U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

EPRI ELECTRIC POWER RESEARCH INSTITUTE

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

SAIC Science Applications International Corporation
From Science to Solutions™

Fire Modeling User's Guide

Francisco Joglar, Bijan Najafi and David Birk, SAIC/EPRI

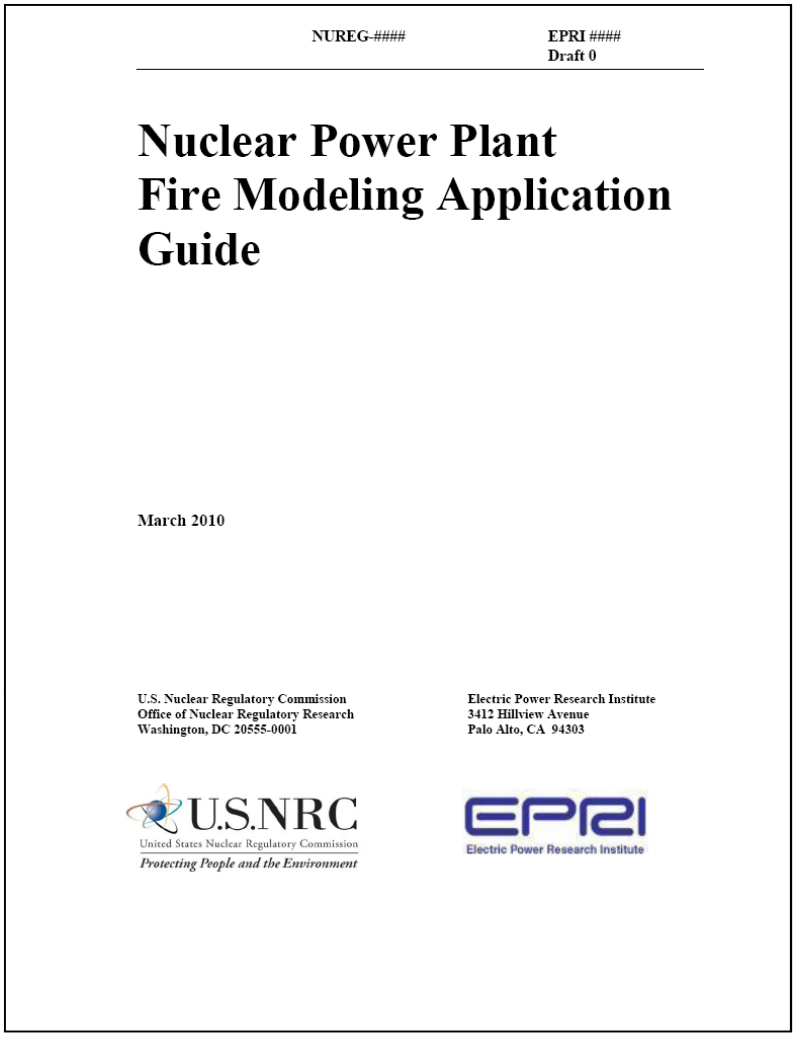
Dave Stroup, Jason Dreisbach, Mark Salley, US NRC

Kevin McGrattan and Rick Peacock, NIST

Nuclear Energy Institute Fire Protection Information *Forum*

September 21-24, Savannah GA

A Collaboration of U.S. NRC Office of Nuclear Regulatory Research (RES) & Electric Power Research Institute (EPRI)



NUREG-#### EPRI ####
Draft 0

Nuclear Power Plant Fire Modeling Application Guide

March 2010

U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington, DC 20555-0001

Electric Power Research Institute
3412 Hillview Avenue
Palo Alto, CA 94303

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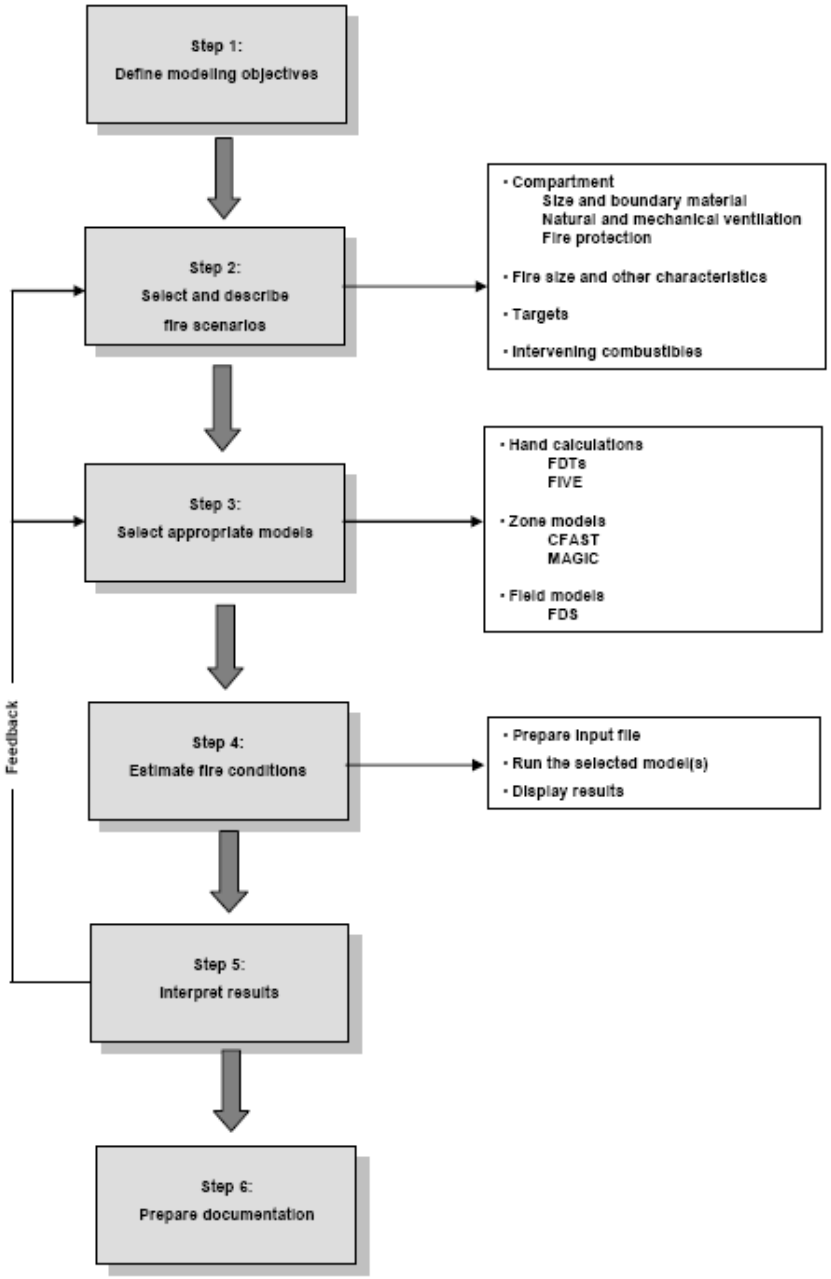
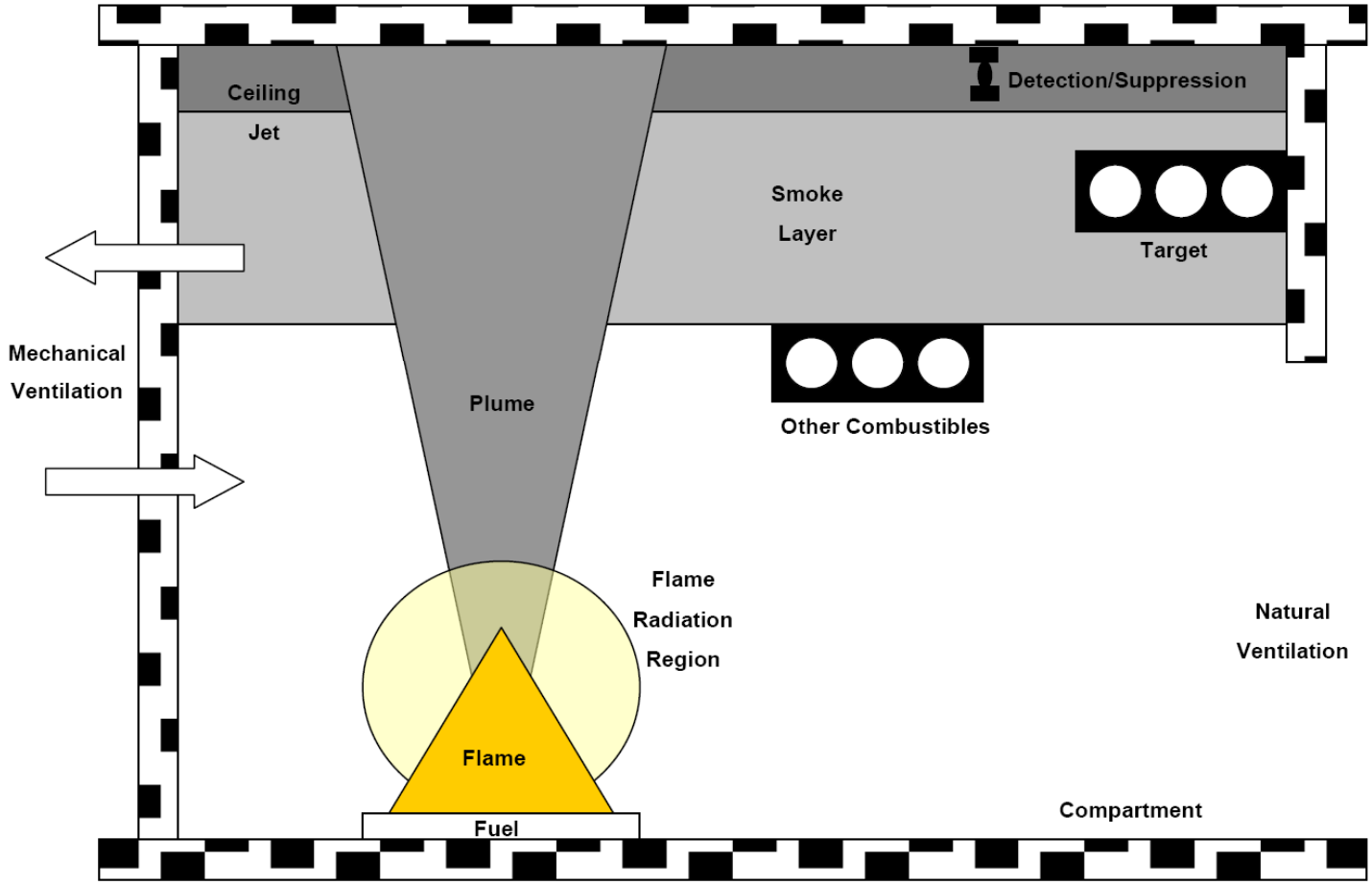


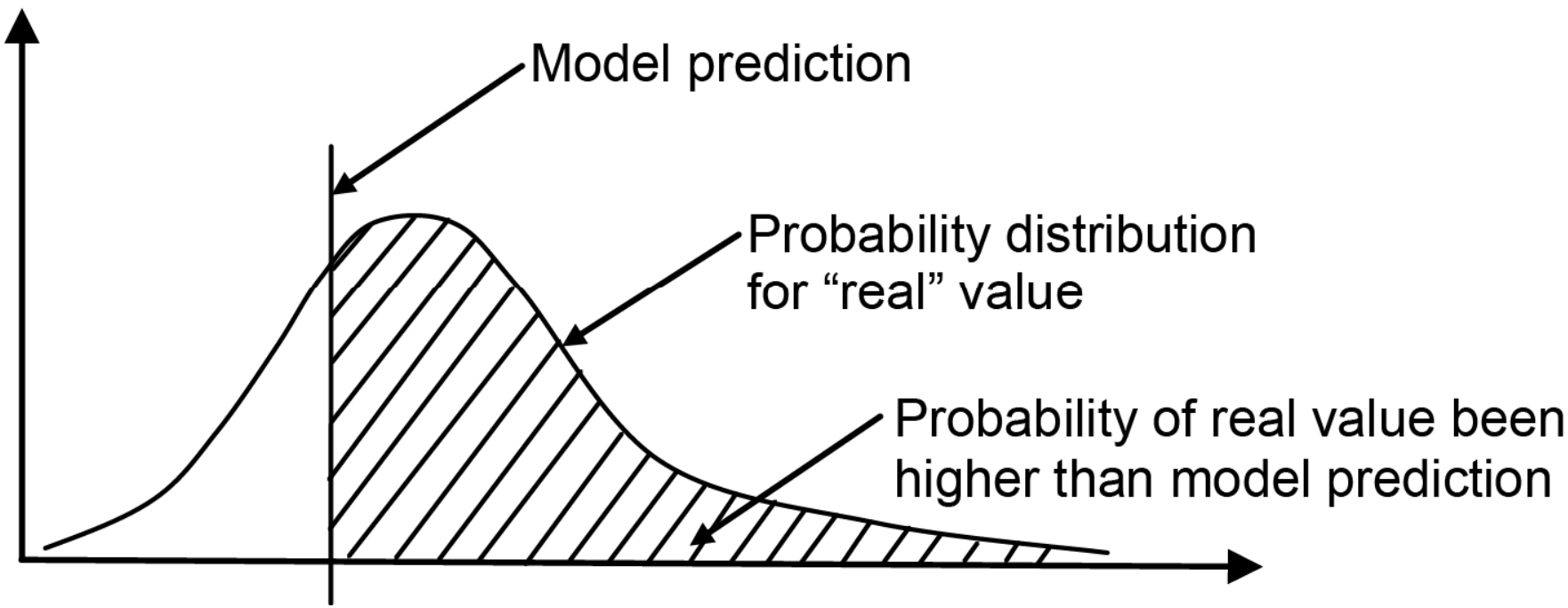
Purpose of the Guide is to help <u>Modelers</u>

V&V helps the model developers, but not necessarily the users

Basic Elements of a Fire Modeling Analysis

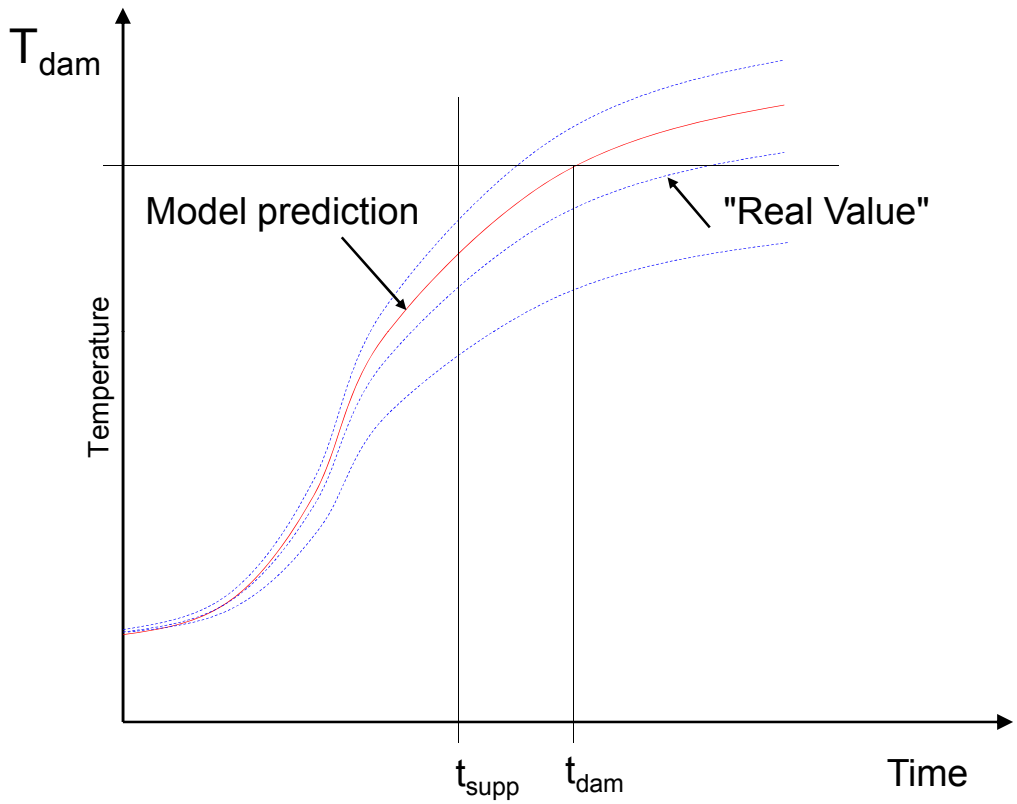


Greater Emphasis on Uncertainty

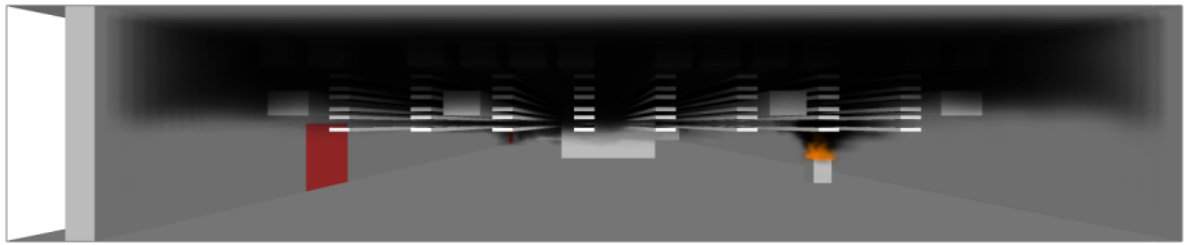


Greater Emphasis on Uncertainty

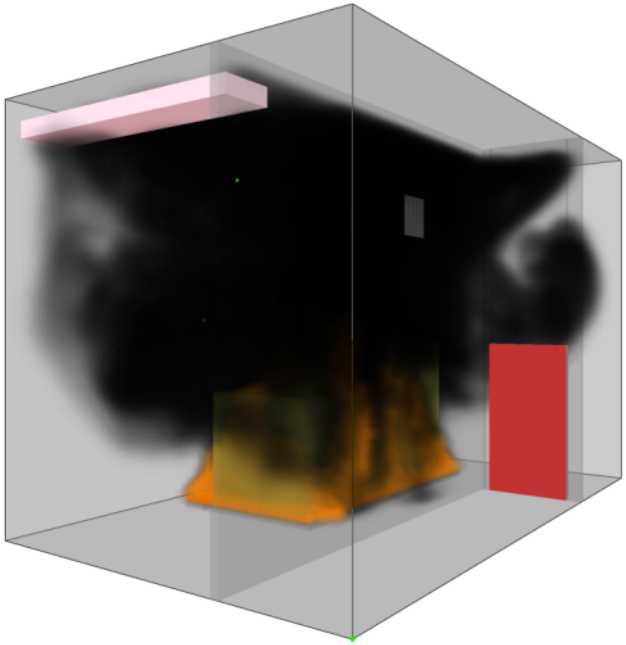
Example:



Example Fire Scenarios

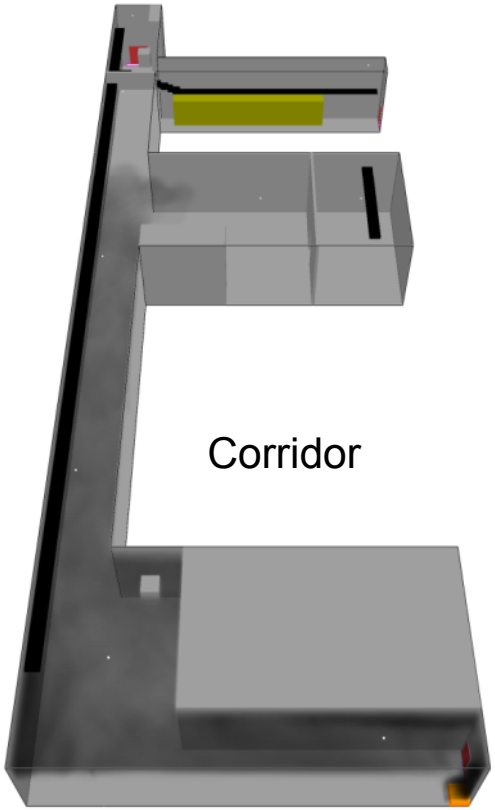


Cable Spreading Room

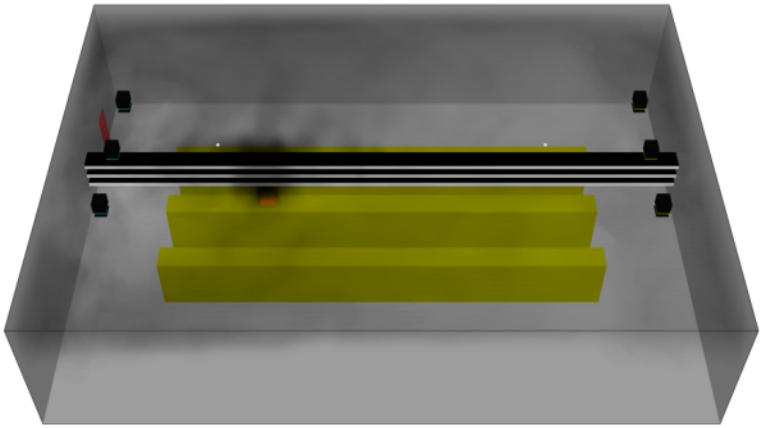


Pump Room

Annulus



Corridor



Main Control Room

Project Status

- Draft complete, June 2009
- Peer Review complete, Aug 2009
- 60 day Public Comment, Fall 2009
- ACRS subcommittee Review, Spring 2010
- Issue Summer 2010