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THE TIMES

Fire Service Section Newsletter

ANNUAL MEETING WRAP-UP

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After celebrating NFPA's 100th anniversary last year in Boston, it was hard to imagine a meeting that would be as busy! To no one's surprise, Los Angeles proved to be a great host to kick-off the next century for our Association, and kept Staff moving much like the Energizer Bunny.

Executive Board members met early Sunday morning with their counterparts from the Fire Science Technology Educators Section to discuss collaborative efforts on a variety of topics. These included a joint newsletter, joint educational programs at Annual Meetings, and sharing of information from Technical Committees through other mediums. An ambitious schedule for the week was reviewed, and assignments for speaker sessions, and exhibit booth hours were given out.

Sunday afternoon the Section sponsored an afternoon seminar "Firefighter Fatalities: Identifying the Issues". Deputy Chief Gary Morris, Phoenix, AZ Fire Department, gave attendees insight to how Phoenix had developed and refined the use of Rapid Intervention Crews/Teams, and the use of accountability systems. Both of these components can only work well if all personnel are trained in their use, their use is adhered to at the incident scene, and most importantly that they are significant components of an Incident Management System. Gary, who heads-up Phoenix's ESI (Emergency Services Institute) and also chairs the NFIMSC (National Fire Incident Management Systems Consortium),

was able to capture the seriousness of the consequences when an IMS (Incident Management System) is not in place. Issue 1, without an IMS in place with all the components, it is a contributing factor to potential firefighter fatalities.

Issue 2, the multiple roles of Fire Department Physicians and how

data analysis is used in identifying issues of firefighter fatalities. Dr. Richard Gerkin, Phoenix Fire Department and Dr. M.S. Bogucki, Ph.D. from Yale University, both principal members of the NFPA Technical Committee on Fire Service Occupational Safety and Health, spoke on how they saw their roles in the fire service. Dr. Gerkin gave a unique perspective, based on his 20 plus years of working with Phoenix firefighters on how important physical fitness is to the profession of firefighting. Dr. Bogucki, who served as Chairperson of a National Symposium for the United States Fire Administration on the role of Fire Department Surgeon, gave the audience an historical look at the multiple roles that physicians have played since the Civil War. Her main point was that the role is more than an occupational physician, more than an EMS coordinator, and more than a sur-

geon. It is components of all of those that need to be combined and better utilized, especially at an emergency incident scene! How does data analysis figure into occupational medicine? Ms. Rita Fahy, Program Manager and primary author of NFPA's Annual Report on Firefighter Fatalities, was able to lay a foundation of statistical truths about firefighter fatalities. Over the past 20 years NFPA has tracked

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Fire Service Section - Immediate Past Chairman, Glenn Benarick (left) accepts a Fire Chiefs Pewter Trumpet from G. Richard Morris, Chairman of the NFPA Board of Directors and Chief Herman Brice, First Vice Chair, for his years of service on the FSS Executive Board.

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HAZ-MAT Response at Sea

On Sunday, March 13, 1994, the oil tanker *Nassia*, filled with 98,000 tons of Russian light crude oil, proceeding at night through the heavily traveled Bosphorus Straits, (which connect the Black Sea and Mediterranean Sea) was struck by the bulk carrier *Shipbroker*. The collision ripped a gaping hole in the number one port cargo tank of the *Nassia*, causing a catastrophic explosion in which 31 seamen died instantly. Both ships were immediately engulfed in flames. The *Shipbroker* grounded itself on the nearby Turkish coast and local firefighters were able to extinguish the vessel. The *Nassia*, on the other hand, with its rudder jammed and locked, repeatedly circled in the Straits, passing repeatedly through its own flaming wake.

In response to the disaster, the renowned Dutch salvor SMIT TAK, which has been granted a Lloyd's open form contract for the salvage of the *Nassia*, immediately dispatched, by DC10, an 18 man emergency response team, with a full complement of firefighting and salvage equipment, to Istanbul, Turkey. Surveyors from Lloyd's evaluated the fire as the worst in years and estimated that it would require at least ten days to extinguish. In the meantime over 350 ships were stranded on both sides of the Romanian Black Sea ports to the rest of the world. It was the worst imaginable scenario for firefighters: a raging fire, stranded ships, oil pollution, hovering helicopters from CNN and Greenpeace, and thick black smoke billowing over the ancient city of Istanbul with its population in excess of 11 million. The salvors from SMIT TAK, however, had a secret weapon.

In October 1993, at the extensive fire training facilities of the Rotterdam International Safety Centre, SMIT TAK had evaluated two new American firefighting products, PYROCOOL and PYROCOOL FEF (fire extinguishing foam), manufactured by a small Virginia-based company. In test after test, the products demonstrated an incredible ability to cool fire site temperatures and extinguish three dimensional and pressurized fires involving a number of different fuels, including conventional hydrocarbons as well as polar solvents. The tests so impressed the hardened veterans from SMIT TAK (who had fought over 50 large tanker fires over the past two decades) that the company immediately obtained exclusive rights to use the projects in marine salvage operations. When the *Nassia* struck, SMIT TAK put its 150 year reputation on the line and sent its emergency response team equipped with only the two PYROCOOL products.

On March 17, 1994, the SMIT TAK firefighters attacked the *Nassia* with the PYROCOOL. In just 12 1/2 minutes, the largest tanker fire in years was over. The fire was out, the smoke gone, and 80% of the *Nassia's* cargo was successfully recovered from the vessel's hulk. The prestigious Lloyd's List, in publication since the days when Napoleon was Emperor, called the feat "a convincing demonstration for the new agents' unusual properties" and the lead firefighter for the SMIT team said "I have never seen

such amazing knockdown. You really would have to see it first hand to believe it."

The PYROCOOL products are a milestone in firefighting technology. Bypassing conventional thinking, which based fire extinguishment on oxygen deprivation, the PYROCOOL products instead eliminate the heat component of fire through a photochemical process. Wherever the products strike, fire site temperatures are immediately and drastically reduced. In tests against magnesium, PYROCOOL dropped the temperature from 1354 C to 33 C in 30 seconds. On conventional hydrocarbons, temperatures were also dramatically reduced, allowing firefighters to touch with their bare hands, within seconds of extinguishment, the steel tanks which only moments before contained burning fuel.

PYROCOOL products are not intended simply to be replacements for conventional firefighting foams in the area of combating one dimensional pooled surface fuel fires, for which such foams were specifically designed. Although the PYROCOOL products are effective against such fires, the company abandoned floursurfactants (which create the famous "AFFF seal", but at the same time leave behind significant environmental cleanup challenges) and instead concentrated on producing extinguishment agents which were also capable of fighting the more difficult fires against which conventional foams were useless, such as pressurized and three dimensional fires.

The PYROCOOL products are fully and rapidly biodegradable, do not cause the shutdown of waste water treatment facilities and are mixed with water at the surprisingly low rate of 0.4% (i.e. 4 gallons per 1000), as compared to conventional foams which are mixed at 3% (i.e. 30 gallons per 1000) or 6% (i.e. 60 gallons per 1000). The products have a shelf life of 10 years and are readily used with the new range of eductors available in the market from Akron and other companies, or can be simply batch-mixed in tanker trucks.

Further information on the PYROCOOL is available from Environmental Technologies, Inc., 10000 Timberlake Road, Lynchburg, VA, 24502, ph.#'s 1-800-289-7976 & (804) 237-4437, fax # (804) 237-1442, and from NOCHAR Canada, Inc., 4950 Yonge Street, Suite 500, Toronto, Ontario, M2N 6K1, ph# (416) 218-5545, fax # (416) 218-0702.

New Internet Address

The Public Fire Protection Division of the NFPA has a new Internet address: PUBLICFIRE@NFPA.ORG. This may be used to seek technical assistance on the various standards maintained by the division.