

# SprinklerScene

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## International Fire Sprinkler Association a Reality

Effective February 9, 1999, the International Fire Sprinkler Association (IFSA) was formed, with a mission *"To promote and enhance the business of manufacturing and installing fire sprinkler, water spray and water mist systems and devices in all buildings from homes to high-rises, worldwide, with the highest degree of competence and professionalism"*. As explained in the previous issue of *International SprinklerScene*, the new organization is chartered in Bermuda and is intended to provide a mechanism for supporting fire sprinkler promotional efforts worldwide. It will serve as a vehicle to collect and disburse funds to local programs aimed at expanding or improving the use of fire sprinklers. NFSA will provide support services.

Membership in the IFSA is expected to be open to any corporation, partnership, trade association, society or person engaged in the manufacture, sale, installation, design, maintenance, promotion or regulation of fire sprinkler, water spray, or water mist systems or their components. Any corporation, partnership or individual eligible for any membership class can elect to become a Governing Member by making a pledge on an annual basis of \$25,000. The Governing Members will serve as the Board of Directors and meet to review applications for programs and approve grants in support of those programs. The first annual meeting of the Board of Governors will be held on May 18, 1999 in conjunction with the NFPA World Fire Safety Congress and Exposition in Baltimore, Maryland, USA. The by-laws of the organization, including membership categories, will be finalized at that time.

The following companies have already indicated their intent to be among the charter Governing Members of the IFSA:

Angus Fire Armour/GW Sprinkler (UK/Denmark)  
BF Goodrich Company (US)  
Central Sprinkler Corporation (US)  
Globe Fire Sprinkler (US)  
Job GmbH (Germany)  
J.W. Singer and Sons, Ltd. (UK)  
Omen Metal Products (Israel)  
The Reliable Automatic Sprinkler Company (US)  
Tyco International, Inc. (Bermuda)  
Viking Corporation (US)

The IFSA has begun accepting applications from established organizations seeking funding to promote fire sprinklers. Entities in any part of the globe who have a proven track record of working to promote the fire sprinkler concept will be eligible. All decisions regarding the level of funding will be made by the IFSA Board of Directors.



## **Fire Suppression Conference Includes Sprinkler Warnings**

Approximately 100 individuals gathered in Orlando, Florida, February 24-26, 1999, for the Fire Suppression and Detection Research Application Symposium sponsored by The Fire Protection Research Foundation. This third annual symposium was attended by representatives of Canada, Columbia, Finland, France, Germany, Mexico, Sweden, Switzerland, the United Kingdom and the United States.

Several papers addressed new developments in sprinkler and mist technology. Jerry Pepi of Grinnell discussed some of the nuances of water mist test protocols in his paper “Water Mist System Performance Trade-offs With Flammable Liquid Hazards.” James Golinveaux of Central talked on the subject of “Warehouse Storage Protection” using new large orifice sprinklers. Martin Workman of Viking discussed the benefits of foam-water sprinkler protection in “Doubling Your Warehouse Size for Flammable Liquids.”

One cautionary note at the symposium was raised by Russ Fleming of the NFSA staff, who spoke on the subject of “Automatic Sprinkler Systems in Performance-Based Codes”. He noted a recent trend by which the failure of automatic fire suppression systems is treated as a fire scenario for use in performance-based design concepts. He suggested that this was unreasonable without a mechanism to evaluate the total risk resulting from the low probability of occurrence, and the comparative risk of alternative measures. In the absence of a full and appropriate risk assessment, he suggested that performance-based codes should allow either the assumption of high reliability systems for which failure can be ignored, or the establishment of a secondary set of performance goals in the unlikely event of system impairment.

A second cautionary note was sounded in the presentation of David Purser of the Fire Research Station in the UK. His talk was entitled “Assessment of Time to Loss of Tenability Due to Smoke, Irritants, Asphyxiates and Heat in Full Scale Building Fires – Effects of Suppression and Detection on Survivability.” He noted that some current testing in the UK is aimed at determining if sprinklers detract from survivability during their performance in fires. Some of the factors to be considered are the loss of visibility following sprinkler activation, and the water vapor content of the atmosphere and its subsequent heat transfer to the human lung.

The symposium concluded with presentations from the Research Advisory Council on Fire Suppression Futures and its counterpart addressing alarm and detection. The Fire Suppression Futures Advisory Council is working toward the development of a research priority list that can be used to recommend new initiatives based on real world needs and perceived gaps in present knowledge.

## **MIC Report Available**

The National Fire Sprinkler Association has issued a technical report on the subject of Microbiologically-Influenced Corrosion (MIC). The 16-page report, developed by staff engineer Tariq Bsharat, summarizes what is known about the corrosion process and what is currently available with regard to identification, treatment and prevention measures. The report can be ordered by NFSA international members for US\$12, including postage and handling.

## World Sprinkler News

- ◆ An arsonist poured gasoline on the ground floor of the PUB store in Stockholm, Sweden during the shopping rush three days before Christmas. While people ran for exits, five automatic sprinklers activated to control the fire until the fire brigade arrived for final extinguishment. Two people suffered minor injuries (one ran through a glass window in panic), but no one was killed, and the store was back in business the next day.
- ◆ Guthel Maroe of France has patented a “vacuum sprinkler system” intended to overcome some of the disadvantages of traditional dry pipe systems. Two prototypes are reported to be in place in France, and efforts are now underway for French, British, and US approvals. The developer claims that because water is more rapidly delivered to the remote sprinkler, current dry system requirements to increase design area and limit system volume are not justified. The system uses traditional system deluge valves, but the sprinklers must be modified through the addition of springs to ensure release. Tests against traditional dry systems equipped with accelerators indicated total water delivery time reductions of approximately 40% for systems of various sizes. The reduction was generally due to reduced water transit times, with trip times fairly equal.
- ◆ The Cerberus company has made its entry into the fire sprinkler industry, purchasing the Automatic Sprinkler Protection company in Brazil. The fire sprinkler installation company will do the sprinkler work in a new Alcan facility for which Cerberus obtained the full fire protection contract.
- ◆ Underwriters Laboratories has decided not to pursue American National Standards Institute (ANSI) approval of UL 2167 *Standard for Water Mist Nozzles for Fire Protection Service* due to lack of support.
- ◆ The German VdS, in conjunction with Minimax, has issued a report calling for thorough inspection and flushing of sprinkler systems after 25 years of service. The suggested inspection approach provides for random testing of a percentage of the equipment. For example, internal inspection is made of at least one branch line for every 100 sprinklers on the system, and a minimum of three main pipes.
- ◆ U.S. Consumer Product Safety Commission (CPSC) Chairman Ann Brown testified at a congressional appropriations hearing on February 23, 1999, noting that the commission is proposing a separate \$1 million research budget for the first time as part of a total request for \$50.5 million for fiscal year 2000. Brown was quoted as follows: “If you grant our research request, one of the projects we are considering is an investigation into the adequacy of existing fire sprinkler standards. We would study the reliability and performance of these products to determine what improvements are needed.”
- ◆ The Technical Research Center of Finland, VTT, reports an amazing growth of testing of water mist systems over the course of the decade, starting with 10 full-scale tests in 1991 and building to 364 full-scale tests in 1998. Sixty full-scale mist tests have already been conducted in the first two months of 1999.
- ◆ Standards Australia has reportedly postponed its plans to develop a performance-based alternate to its automatic sprinkler standard AS2118.

- ◆ The Swedish fire test laboratory SP has issued two new reports on sprinklers. Both are in Swedish but with English abstracts. The first, sponsored by the Swedish Fire and Rescue Services Department, attempts to document some of the U.S. experience with residential sprinklers, and includes reference to an NFPA study of 1985-1994 national data indicating the number of fire deaths was reduced by 59 percent in homes with sprinklers. The report notes that Australia, New Zealand, England, Finland, Sweden and Norway are all using some type of adaptation of the NFPA 13R concept. The second report, sponsored by the Swedish Fire Research Board (Brandforsk) deals with sprinkler protection of horizontal tray lumber sorters in saw mills, which can have up to 30 tiers. The report states that the only sprinkler protection criteria presently available is from FM Data Sheet 7-10, and is based on judgement rather than testing. The report formulates two new protection concepts. One is based on protecting every third tier with alternating combinations of upright sprinklers and horizontal sidewall sprinklers along both sides of the sorter. The other is based on sidewall sprinklers alone protecting every third tier. In both cases, steel plates act as barriers and heat collectors. It is expected that the report will lead to full-scale testing.
- ◆ A recent report from Vancouver City, British Columbia, Canada, indicates an impact from the 1990 enactment of significant sprinkler requirements for new construction, including all one- and two-family dwellings. By May of 1997, sprinkler protection had been extended to 24% of the overall residential stock, including 36% of all multi-family residential units. Five-year comparative data shows a definite downward trend in fire losses:

<i>Vancouver, BC Losses</i>	<i>1986 – 1991</i>	<i>1992 – 1996</i>	<i>% Decrease</i>
Average Annual Fire Loss	\$24.45 million	\$16.02 million	35%
Average Loss Per Fire	\$17,232	\$12,070	30%
Average Loss Per Capita	\$54.44	\$31.40	42%
Average Fire Fatalities	7.0	3.8	46%

### Upcoming Meetings, Seminars, and Exhibitions of Interest

May 16-20, 1999 – NFPA World Fire Safety Congress and Exposition, Baltimore, Maryland, USA (FAX 1-617-984-7030)

June 9-11, 1999 – "Second Conference on Firesafety Design in the 21st Century," Worcester Polytechnic Institute, Worcester, Massachusetts, USA (FAX 1-301-718-2242)

September 16-18, 1999 – NFSA Annual Seminar and Alternate Year Exhibition, Chicago, Illinois, USA (FAX 1-914-878-4215)

October 4-8, 1999 – Third International Conference on Fire Research and Engineering, Chicago, Illinois, USA, c/o SFPE (FAX 1-301-718-2242)

November 10-12, 1999 – Fire Australia 1999 and 7<sup>th</sup> Asia-Pacific Fire Trade Fair – "Buildings, Boats, and Bushfires," Fire Protection Association Australia (FAX +61 3 9890 1577)

June 15-17, 2000 – Third International Conference on Performance-Based Codes and Fire Safety Design Methods, Lund, Sweden, c/o SFPE (FAX 1-301-718-2242)

October 15-18, 2000 – NFSA Annual Seminar, Aruba, (FAX 1-914-878-4215)