Federal Fire Working Group Meeting

Federal Emergency Management Agency/U.S. Fire Administration
16825 South Seton Avenue, Emmitsburg, Maryland 21727
December 5, 2012 Time: 9:00 a.m. -12:00 (Noon)
Call in #: 1-800-320-4330, PIN#: 993468

ATTENDEES	**ORGANIZATIONS**
Dale Dague	USFS
Donald Warner	Air Force
Allen Roush	Air Force
Laura Doyle	GSA
Jim Bisker	DOE
Anthony Hamins	NIST
Tim Butters	PHMSA/DOT
Art Kaminiski	DOD
Vivian Green	FAA

USFA ATTENDEES	
Ernest Mitchell	Administrator, U.S. Fire Administration
Alex Furr	Director, National Fire Programs Division (NFP), USFA
Sandra Facinoli	Chief, P&I Branch/NFP
Rebecca A. Ryan	Fire Program Specialist, P&I/NFP

PRESENTATIONS:	William Shields, Ph.D.
	Anthony Hamins, NIST
	Larry McKenna, USFA
	Tim Butters, PHMSA/DOT

Alex Furr, Director, National Fire Programs Division, USFA, welcomed all to the meeting and introduced USFA Administrator Mitchell who was participating for the first time. Administrator Mitchell commented how pleased he was to be part of this working group and how he appreciated what the group was doing. He planned to stay on the call for as long as possible and looked forward to hearing from the various presenters.

Roll call was taken followed by the first of several presentations.

The following presentations were provided to the members.

William Shields, Ph.D.
Adjunct Professor of Fire Protection Engineering
Worcester Polytechnic Institute (WPI)
[formerly with DNFSB/DOE]
Presentation: *Fire Protection for Nuclear Facilities*

Dr. Shields provided an overview and background on a new course, *Fire Protection for Nuclear Facilities*, he will be teaching through WPI. He noted that worldwide over 60 power reactors are in process in 13 countries highlighting that nuclear power worldwide is moving along rapidly.

The goal of the course is to give students an understanding of the unique hazards associated with nuclear facilities and the methods by which fires can be controlled. Some of the objectives of the course will include the history of the nuclear industry in the United States and worldwide; the basic physics of radioactive and fissionable materials; the design and operation of power reactors and other types of nuclear facilities; and use of fire modeling in nuclear applications.

Fire protection engineers and those seeking a nuclear engineering certificate (now offered at WPI as a new program) would be among the target audience.

Dr. Anthony Hamins, Chief, Supervisory Mechanical Engineer
Fire Research Division
National Institute of Standards and Technology (NIST)
Presentation: ***Fire Modeling***

Dr. Hamins provided an in-depth overview of NIST's recent fire research to better understand fire physics and the behavior of fire. His presentation focused primarily on two models: CFAST and FDS. CFAST, or consolidated Model of Fire and Smoke Transport, is a computer program that fire investigators, safety officials, engineers, architects and builders can use to simulate the impact of fires and smoke in a specific building environment. The latest version of the software is designed to work with Windows 7. The CFAST package includes NIST's Smokeview program, which visualizes, with colored, three-dimensional animations, the results of the CFAST simulation of a specific fire's temperatures, various gas concentrations and growth and movement of smoke layers across multi-room structures.

FDS, or Fire Dynamics Simulator, is a computational fluid dynamics model of fire-driven fluid flow. FDS also uses Smokeview to visualize the evolving scenario geometry, fire, and fields of velocity vectors, temperature filed, heat flux, and species concentrations.

Larry McKenna, Fire Program Specialist
Prevention & Information Branch/USFA
Presentation: ***Smoke Alarm Research***

Mr. McKenna provided an update on the home smoke alarm research sponsored by USFA and Consumer Products Safety Commission (CPSC) at Oak Ridge National Laboratories. Research

to date shows clearly that improvements to residential smoke alarms are possible with current technology….more data can yield better decisions! Simple improvements can provide earlier warning, fewer nuisance alarms, and can awaken sleeping children and older adults better than current alarms.

Mr. McKenna mentioned Kidde's Intelligent Alarm which is a combination smoke, fire and CO alarm. Limited in-situ testing at 6 feet from cook top showed considerable improvement in nuisance alarm resistance to kitchen sources.

Kidde also has a Worry-Free line of photoelectric detectors with a sealed 10-year battery. They are offered for several options: living area; hallway alarms/LEDs; bedroom alarm w/voice; and kitchen alarm w/photoelectric and CO.

Timothy Butters, Deputy Administrator
Pipeline and Hazardous Materials Safety Admin.
Department of Transportation
Presentation: *Pipeline and Hazardous Materials Safety Initiative*

Mr. Butters provided an informative presentation on the Pipeline and Hazardous Materials Safety Administration's (PHMSA) role within the Department of Transportation. The mission of the PHMSA is to protect people and the environment from the risks inherent in the transportation of hazardous materials by all modes of transportation.

There are two primary programs within the PHMSA: Office of Pipeline Safety and the Office of Hazardous Materials Safety. Among many authorities granted to PHMSA, it can: conduct investigations, create reports; issue subpoenas, conduct hearings, conduct research, development, demonstration, and training activities; and, issue orders requiring compliance with a prescribed regulation, order, special permit, or approval issued.

Pipelines are important because they transport a majority of crude oil, refined petroleum products and natural gas. There are over 2.6 million miles of hazardous gas and liquid pipelines which are operated by approximately 3,000 companies, both large and small. Transporting natural gas, propane, and other flammable gases pose a great life safety risk. The pipeline system is an aging infrastructure comprised of materials that are deteriorating and excavation damage is the leading cause of pipeline failures. PHMSA is looking to reduce the number of incidents with death or major injury by sharpening their focus on key risks using data; developing solutions to detect/characterize these risks; promoting systematic management of risk through standards and inspecting and enforcing integrity management standards.

Some of the functions of the HazMat Safety Program include developing/enforcing standards for transporting hazmat; investigating hazmat incidents, failures and complaints; conducting research and development of safety systems; working with industry shippers and carriers, developing emergency response resources (ERG) and training programs; and implementing recommendations for the National Transportation Safety Board (NTSB). The Office of Hazardous Materials Safety has as some of its strategic goals to reduce the number of incidents with death or major injury; prevent and mitigate high consequence events; invest in information

systems to allow data sharing between modes about hazmat carriers to reduce risk; enhance security of shipments considered "toxic by inhalation," and to ensure emergency responders are provided with information about hazardous materials shipments and promote training and response readiness.

Deputy Administrator Butters highlighted a few of the challenges that PHMSA faces:

- Safety of 2.6 million miles of gas and liquid pipelines, which carry over 64% of the energy consumed in the U.S.;
- Safe movement of over 1 million hazmat shipments daily;
- assuring economic mobility, efficiency and public confidence in the safety of our hazmat transportation system;
- promoting transportation solutions that enhance safe communities and protect the natural environment, and allow businesses to operate; and,
- effective stakeholder communication with federal, state and local agencies, shippers, carriers, labor, pipeline operators, response community and the public.

Round Robin

Jim Bisker, DOE, mentioned that the Nuclear Regulatory Commission (NRC) is offering a class on CFAST which was highlighted in Dr. Hamins presentation. Anyone interested in this class should contact Mark Salley, FPE with the NRC.

Allen Roush, Air Force, announced that Don Warner, Air Force, will be retiring on December 29th Everyone offered congratulations to Don and wished him well and thanked him for his participation in the FFWG.

Don Warner, Air Force, asked if desensitivity for detectors was included in the testing which Mr. McKenna presented. Mr. McKenna said that alarms were not particularly tested for sensitivity.

**The next meeting is tentatively scheduled for the May/June 2013 timeframe. We would welcome a ½ day off-site meeting in the Washington metro area for ease of commuting and are looking for volunteers to host the gathering. Please notify Ms. Ryan if you are willing to host this meeting.