

NISTIR 6774

Workshop On Fire Testing Measurement Needs: Proceedings

William Grosshandler
(Editor)



NIST

National Institute of Standards and Technology
Technology Administration, U.S. Department of Commerce

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Testing Measurement Needs:
Proceedings**

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Building and Fire Research Laboratory

August 2001



U.S. Department of Commerce
Donald Evans, Secretary

National Institute of Standards and Technology
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B. INTRODUCTION

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FIRE TESTING MEASUREMENT NEEDS WORKSHOP

Building and Fire Research Laboratory
(BFRL)



National Institute of Standards and Technology
Gaithersburg, MD

June 18-19, 2001



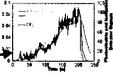
A MAJOR GOAL OF BFRL: FIRE LOSS REDUCTION THROUGH...

- Reduced Risk of Flashover
Accelerate the development and implementation of technologies that, within 10 years, will reduce the cost by 50% to eliminate flashover in buildings.
- Advanced Fire Service Technologies
Help achieve 50% reduction in line-of-duty fatalities and burn injuries by 2112.
- Advanced Measurement & Prediction Methods
Be the principal supplier to the world of basic measurement and prediction methods that underpin the goal of reducing fire losses.



REDUCED RISK OF FLASHOVER PROGRAM

- Implications of eliminating flashover --
Reduce U.S. fire deaths by 80%, injuria by 50%, property losses by 80%
Knowledge leads to more effective testing, reduced time-to-market for new products.
- Program focuses on four strategies --
Fault-resistant detection
Less fire-prone materials
Fire growth and spread models
Cost-effective suppression



ADVANCED FIRE SERVICE TECHNOLOGIES PROGRAM

Provide, through advances in measurement & prediction, accurate and timely information for fire fighting, incident command, fire investigation, and training.

- Decision Support
- protective clothing selection

- Large Eddy Simulations
- training
- fire investigation CD-ROM
- new technology development
- visualization/simulators

- Zone Models
- uses sensor data
- inverse modeling
- incident command
- fire investigation




ADVANCED MEASUREMENT & PREDICTIVE METHODS PROGRAM

- Feed other BFRL programs and goals through enabling science.
- Maintain specialized facilities at critical scales.
- Compile, evaluate, archive and distribute fire data/information.
- Act as technical source/neutral facilitator on key Codes & Stds.



EXPECTED OUTCOME

- Identification of issues of concern to fire test labs
- Prioritized list of concerns with possible technical solutions
- Identification of opportunities
- Assignment of actions
- Follow-up workshop



SUGGESTED TOPICS

- Most common fire test methods (by frequency of performance)
- Most significant fire test methods (by cost to run and/or economic impact)
- Calibration practices of the industry
- Uncertainty limits of the results
- Current certification practices
- Incorporating new measurement techniques into old test protocols
- The role of numerical simulation in interpreting/displaying results
- Implications of global markets on U.S. product testing
- Needs of state fire marshals and local code officials
- Needs of manufacturers of regulated materials and products
- NIST as a resource

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CODES AND REGULATIONS PANEL

- Jess Beitel, Hughes Associates, Inc., Baltimore, MD
Representing Nat'l Fire Protection Assoc.
- Donald Bliss, New Hampshire State Fire Marshal, Concord
Representing Nat'l Assoc. of State Fire Marshals
- Andrew Stadnik, Consumer Product Safety Commission,
Gaithersburg MD
- Dave Bowman, Bldg Officials and Code Administrators Int'l,
Country Club Hills IL, Representing Nat. Eval. Services

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MATERIALS & PRODUCT MANUFACTURERS PANEL

- Thomas Fritz, Armstrong World Industries, Lancaster, PA
- Kevin Haile, Hardwood, Plywood & Veneer Assoc., Reston, VA
- Jess Beitel, Hughes Associates, Inc., Baltimore, MD
Representing American Plastics Council
- Michael O'Bryant, Boeing Airplane Company, Seattle, WA

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LABORATORY CERTIFICATION & ACCREDITATION PANEL

- Joan Walsh Cassidy, American Council of Independent
Laboratories, Washington DC
- Chuck Ramani, Int'l Conference of Bldg Officials Eval. Serv.,
Representing Am. Assoc. for Laboratory Accreditation
- Ken Klouse, Mine Safety & Health Admin., Morgantown WV
Nationally Recognized Testing Laboratory Program
- Gordon Gillerman, Underwriters Laboratories,
Washington DC

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MEASUREMENT UNCERTAINTIES IN STANDARD FIRE TESTS PANEL

- Martin Pabich, Underwriters Laboratories, Northbrook IL
- John deRis, Factory Mutual Global, Norwood MA
- Alex Wenzel, Southwest Research Institute, San Antonio TX
- William Pitts, National Institute of Standards & Technology,
Gaithersburg MD

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IMPLICATIONS OF GLOBALIZATION ON U.S. FIRE TESTING

- Janet Murrel, Warrington Fire Research Centre, UK,
Representing the European Group of Official
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- Richard Gann, National Institute of Standards and
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ADVANCED FIRE MEASUREMENT AND PREDICTIVE METHODS

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