them down. Tests showed that detectors measured smoke well in air velocities of 4 to 19 meters/sec.



## November Meeting Topic

Fay Purvis from Vector Fire Technology will discuss Planit Safe, a process that involves a new concept for testing foam systems without releasing any foam concentrate to the environment. An alternative non-foaming environmentally benign test liquid is used in place of the foam concentrate stored in the system. This substitute liquid is specifically formulated to mimic the physical properties of the actual foam concentrate while having characteristics that enable its injection rate to be monitored by refractive index or preferably conductivity measurement. These are the two industry accepted methods of determining proportioning system injection rate as described in NFPA Standards 11, 16, 16A and 409. Since the proportioned solution from a Planit Safe test non-foaming and contains no environmentally harmful chemicals, it is usually acceptable for direct release to storm drains leading to municipal waste water treatment facilities. Detailed information relative to the effluent released must be provided to local authorities having jurisdiction prior to the system test. MSDS documentation containing detailed environmental information such as BOD and COD are available for most test liquids from Vector Fire Technology, Inc. The Planit Safe testing procedure is applicable to bladder tank and pump type balanced pressure proportioning systems. This



### OCTOBER 6 TOPIC

John Cholin of J.M. Cholin Consultants, Inc., gave an interesting talk on October 6 on the Fire Detection Institute Research on smoke detection. There were six main issues that are being evaluated in the study:

1. Comparative driving forces of fire vs. the normal HVAC systems
2. Dilution
3. Effects on aging detectors
4. Effects of filters
5. Stratification effects

method can save considerable time and expense while preventing possible environmental and effluent discharge issues related to foam solution discharge.

## **NJ Chapter SFPE Fall Seminar**

***Society of Fire Protection Engineers  
NJ CHAPTER***

***TECHNICAL SEMINAR FALL 2003  
Tuesday October 14th, 2003  
FM Global Office, Parsippany, NJ***

### ***PLASTICS IN CONSTRUCTION HAZARDS***

This was a half day Technical Seminar with presentations by the National Fire Sprinkler Assoc. and FM Global Research.

#### ***Highlights***

Representatives of the National Fire Sprinkler Assoc. summarized their involvement in the investigations and findings of the tragic February 20, 2003 Station Nightclub fire in West Warwick, RI, with respect to automatic sprinkler technology, effects and installations.

J. C Harrington of FM Global Research presented the hazards and protection methods associated with plastics in construction, specifically plastic wall and ceiling panels, duct work and skylights.

Some devastating fires involving plastic construction materials have occurred in recent years and, in each case, the whole building along with its contents was engulfed in fire very quickly, resulting in a total loss. Some experts say, due to plastics in construction, we now have to worry about "buildings on fire" rather than "fires in buildings." The science of the hazard will be reviewed.

**TIMOTHY R. COSTELLO, P.E.** 

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**ROLF JENSEN & ASSOCIATES, INC.**  
FIRE PROTECTION ENGINEERING CONSULTANTS

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**A SUBSIDIARY OF THE RJA GROUP, INC.**

Course CEU's were awarded for those who attended (0.4 CEU/4.0 contact hours).

**The following will be a segment in a series of articles in the *Fusible Link*. 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 IV)**

#### **2.4 Sprinkler Test 4**

The fourth experiment was conducted in the living room. The living room was 7.19 m long, 3.73 m wide and 2.44 m high, connecting to the dining room of 4.00 m long and 3.14 m wide without partition. Figure 7 shows a schematic of the set-up for the fourth experiment.

Furniture in the living room included a TV set, a leather chair, a wooden end table and a sofa with a curtain behind. A cloth was hung on the chair and on the sofa, reaching down to a fuel pan placed in between. A small amount of diesel (125 ml) was dripped onto the cloth and the pan for ease of ignition.

A heat detector, which was installed midway between the 2 sprinkler heads in the living room, actuated 39 after the ignition by the rate of temperature rise. An upper smoke layer of half-meter thickness was formed in the living room with 50 seconds from the ignition.

A single sprinkler head (#4) actuated 59 seconds after the ignition and it controlled and contained the fire (the designated flow rate was 53.4 L/min for this sprinkler head). Thirty seconds after the sprinkler activation, the smoke layer quickly dropped and the living room became completely dark with no visibility. The foyer also lost visibility 56 seconds after the sprinkler activation. A CO detector in the foyer (at a 0.30 m height) indicated that the CO concentration was less than 600 ppm during the experiment.

A vertical run of the plastic pipe from the attic space to the basement was exposed in the living room and was exposed to a maximum temperature of 74° C during the fire experiment, not exceeding its rated temperature yet. The maximum temperature in the attic space measured by a thermocouple inside the gypsum board ceiling (6 mm inside) right above the fire, was 33° C, indicating no structural damage.

The water supply to the sprinkler was shut off 10 minutes after the sprinkler activation. When firefighters were sent into the house, they found no flaming fire remaining in the living room. Since the sprinkler successfully contained the fire in the room corner, the fire damage was limited to one arm of each sofa and chair.

### 3.0 Smoke Detector Response Testing

NRC conducted fire experiments of smoke detector response in a 1-story dwelling and a 2-story dwelling at Kemano. Both dwellings employed typical wood-frame construction and internal surfaces were of common construction materials. Smoke detectors were installed at various locations (including code-required locations) in order to study the effect of type, number, location and orientation (ceiling, corner, wall at different heights) of installed smoke detectors on their response.

The 1-story dwelling had 2 bedrooms, a bathroom, a kitchen, a living and dining room on the ground floor (approximately 900 square feet for the ground floor). A total of 35 detectors were installed on the ground floor, including 14 photoelectric smoke detectors, 14 ionization smoke detectors, 5 combined (ionization-photoelectric) smoke detectors, and 2 carbon monoxide detectors.

The 2-story dwelling had 3 bedrooms and a bathroom on the second floor, a living room, a dining room and a kitchen on the ground floor approximately 1400 square feet total). A total of 20 detectors were installed on the ground and second floors, including 5 photoelectric smoke detectors, 8 ionization smoke detectors, 5 combined (ionization-photoelectric) smoke detectors, and 2 carbon monoxide detectors.

Audibility tests and 13 fire experiments were conducted in these houses. Fire scenarios included flaming fires and smoldering fires of wood, paper, polyurethane foam, cotton flannel, upholstered furniture and cooking oil, with fire origin in the bedroom, living room or kitchen. All windows were closed during each experiment.

Experimental data obtained from this project includes optical densities of smoke at various locations, response times of all detectors, temperatures in the fire compartment and egress route, concentrations of carbon monoxide and carbon dioxide, and video records. NRC is still analyzing this data to determine the impacts of type, number, location and orientation of smoke detectors on occupant warning time.

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**Associated Consulting Engineers, P.A.**  
*A Professional Corporation*

**Robert E. Murray, P.E.**  
President

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(732) 205-9440 FAX (732) 205-9442 Email [rmurrayace@cs.c](mailto:rmurrayace@cs.c)  
*Fire Protection/Life Safety Systems/Security/Code Consulting/Loss Cont*

## CAREER OPPORTUNITIES

More detailed information is contained in previous Fusible Link issues and on [www.njsfpe.com](http://www.njsfpe.com)

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**(3)Associated Fire Protection** is seeking a person with a degree in engineering to design fire protection systems for all types of commercial facilities and be involved in technical sales activities. This position will provide the engineer the opportunity to work on a wide variety of electrical and mechanical engineering projects in which some of the latest fire protection technology can be applied.

A typical project would include: conducting a job site survey, designing a fire detection and/or suppression system to meet the customer's needs and performing the calculations required to determine that the system will perform as designed. The engineer would then submit the approved plans (signed by AFP's P.E.) to the local fire official for permit applications and would perform periodic job site inspections to insure that the plans were being followed correctly. Upon job completion, the engineer would arrange for inspection/approval by the local municipality and then turn over all plans to AFP's System Service Dept. for the scheduling of periodic inspections.

This position would also involve technical sales responsibilities, including determining the viability of potential engineering projects, preparation and tracking of project quotes and the actual closing of sales for projects.

### SPECIFIC DUTIES

- A) Design of fire protection systems
  - hydraulic calculations for sprinkler, fm-200, halon, & CO2 systems
  - prepare plans and specifications for new and existing work
  - design control logic for fire alarms and suppression systems
  - operate CADD system
- B) Supervision of projects
  - insure that material gets to job
  - secure permits for work
  - insure that men are trained and properly scheduled
  - review technical progress of projects
  - maintain profitability of projects
- C) Preparation of job cost estimation and quotes

- D) General engineering
  - maintenance of facilities
  - time studies to make operations more efficient
- E) Technical Service
  - learn the technical aspects of servicing fire protection equipment
  - act as emergency service supervisor during duty weeks

**QUALIFICATIONS**

- A) Engineering Degree
- B) Computer Literacy
- C) Ability to interact well with customers and installers
- D) Mechanical and electrical aptitude

Candidates please contact:

100 Jackson Street  
 Paterson, NJ 07501  
 Tel. (973) 684-4500 Ext. 140  
 Fax (973) 684-4511  
[sstraten@afpfire.com](mailto:sstraten@afpfire.com)

practical experience will be creatively combined to solve fire protection problems. Responsibilities will include acting as Project Manager for the majority of the projects worked on, and nurturing the client relationship. A successful project is one that delivers a high level of value to the client, as the client defines value.

**Engineering activities may include the design of fire suppression and fire alarm systems; performing on-site construction quality reviews; code evaluation; code equivalency studies and negotiations; fire hazard analysis; performance-based design; fire modeling; failure analysis and litigation consultation. Projects are for multiple clients throughout North America. Travel is expected to be in the 10 to 30 percent range.**

**QUALIFICATIONS:** The ideal candidate must have at least 6 to 10 years experience in fire protection engineering consulting. Experience should be diverse and cover most of the areas described above. A Bachelor of Science degree in Mechanical, Electrical, Chemical, Civil or Fire Protection Engineering is desired. A P.E. in Fire Protection Engineering is preferred but not absolutely required. A Masters degree in Fire Protection Engineering is a plus. Proven expertise in developing creative and unique engineering solutions to complex problems that deliver value to a wide variety of client types including owners and architects is essential. Excellent communication skills, both oral and written are essential skills to be successful in this position.

**COMPENSATION/BENEFITS:** Compensation will be based on ability and experience, and will consist of a competitive salary, 401K plan, medical/dental plan, and bonus plan based upon individual and company performance.

Contact:  
**DAVID BERTSCHE, CSAM**  
 Fire Protection, Construction, Architecture, Engineering  
 MANAGEMENT RECRUITERS Cincinnati / Sharonville  
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 Website: [www.mricinci.com](http://www.mricinci.com)  
 Jobboard: [www.brilliantpeople.com](http://www.brilliantpeople.com)

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 (4)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](http://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](http://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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**Fire & Risk Engineering**  
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 Forensic Analysis - Codes  
 Risk Management/Planning  
**Robert Malanga, P.E. - President**  
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[www.fire-risk.com](http://www.fire-risk.com) email@fire-risk.com

**(3)JOB TITLE: SENIOR FIRE PROTECTION ENGINEER**

**JOB DESCRIPTION:** Responsibilities include the application of fire protection engineering principles to deliver the Best Total Solution to our clients. Theoretical knowledge and

# MEETING DATES/PROGRAM 2003-2004

(Programs Subject to Change)

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

Nov. 3	Planit Safe – “A Clean Approach to Foam System Testing” – Fay Purvis, Vector Fire Technology
Dec. 1	The Mechanics of Pressure Regulating Valves – Joe Janiga, FM Global
Jan. 5	Voice Evacuation and Response Systems – What’s New – Speaker to be determined
Feb. 2	Ramifications of 9/11 to Industry
March 1	Gas Agents: Which Ones Are Best – A Review of the Latest Agents
April 5	Engineering Ethics
April	NJ Chapter Seminar
May 4 -Tues.	Plant Facility Tour, Numerous Types of Fire Protection System Applications Will Be Reviewed
June 7	Annual Meeting – Election of Chapter Officers
	Jahn Foundry Loss Analysis & Discussion – John Cholin
June	Joint NY/NJ chapter Golf Outing to Support the Scholarship Fund

## **\*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 1/2 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 2003-2004**

### 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

**Vicki Serafin  
Affiliated FM  
400 Interpace Parkway  
Bldg C – 3<sup>rd</sup> Floor  
Parsippany, NJ 07054-1196  
Phone: (973) 541-6771  
Fax: (973) 541-6909**

**MEETING NOTICE**

Date: Monday, November 3, 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: Fay Purvis, Vector Fire Technology

Topic: Planit Safe – “A Clean Approach to Foam System Testing”

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

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**Please note for this meeting:**

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

**Vicki Serafin  
Affiliated FM  
400 Interpace Parkway, Bldg C – 3<sup>rd</sup> Floor  
Parsippany, NJ 07054-1196**

Prime Rib

Fish

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_ TELEPHONE \_\_\_\_\_

ALL RESERVATIONS SHOULD BE RECEIVED BY **FRIDAY, October 31, 2003**. TELEPHONE RESERVATIONS OR CANCELLATIONS SHOULD BE RECEIVED BY NOON OF THE MEETING DAY.