

SprinklerScene

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3rd International Fire Sprinkler Conference Program Set

The program has been released for the 3rd International Fire Sprinkler Conference, scheduled for 1-4 July, 1998 in Glasgow, Scotland. Sponsored by the British Automatic Sprinkler Association (BASA), the Canadian Automatic Sprinkler Association (CASA) and the National Fire Sprinkler Association (NFSA), the event will begin with a reception the evening of July 1st. A two-day speaker program will focus on the development of new sprinkler markets and the role of new sprinkler technology.

The program contains the greatest collection of distinguished speakers ever assembled for a sprinkler conference. The featured luncheon speakers for the two days are Member of Parliament and strong sprinkler advocate Tess Kingham, and University of Edinburgh Professor Dougal Drysdale, whose fire protection engineering text has become a classic. Providing the keynote address will be George Miller, President of the NFPA.

The impressive list of 25 speakers from the sprinkler industry, the building regulatory arena, the insurance community, and the fire service, includes:

Alastair Aikman, National Research Council (Canada)
Magnus Arvidson, National Testing and Research Institute (Sweden)
William Carey, Underwriters Laboratories (USA)
Dennis Davis, Cheshire Fire Brigade (UK)
Andrew Gardiner, Ove Arup & Partners (UK)
Sultan Javeri, AXA Global Risks (France)
Dan Jones, Chapel Hill, NC Fire Department (USA)
Leslie Heaviside, Wormald Ansul Ltd. (UK)
Milosh Puchovsky, NFPA (USA)
John Stephens, Loss Prevention Council (UK)
Barry Watson, Factory Mutual International (UK)

BASA/CASA/NFSA staff members Ian Brown, John Galt, John Viniello, Russ Fleming, Bob McLeod, Jim Dalton, Gene Endthoff, Ken Isman, and Mark Riffey will also be making presentations.

The conference will open with a reception hosted by the Lord Provost of Glasgow in the historic city chambers, and the evening of July 2nd will feature a banquet at Stirling Castle, as seen in the film *Braveheart*. The conference registration form and hotel reservation form is included as inserts in this issue. Be a part of sprinkler industry history through your participation in this spectacular event - fax your reservations in now!



NFPRF Conducts 2nd Fire Suppression and Detection Symposium

The National Fire Protection Research Foundation (NFPRF) held its second annual Fire Suppression and Detection Research Application Symposium in Orlando, Florida on February 25-27, 1998. Approximately one hundred researchers and practitioners were in attendance. NFPA President George Miller, who also serves as the Foundation's Chairman, welcomed those in attendance, and expressed his hope that the spirit of cooperation between the detection and suppression researchers that was demonstrated at last year's symposium would be repeated.

NFPA Senior Vice President and Chief Engineer Art Cote provided the keynote address, noting the symposium theme of "Research & Practice: Bridging the Gap" and posing the question of whether fire protection can keep up with the developments in new technology. He pointed out the need to translate research results into practical applications, but noted that the view of sprinklers as a tool for life safety has been slow to develop over the past century in spite of all the applicable research.

A total of 22 papers were presented, all but 9 of which dealt at least in part with suppression issues. Among those specifically dealing with fire sprinkler protection:

- ❖ Ken Isman of the NFSA gave a presentation entitled "Research Priorities of the Fire Sprinkler Industry". He suggested that research needs for an industry such as the fire sprinkler industry are brought about by changes in related technologies such as construction materials and techniques, by changes in society's acceptable level of risk, by changes in hazard that systems are called upon to protect, or by fundamental technology changes that permit new and innovative ways to substitute for current methods and hardware. His list of current needs fell into five categories: sprinkler location and positioning, obstructions, required water application rates and sprinkler operating areas, piping concerns such as water quality, corrosion, and pump configuration, and effect of sprinklers on the protected risks.
- ❖ Kevin McGrattan of the National Institute of Standards and Technology (NIST) provided an update on a current NFPRF project in a paper entitled "Sprinkler, Vent, and Draft Curtain Interaction – Modeling and Experiment". Five full-scale tests involved 20 ft rack storage of the standard Group A plastic commodity under a 5600 ft² 25-ft high ceiling area. Small-scale experiments were used to determine heat release rate, droplet size, RTI, and other parameters for input into the numerical model. The technical advisory committee is still working on the interpretation of results, but draft curtains and vents were not found to enhance the performance of the sprinklers.
- ❖ Constantine "Gus" Sarkos of the U.S. Federal Aviation Administration revealed that although water mist systems performed satisfactorily in tests of cargo hold fires, the FAA will be proposing use of Halon 1301 systems to help the airline industry avoid the extra weight of 100 lbs (45 kg) per plane that mist systems would entail.
- ❖ Peter Thomas of The Viking Corporation described testing at Underwriters Laboratories that led to the first specific listings for residential sprinklers under ceilings with slopes up to 6 in 12 (5 in 10 metric). Previously, UL had officially listed residential sprinklers only for smooth flat ceilings, although the 13D appendix attempted to give guidance for slopes.

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- ◆ Amendments to the British Building Regulations, which as part of Approved Document B were released for public review until the end of March 1998, call for sprinkler protection of all large compartment single story buildings with a floor area 4000 m² (43,000 ft²) or larger. The Government has reportedly used the following understatement in support of the requirement for sprinklers: “If pessimistic assumptions are made about the number of occupant casualties to be expected in retail large compartment single story buildings and combined with optimistic assumptions about the effectiveness of sprinklers, sprinklers are cost effective.”
- ◆ The NFPA continues to study the minimum pressure and temperature criteria for nonmetallic sprinkler piping. Advocates of lowering the present value of 175 psi at 120°F (12 bar at 49°C) claim that a reduction would permit the use of cross-linked polyethylene (PEX) in networked systems of ½-inch pipe, which in turn would lead to widely-installed low-cost systems combining sprinklers with domestic piping.
- ◆ The Swedish Fire Research Board (BRANDFORSK) recently reported that its current top research priority is cost and benefits of fire protection measures. The aim of the work is to produce basic tools for performing this analysis in a technically and economically correct manner.
- ◆ Thrust SSC, the vehicle powered by twin jet engines that set a new land speed record of 763 mph (1228 kph) in October of 1997, is protected in part by a water mist fire suppression system. A complex programmable logic device controls the activation of four FM-200 extinguishers in engine and other mechanical bays, but the cockpit is protected by both a Halon 1301 system and the water mist. Two infra-red devices in the cockpit are used to detect fires, and former RAF pilot Andy Green is then given the choice of which system to activate. The water mist system has a water supply for a minimum 15-minute duration.
- ◆ The number of sprinkler systems installed annually in New Zealand more than tripled between 1989 and 1996, although the total is still less than 500 systems per year in the country of three and a half million people. Much of the increase has come with residential systems, now mandatory in rest homes with more than 20 beds. Systems are also being installed in commercial buildings being converted into apartments and in major buildings like the new Museum of New Zealand.
- ◆ The British LPCB has approved a “zonecheck” automatic flow switch testing device for sprinkler systems. Marketed by Project Fire Engineers Ltd., the device consists of a small pump set in a loop around a water flow switch, permitting a remote operator to test for an alarm signal from the water flow switch.
- ◆ Commenting on an article in the previous issue of *International SprinklerScene*, Sir George Pigot of the Residential Sprinkler Association of the United Kingdom has clarified there is no intent by the supporters of the proposed BSI residential sprinkler standard to utilize sprinklers at flow rates below their listed values. The wording of the standard attempts to set a practical minimum anticipating continued product development. The 5th draft of the document, released in December, states that listed residential sprinklers are to be used at their listed discharge rates.

Upcoming Meetings, Seminars and Exhibitions of Interest

May 11-14, 1998 – International FIREX `98 Exhibition and Conference, NEC Birmingham, England, UK (FAX 44-0181-747-3856).

May 18-21, 1998 – NFPA Annual Meeting and Exhibition, Cincinnati, Ohio, USA (FAX 1-617-984-7030).

July 1-4, 1998 – 3rd International Fire Sprinkler Conference sponsored by BASA/CASA/NFSA, Glasgow, Scotland, UK (FAX 1-914-878-4215).

August 31-September 2, 1998 – 1st International Symposium on Human Behavior in Fire, University of Ulster et al, Belfast, Northern Ireland (FAX 44-1232-366-060).

September 17-20, 1998 – “Community Planning with Sprinklers”, NFSA Annual Seminar and Tabletop Display, San Antonio, Texas, USA (FAX 1-914-878-4215).

November 15-18, 1998 – NFPA Fall Meeting, Atlanta, Georgia, USA (FAX 1-617-984-7030).