



National Fire Protection Association

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MEMORANDUM

TO: NFPA Technical Committee on Animal Housing Facilities

FROM: Tracy Golinveaux, Staff Liaison

DATE: May 4, 2011

SUBJECT: NFPA 150 ROC TC Letter Ballot (F2011)

The ROC letter ballot for NFPA 150 is attached. The ballot is for formally voting on whether or not you concur with the committee's actions on the comments. Reasons must accompany all negative and abstention ballots.

Please do not vote negatively because of editorial errors. However, please bring such errors to my attention for action.

Please complete and return your ballot as soon as possible but no later than **Wednesday, May 25, 2011**. As noted on the ballot form, please return the ballot to Jill McGovern either via e-mail to jmcgovern@nfpa.org or via fax to 617-984-7110. You may also mail your ballot to the attention of Jill McGovern at NFPA, 1 Batterymarch Park, Quincy, MA 02169.

The return of ballots is required by the Regulations Governing Committee Projects.

Attachments: Comments
Letter Ballot

150-1 Log #3
(Entire Document)

Final Action: Accept in Principle

Submitter: Richard J. Davis, The Evergreen State College

Comment on Proposal No: 150-11

Recommendation: We recommend holding this proposal for the next revision cycle.

Substantiation: The APPA Code Advisory Task Force is grateful that safety concepts of this nature are open for public comment through the NFPA/ANSI process and distributed through its vast network of safety experts and stakeholders. This issue is very important for our industry because:

a) many colleges and universities have research and teaching facilities with an abundance of Group A and Group B animals.

b) we share the concern for the safety of human and non-human life.

c) many colleges and universities are struggling with insufficient capital and operating budgets that may put this particular life safety concern on a lower rank than priorities affecting human life safety.

d) there are may be factors that increase the cost and lower the benefit of sprinklers in facilities that house animals. Some facilities are not heated and subject to freezing. This could result in the increased cost of dry sprinkler systems. The animals will remain caged or otherwise restrained and might be harmed by sprinklers operating on them for long periods. Water might accumulate and cause drowning for smaller creatures or nursing young. Lastly, there may not be sufficient design data to assess the hazard, making design difficult for those who must determine a water application rate.

It is noteworthy that there are no known prohibitions against installing sprinklers for both Group A and Group B animals now. Our concern rests upon making this requirement mandatory when NFPA 150 is adopted into local and state law. For this reason, we recommend that the committee place this proposal on HOLD until the next revision cycle. This will permit distribution of this mandatory safety concept to a broader group of experts and stakeholders who, given enough time to discuss among themselves, will inform the debate. These experts and stakeholders are needed to broaden support for the future use of NFPA 150 by state and local jurisdictions.

It would be unwise to accept this proposal before the safety community and risk management agencies are ready for its implications. Another 3 years of public discussion would also provide time for technological innovations to emerge that might lower the cost of accomplishing the worthy objective of protecting all animals from the risk of fire.

This comment was prepared with expertise and effort by Brooks Baker (University of Alabama-Birmingham), Kevin Folsom (Dallas Theological Seminary), David Handwork (Arkansas State University) and Michael A. Anthony (University of Michigan).

Committee Meeting Action: Accept in Principle

Continue rejecting proposal 150-11 (Log #14) and address this issue again during the next cycle.

Committee Statement: The committee agrees with the submitters intent to hold this issue until the next revision cycle.

Four areas were addressed for further study and consideration for the development of sprinkler requirements in the code: 1) Generate and analyze statistical fire loss data , 2) Consider stakeholders input, 3) Consider animal sensitivity to fire sprinkler systems and other types of suppression systems, 4) Expand animal classifications

The submitter is correct in looking ahead to possibly using newer technologies to bring down costs and increase effectiveness and safety of newer sprinkler systems.

150-2 Log #CC4
(Chapter 2)

Final Action: Accept

Submitter: Technical Committee on Animal Housing Facilities,

Comment on Proposal No: 150-1

Recommendation: Update references to all NFPA Standards

Update reference in Section 2.3.1 as follows:

ASCE/SEI 7, Minimum Design Loads for Buildings and Other Structures, 2010 ~~2005~~.

Update reference in Section 2.3.2 as follows:

ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Material, 2010 ~~2006~~

Substantiation: To update the standards to the most recent editions.

Committee Meeting Action: Accept

150-3 Log #2 Final Action: Accept
(2.3.3)

Submitter: John F. Bender, Underwriters Laboratories Inc.

Comment on Proposal No: 150-5

Recommendation: Revise as follows:

2.3.3 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 723, Standard for Test of Surface Burning Characteristics of Building Material, 2008, with revisions through September 13, 2010.

Substantiation: Reason: To update referenced standard to the most recent edition.

Committee Meeting Action: Accept

150-4 Log #4 Final Action: Accept in Principle
(Chapter 5)

Submitter: Jim Muir, Clark County Building Safety Division

Comment on Proposal No: 150-18

Recommendation: This Comment requests the Technical Committee Accept the proposal in principle by extracting Chapter 5, Performance-Based Option, from the 2009 edition of NFPA 5000.

Substantiation: Note: This comment was developed by the proponent as a member of NFPA's Building Code Development Committee (BCDC) with the committee's endorsement.

Currently, NFPA 150 chapter 5, Performance Based Design Option is reserved, containing no provisions. With no provisions, the standard does not have performance based options outlined. Many of the other NFPA documents do provide these types of provisions. The provisions (scope and objectives) of NFPA 5000 are more general and applicable to the scope and objectives of NFPA 150.

For example the original proposal would have brought chapter 5 of NFPA 1 which includes provisions in 5.1.12 for hazardous materials. While Section 5.1.12 of NFPA 1 may not be applicable to the scope of NFPA 150, NFPA 5000 chapter 5 does not contain those specific provisions but rather contains more general and applicable provisions that would provide direction to the user of NFPA 150 in a performance based design option.

Committee Meeting Action: Accept in Principle

Revise Chapter 5 as follows:

****Insert 150_L4_Include_CA Here****

Committee Statement: The language in Chapter 5 of NFPA 5000 was modified to reflect the scope of NFPA 150.

150-5 Log #CC3 Final Action: Accept
(6.2.6.1)

Submitter: Technical Committee on Animal Housing Facilities,

Comment on Proposal No: 150-6

Recommendation: Revise section 6.2.6.1 as follows:

6.2.6.1 Where separated subclassifications are provided, each part of the structure comprising a distinct subclassification, as described in this chapter, shall be completely separated from other subclassifications by fire-resistive assemblies fire barriers in accordance with NFPA 101 or NFPA 5000[®], Building Construction and Safety Code[®] as specified in 6.2.6 and Table 6.2.6.1, unless separation is provided by approved existing separations.

Substantiation: Table 6.2.6.1 should be clearly and specifically referenced in this section.

Committee Meeting Action: Accept

5.1* General Requirements.

A.5.1 The performance-based option of this Code establishes acceptable levels of risk for buildings and structures as addressed in Section 1.2. While the performance-based option of this Standard does contain goals, objectives, and performance criteria necessary to provide for an acceptable level of risk, it does not describe how these goals, objectives, and performance criteria are to be met. Design and engineering are needed to meet the provisions of Chapter 5.

5.1.1 Application. The requirements of this chapter shall apply to buildings or structures, portions of buildings or structures, or building systems designed to the performance-based option permitted by Section 4.3.

5.1.2 Goals and Objectives. The performance-based design shall meet the goals and objectives of Section 4.1.

5.1.3* Independent Review. The authority having jurisdiction shall be permitted to require an approved, independent third party to review the proposed design and provide an evaluation of the design to the authority having jurisdiction at the expense of the owner.

A.5.1.3 A third-party reviewer is a person or group of persons chosen by the authority having jurisdiction to review proposed performance-based designs. Qualifications of the third-party reviewer should include experience, education, and credentials that demonstrate knowledgeable and responsible use of applicable models and methods.

5.1.4 Sources of Data. Data sources shall be identified and documented for each input data requirement that must be met using a source other than a design scenario, an assumption, or a building design specification. The degree of conservatism reflected in such data shall be specified, and a justification for the source shall be provided.

5.1.5* Final Determination. The authority having jurisdiction shall make the final determination as to whether the performance objectives have been met.

A.5.1.5 For guidance on reviewing performance-based designs, see the SFPE Enforcer's Guide to Performance-Based Design Review. Additional guidance on reviewing designs in which fire risk analysis is used can be found in NFPA 551, Guide for the Evaluation of Fire Risk Assessments.

5.1.6* Maintenance of Design Features.

A.5.1.6 Continued compliance with the goals and objectives of the Standard involves many factors. The building construction — including openings, interior finish, and fire- and smoke-resistive construction — and the building and fire protection systems need to retain at least the same level of performance as is provided for the original design parameters. The use and occupancy should not change to the degree that assumptions made about the occupant characteristics, combustibility of furnishings, and existence of trained personnel are no longer valid. In addition, actions provided by other personnel, such as emergency responders, should not be diminished below the documented assumed levels. Also, actions needed to maintain reliability of systems at the anticipated level need to meet the initial design criteria.

5.1.6.1 The design features required for the building to continue to meet the performance goals and objectives of this Standard shall be maintained for the life of the building. Such performance goals and objectives shall include complying with all documented assumptions and design specifications. Any variations shall require the approval of the authority having jurisdiction prior to the actual change.

5.1.6.2 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or other feature is required to meet the goals, objectives, or performance criteria of this Standard, approved procedures for the operation and maintenance of such device, equipment, system, condition, arrangement, level of protection, or other feature shall be prepared, and an approved system of

inspection, maintenance, and testing shall be included in an operations and maintenance manual developed as part of the performance based design.

5.1.7 Special Definitions. See Section 3.3.

5.2 Safety from Fire.

5.2.1 Safety-from-Fire Goals. The fire safety goals of this standard shall be as follows:

- (1) To provide an environment for human occupants inside an animal housing facility that is reasonably safe from fire and similar emergencies
- (2) To provide an environment for animal occupants inside or adjacent to a structure that is reasonably safe from fire and similar emergencies
- (3) To provide reasonable safety for fire fighters and emergency responders during search and rescue operations for animal and human occupants
- (4) To attempt to minimize loss of property and interruption of facility operations from fire and similar emergencies

5.2.2 Safety-from-Fire Objectives.

5.2.2.1 Facilities shall be designed and constructed to protect human and animal occupants not intimate with the initial fire development for the time needed to evacuate, relocate, or defend in place.

5.2.2.2* Facilities shall be designed and constructed to provide reasonable safety for fire fighters and emergency responders during search and rescue operations for animal and human occupants.

A.5.2.2.2 In many cases, the other provisions of the standard that provide safety for occupants will satisfy this goal for protection of emergency responders.

5.2.2.3 Facilities shall be designed and constructed to provide reasonable access to the structure for emergency responders.

5.2.2.4 Facilities shall be designed and constructed to reasonably protect adjacent persons, animals, and structures from injury, death, or substantial damage as a result of a fire.

5.2.3 Safety During Facility Use.

5.2.3.1* Safety-During-Facility-Use Goal. The safety-during facility-use goal of this standard shall be to provide an environment for both the human and animal occupants of the facility that is reasonably safe during the normal use of the facility.

A.5.2.3.1 The phrase “reasonably safe during normal use” is defined by subsequent language in this standard, primarily in the objectives. Certain requirements are provided to ensure that the occupants are safe during nonemergency use of the buildings. Failure to address these features could result in injuries to occupants in their normal day-to-day activities in the building.

5.2.3.2 Safety-During-Facility-Use Objectives.

5.2.3.2.1 Facilities shall be designed and constructed to provide for reasonably safe animal and crowd movement during emergency and nonemergency conditions.

5.2.3.2.2 Facilities shall be designed and constructed to provide reasonable safety for animal and human occupants and workers during construction and demolition.

5.2.3.2.3* Facilities shall be designed and constructed to provide reasonable and appropriate notification to occupants during emergency situations.

A.5.2.3.2.3 Appropriate consideration should be given to the type of audible device selected, since some animals might respond in a detrimental way given a certain signal (e.g., a bell would be inappropriate as a fire alarm in a racetrack stable).

5.2.3.2.4 Facilities shall be designed and constructed to provide reasonable signage to identify hazards, means of egress, and other building safety features.

5.2.3.3 Glass or other similar frangible construction material shall be installed in such a manner that, if occupants come into contact with such material, one of the following occurs:

- (1) The material resists impact without breaking.
- (2) The material breaks in such a manner that it does not cause injury.
- (3) The material is protected from occupant impact.

5.2.4 Uncontrolled Moisture.

5.2.4.1 Where critical to the operation and use of the animal housing facility, uncontrolled moisture shall be controlled in accordance with the following.

5.2.4.1.1 The exterior envelope of the building shall be designed to control the entry of precipitation into the building.

5.2.4.1.2 The exterior walls, attics, crawl spaces, and other concealed or enclosed building elements that comprise the building envelope shall be designed to control the accumulation of water vapor or its condensation in such quantities and physical state that contact of water vapor or its condensation with the building insulation or building materials will not result in conditions that adversely affect the health of the building occupants.

5.2.4.1.3 Building materials located in areas within the building that are subject to exposure from water discharges or leaks in quantities and durations that cause exterior moisture to accumulate for extended periods of time, thus resulting in conditions that adversely affect the health of the building occupants, shall be designed to control penetration of, or direct contact with, water or shall be protected from such exposure.

5.3 Retained Prescriptive Requirements. The design shall comply with the requirements of Section 5.3 in addition to the performance criteria of Section 5.2 and the methods of Sections 5.4 through 5.8.

5.3.1 Systems and Features. All fire protection systems and features of the building shall comply with applicable NFPA standards for those systems and features.

5.3.2 Means of Egress. Means of egress shall comply with Chapter 8.

5.4* Performance-Based Design Characteristics and Assumptions.

A.5.4 In the context of this Standard, design characteristics are those attributes of the building and its location, systems, contents, and occupants that need to be specified or quantified, or both, to allow evaluation of a design with respect to the goals, objectives, and performance criteria, using appropriate design scenarios and verification methods. Some design characteristics are specified in this Standard. Others might be specified by the authority having jurisdiction to accommodate local conditions, and still others might be specified by the designer of the building.

5.4.1 General.

5.4.1.1 Design characteristics and assumptions used in the performance-based design shall be clearly stated and shown to be realistic and sustainable.

5.4.1.2 Each design characteristic and assumption used in the design shall be accurately translated into input data specifications, as appropriate for the calculation method or model to be used.

5.4.1.3 Design characteristics and assumptions that the design analyses do not explicitly address or incorporate and that are, therefore, omitted from input data specifications shall be identified, and a sensitivity analysis of the consequences of that omission shall be performed.

5.4.1.4 Design characteristics and assumptions modified in input data specifications, due to limitations in test methods or other data-generation procedures, shall be identified, and a sensitivity analysis of the consequences of the modification shall be performed.

5.4.1.5* The design shall not include mutually inconsistent characteristics, assumptions, or statements of conditions.

A.5.4.1.5 This requirement includes assumptions about the interrelations between the performance of building elements and systems, occupant behavior, or emergency response actions that conflict with each other. For each design scenario, care needs to be taken to ensure that conflicts in actions do not occur.

Typical conflicts could include the following:

(1) Assuming a fire door will remain closed during the fire to contain smoke, while this same door is used by occupants during egress from the area

(2) Assuming fire apparatus will arrive immediately from a distant location to provide water to fire department connections

For example, an assumption that compartmentation blocking the passage of fire and smoke will be maintained at the door to a stairwell cannot be paired with an assumption that evacuation through that door will extend over many minutes.

5.4.2 Building Characteristics and Assumptions.

5.4.2.1* Characteristics of the building or its contents, equipment, layout, or operations that are not inherent in the design specifications, but that affect occupant or building behavior or the rate of hazard development, shall be explicitly identified.

A.5.4.2.1 Building contents and furnishings are not normally included in design specifications; however, in some cases, they might have an impact on building or occupant behavior. Where contents and furnishings could impact on building or occupant behavior, the designer must present the authority having jurisdiction with detailed information about such contents and furnishings and their locations in the building to enable an assessment of their impact in various design scenarios to be determined.

A designer must also clearly express the overall layout of the building, especially those items that might not appear on building plans but that could impact the performance of the building or the occupants.

Examples include the layout of office cubicles that could affect emergency egress and temporary storage areas that could exceed permissible loading for a portion of a floor assembly.

5.4.2.2* The performance of building systems and features shall reflect the documented performance and reliability of the components of those systems or features, unless design specifications are incorporated to modify the expected performance.

A.5.4.2.2 Systems addressed by this requirement include but are not limited to automatic fire suppression systems and fire alarm systems. Performance issues that need to be documented might include response time indexes, discharge densities, and waterflow distribution patterns. Calculations should not include an unlimited supply of extinguishing agent if only a limited supply will be provided in the actual structure or building.

5.4.3 Occupant Characteristics and Assumptions.

5.4.3.1* General. The selection of occupant characteristics to be used in the design calculations shall be approved by the authority having jurisdiction and shall provide an accurate reflection of the expected population of building users.

A.5.4.3.1 Guidance on human characteristics for use in design can be found in the SFPE Engineering Guide to Predicting Human Behavior in Fire. Guidance on animal characteristics for use in design can be

formulated based on discussions with facility staff, animal handlers, researchers, and other subject matter experts including but not limited to industry associations and regulatory agencies.

5.4.3.2 Occupant Profile. Occupant characteristics shall represent the normal occupant profile, unless design specifications are used to modify the expected occupant features.

5.4.3.3 Response Characteristics. The basic response characteristics of sensibility, reactivity, mobility, and susceptibility shall be considered. Such consideration shall include the expected distribution of characteristics of a population appropriate to the use of the building. The source of data for these characteristics shall be documented.

5.4.3.4 Location. It shall be assumed that, in every normally occupied room or area, at least one occupant shall be located at the most remote point from the exits.

5.4.3.5* Number of Occupants. The design shall be based on the maximum number of occupants that every occupied room or area is expected to contain. Where success or failure of the design is contingent on a specified maximum number of occupants, operational controls shall be used to ensure that a greater number of occupants could not be expected to be present.

A.5.4.3.5 The guidelines cited in A.7.3 for the minimum areas for stalls, cages, and enclosure areas can be used to develop appropriate occupant loads for the animal occupants. For animals not covered in A.7.3 other recognized industry guidelines should be consulted. The number of people expected to be contained in a room or area should be based on the occupant load factor specified in other approved sources.

5.4.3.6* Staff Assistance. In those occupancies where staff assistance is required to ensure the safety of other occupants, such trained assistance shall be provided. The ability of trained employees to be included as part of the building safety system shall be identified and documented.

A.5.4.3.6 For example, in research facilities, staff characteristics such as number, location, quality, and frequency of training should be considered.

5.4.4 Emergency Response Personnel Characteristics and Assumptions.

5.4.4.1 Nongovernmental emergency response personnel shall not be relied upon in the performance design, unless they are under the continuous and direct control of the building owner or occupant. Emergency response personnel of the governmental agency legally responsible for providing emergency responders to the local jurisdiction shall be permitted to be relied upon in the performance design when approved by the governmental agency.

5.4.4.2 Design characteristics and assumptions related to the availability, speed of response, effectiveness, roles, and other characteristics of emergency response personnel shall be specified, estimated, or characterized sufficiently for evaluation of the design.

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5.4.4.2 Design characteristics and assumptions related to the availability, speed of response, effectiveness, roles, and other characteristics of emergency response personnel shall be specified, estimated, or characterized sufficiently for evaluation of the design.

5.5* Design Scenarios.

A.5.5 Many events can occur during the life of a building; some have a higher probability of occurrence than others. Some events, though not typical, could have a devastating effect on a building. A reasonable

design should be able to achieve the goals, objectives, and performance criteria of this Standard for any typical or common design scenario, and for some of the nontypical, potentially devastating scenarios, up to a level commensurate with society's expectations as reflected in this Standards.

The challenge in selecting design scenarios is finding a manageable number that are sufficiently diverse and representative so that, if the design is reasonably safe for those scenarios, it should then be reasonably safe for all scenarios, except for those specifically excluded as being unrealistically severe or sufficiently infrequent to be fair tests of the design.

5.5.1 General.

5.5.1.1 The proposed design shall be considered to meet the goals and objectives if it achieves the performance criteria for each required design scenario. The authority having jurisdiction shall approve the parameters involved with design scenarios.

5.5.1.2 Design scenarios shall be evaluated for each required scenario using a method acceptable to the authority having jurisdiction and appropriate for the conditions. Each scenario shall be as challenging and realistic as any that could realistically occur in the building.

5.6 Evaluation of Proposed Designs.

5.6.1 General. A proposed design's performance shall be assessed relative to each performance objective in Section 4.1 and each applicable scenario in Section 5.5, with the assessment conducted through the use of appropriate calculation methods. The authority having jurisdiction shall approve the choice of assessment methods.

5.6.2 Use. The design professional shall use the assessment methods to demonstrate that the proposed design will achieve the goals and objectives for each scenario, as measured by the performance criteria in light of the safety margins and uncertainty analysis, given the assumptions.

5.6.3 Input Data.

5.6.3.1 Data. Input data for computer fire models shall be obtained in accordance with ASTM E 1591, Standard Guide for Obtaining Data for Deterministic Fire Models. Data for use in analytical models that are not computer-based fire models shall be obtained using appropriate measurement, recording, and storage techniques to ensure the applicability of the data to the analytical method being used.

5.6.3.2 Data Requirements. A complete listing of input data requirements for all models, engineering methods, and other calculation or verification methods required or proposed as part of the performance-based design shall be provided.

5.6.3.3 Uncertainty and Conservatism of Data. Uncertainty in input data shall be analyzed and, as determined appropriate by the authority having jurisdiction, addressed through the use of conservative values.

5.6.4 Output Data. The assessment methods used shall accurately and appropriately produce the required output data from input data based on the design specifications, assumptions, and scenarios.

5.6.5 Validity. Evidence shall be provided confirming that the assessment methods are valid and appropriate for the proposed building, use, and conditions.

5.7* Safety Factors. Approved safety factors shall be included in the design methods and calculations to reflect uncertainty in the assumptions, data, and other factors associated with the performance-based design.

A.5.8.1 The SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings describes the documentation that should be provided for a performance-based design.

Proper documentation of a performance design is critical to the design acceptance and construction. Proper documentation will also ensure that all parties involved understand what is necessary for the

design implementation, maintenance, and continuity of the fire protection design. If attention to details is maintained in the documentation, then there should be little dispute during approval, construction, start-up, and use.

Poor documentation could result in rejection of an otherwise good design, poor implementation of the design, inadequate system maintenance and reliability, and an incomplete record for future changes or for testing the design forensically.

5.8 Documentation Requirements.

5.8.1* General. All aspects of the design, including those described in 5.8.2 through 5.8.14, shall be documented. The format and content of the documentation shall be acceptable to the authority having jurisdiction.

A.5.8.1 Proper documentation of a performance design is critical to the design acceptance and construction. Proper documentation will also ensure that all parties involved understand what is necessary for the design implementation, maintenance, and continuity of the fire protection design. If attention to details is maintained in the documentation, then there should be little dispute during approval, construction, start-up, and use.

Poor documentation could result in rejection of an otherwise good design, poor implementation of the design, inadequate system maintenance and reliability, and an incomplete record for future changes or for testing the design forensically.

5.8.2 Technical References and Resources. The authority having jurisdiction shall be provided with sufficient documentation to support the validity, accuracy, relevance, and precision of the proposed methods. The engineering standards, calculation methods, and other forms of scientific information provided shall be appropriate for the particular application and methodologies used.

5.8.3 Building Design Specifications. All details of the proposed building design that affect the ability of the building to meet the stated goals and objectives shall be documented.

5.8.4 Performance Criteria. Performance criteria, with sources, shall be documented.

5.8.5 Occupant Characteristics. Assumptions about occupant characteristics shall be documented.

5.8.6 Design Scenarios. Descriptions of design hazards scenarios shall be documented.

5.8.7 Input Data. Input data to models and assessment methods, including sensitivity analysis, shall be documented.

5.8.8 Output Data. Output data from models and assessment methods, including sensitivity analysis, shall be documented.

5.8.9 Safety Factors. The safety factors utilized shall be documented.

5.8.10 Prescriptive Requirements. Retained prescriptive requirements shall be documented.

5.8.11* Modeling Features.

A.5.8.11 Documentation for modeling should conform to ASTM E 1472, Standard Guide for Documenting Computer Software for Fire Models, although most, if not all, models were originally developed before this standard was promulgated.

5.8.11.1 Assumptions made by the model user and the description of the models and methods used, including known limitations, shall be documented.

5.8.11.2 Documentation shall be provided verifying that the assessment methods have been used validly and appropriately to address the design specifications, assumptions, and scenarios.

5.8.12 Evidence of Modeler Capability. The design team's relevant experience with the models, test methods, databases, and other assessment methods used in the performance-based design proposal shall be documented.

5.8.13 Performance Evaluation. The performance evaluation summary shall be documented.

5.8.14 Use of Performance-Based Design Option. Design proposals shall include documentation that provides anyone involved in ownership or management of the building with notification of the following:

- (1) The building was approved as a performance-based design with certain specified design criteria and assumptions.
- (2) Any remodeling, modification, renovation, change in use, or change in the established assumptions is to be reevaluated and reapproved.

150-6 Log #5
(9.8)

Final Action: Accept

Submitter: Jon Brangan, Brevard Zoo

Comment on Proposal No: 150-11

Recommendation: 9.8, 9.8.1, and 9.8.2 should remain as written and not be changed.

Substantiation: Rules should remain as is and not be changed. The 2 horse fire examples may have still occurred with the addition of Category B animals. Big question in these examples and other fire events is if the barns in question were even built or inspected using NFPA 150. The example in Ohio had a similar fire in the 80's and now this one. I am finding out that animal facilities that are more visible or open to the public are being held to the code while many other facilities are not.

This really applies to horse barns where zoning rules and permitting requirements exempt them and they are not being inspected and AHJ are not involved. The added cost to install sprinklers, alarms, and smoke control are significant. Many animal businesses this cost would be a huge burden and prevent them from possibly pursuing a project. Data needs to be collected looking at several jurisdictions that fall under NFPA. Data should focus on the number of fire events in animal facilities and loss of life and property. This study needs to be done before moving on with any such sweeping change to the code, The 2 mentioned events are not enough to warrant the change to Category B animals.

Committee Meeting Action: Accept

Committee Statement: See committee statement and action on 150-1 (Log #3).

150-7 Log #9
(9.8)

Final Action: Reject

Submitter: Joe Scibetta, BuildingReports

Comment on Proposal No: 150-11

Recommendation: Accept Proposal 150-11 as written.

Substantiation: Since Proposal 150-11 was originally submitted, two more stable fires in Indiana and West Virginia claimed the lives of 36 horses, bringing the total casualty count to 102 horses in just one year, from September 2009 to September 2010.

Excluding Category B animals from the requirement for sprinkler and smoke control systems currently in place for Category A animals fails to "provide an environment for animal occupants inside or adjacent to a structure that is reasonably safe from fire" (NFPA 150 4.1.3.1.1. (2)). That statement applies to all animals. There are no exclusions or exceptions attached to that statement. And yet, by rejecting this proposal, we create an exception. In the residential sprinkler arena, the argument for affordable housing is slowly but surely giving way to the argument for life safety. For animals, who unlike humans cannot effect rescue from fire for themselves in most cases, the need for sprinkler and smoke control systems is just as critical, perhaps more so due to their complete reliance on humans for help. In a similar way to the issue of residential sprinklers, the argument of cost with respect to this proposal must eventually give way to the argument for animal safety and welfare, especially under the heavy weight of significant numbers of fire deaths in the equine community alone in just one year's time; deaths that occurred in the absence of sprinkler and smoke control systems. The series of stable fires in 1975 that began the creative process for NFPA 150 is finding a sad and tragic parallel with this most recent series of stable fires, revealing that the demand for fire and life safety for all animal occupants has not yet been met.

Committee Meeting Action: Reject

Committee Statement: See committee statement on 150-1 (Log #3).

150-8 Log #10
(9.8)

Final Action: Reject

Submitter: Donald Longerbeam, Independent Fire Company

Comment on Proposal No: 150-11

Recommendation: Revise text to read as follows:

9.8 Special Requirements for Category A Animals

9.8.1 Sprinkler Systems. Animal housing facilities with Category A animals or Category B animals shall be sprinkler throughout in accordance with Section 9.2.1.

9.8.2 Smoke Control Systems. Animal housing facilities with Category A animals or Category B animals shall have a smoke control system unless modified as approved by the AHJ.

In 2009, horse stable fires in Chesapeake City, Maryland and Lebanon, Ohio resulted in a combined death toll of two humans and fifty horses and property loss value in the millions of dollars. Those tragic losses reveal that, 30 years after NFPA 150 was first published, animal housing fire disasters remain a very real threat to both animals and the humans who care for them. One problem that currently needs to be addressed in NFPA 150 in order to further mitigate loss of life and property is that sprinkler and smoke control system requirements are limited to Category A animals only. While it is true that Category B animals have more mobility than Category A animals and do not pose the same risk potential to rescuers, and, as such, can more easily be moved to a safer location, Category B animals are still helpless in the event of a fire. It should not be assumed that Category B animals are attended to constantly and, therefore, do not need the added protection of sprinkler and smoke control systems. In both cases cited above, the fires ignited at an hour of the day when no humans were on the premises to facilitate animal rescue. According to 4.1.3.1.1(2), one of the Safety-from-Fire Goals of NFPA 150 is to "provide an environment for animal occupants inside or adjacent to a structure that is reasonably safe from fire...." And one of the objectives of the standard, according to 4.1.3.1.2.1, is that facilities be "designed and constructed to protect human and animal occupants not intimate with the initial fire development....". The goals and objectives in Section 4 do not exclude either animal category and yet limiting sprinkler and smoke control systems to Category A animals does, in fact, exclude Category B animals from being fully embraced by those same goals and objectives. Extending the requirement for sprinkler systems and smoke control systems to Category B animals not only provides a "reasonably safe" environment, but would both address the standard's goals and objectives and incorporate both animal categories more fully. An environment for Category B animals that can potentially expose them to death-dealing smoke and flame in the absence of sprinkler and smoke control systems, cannot be deemed reasonably safe. The fire that broke out at Plain ridge Racetrack in Massachusetts on May 9, 2010 is proof positive of the value of a sprinkler system. All 40 horses intimate with the fire were saved because sprinklers not only activated but the sprinkler system initiated an alarm as well. According to media reports, the fire at Plain ridge had the potential to put at risk 200 horses and, fortunately, the sprinkler system had been installed even though it was not required. By requiring sprinkler and smoke control systems in housing for both animal categories, animals and the humans on whom they depend stand a greater chance of rescue from fire and, as a result, NFPA 150 will more closely adhere to the fundamental principles on which it is based, principles which apply to all animal occupants: "Animals are sentient beings with a value greater than that of simple property" and "lack the ability of self-preservation when housed in buildings or other structures.

Substantiation: I have been in the Fire Service and an Animal Control Officer for over twenty years and in this time I have seen numerous cases where if animal holding facilities had sprinklers or heat sensors that it would have saved a large number of animal lives. I live in Charles town West Virginia and I have experienced several barn fires that resulted in a large amount of horses that died resulting from the fire. We as a society need to take action now and correct this senseless killing of animals.

This is not original material; its reference/source is as follows:

On line research, Help with wording from Joe Scibetta

Committee Meeting Action: Reject

Committee Statement: See committee action and statement on 150-1 (Log #3).

150-9 Log #1 Final Action: Accept in Principle
(9.8, 9.8.1, and 9.8.2)

Submitter: Alfred R. Bettencourt, Jr., RI Farm Bureau

Comment on Proposal No: 150-11

Recommendation: Delete text to read as follows:

~~or category B animals~~

Substantiation: Do not require sprinklers in animal facilities with Category B animals. The cost benefit analysis is prohibitive. Very few farm animals die in fires. Installing sprinklers is impractical in many instances since the kind of water pressure required is not available. Emphasis should be on fire prevention rather than a system that reacts when there is a fire.

Barns are not heated for the most part. This also makes sprinklers ineffective.

Committee Meeting Action: Accept in Principle

See committee action on 150-1 (Log #3).

Committee Statement: See committee statement on 150-1 (Log #3). Additionally, sprinkler systems can be designed for areas that are not heated, such as barns.

150-10 Log #7 Final Action: Reject
(11.3)

Submitter: Joe Scibetta, BuildingReports

Comment on Proposal No: 150-13

Recommendation: Accept Proposal 150-13 as written.

Substantiation: Please refer to my Comment on Proposal 150-11 for substantiation. In line with those comments, special requirements for Class 1 Animal Housing Facilities should incorporate both animal categories.

Committee Meeting Action: Reject

Committee Statement: See committee action and statement on 150-1 (Log #3).

150-11 Log #6 Final Action: Reject
(12.3)

Submitter: Joe Scibetta, BuildingReports

Comment on Proposal No: 150-14

Recommendation: Accept Proposal 150-14 as written.

Substantiation: Please refer to my Comment on Proposal 150-11 for substantiation. In line with those comments, special requirements for Class 2 Animal Housing Facilities should incorporate both animal categories.

Committee Meeting Action: Reject

Committee Statement: See committee action and statement on 150-1 (Log #3).

150-12 Log #8 Final Action: Reject
(13.3)

Submitter: Joe Scibetta, BuildingReports

Comment on Proposal No: 150-15

Recommendation: Accept Proposal 150-15 as written.

Substantiation: Please refer to my Comment on Proposal 150-11 for substantiation. In line with those comments, special requirements for Class 3 Animal Housing Facilities should incorporate both animal categories.

Committee Meeting Action: Reject

Committee Statement: See committee action and statement on 150-1 (Log #3).

150-13 Log #CC2
(A.9.3.2.1)

Final Action: Accept

Submitter: Technical Committee on Animal Housing Facilities,

Comment on Proposal No: 150-17

Recommendation: Revise A.9.3.2.1 as follows:

A.9.3.2.1 Consideration should be given to animal reaction such as undue stress caused by the audible sounds or flashing strobes. For example in zoos, an acknowledge station that where the keeper can press to disengage only the notification appliances only in the animal area zone animal areas could be incorporated into the design when re acceptable to the AHJ. After the notification appliances are deactivated, another means, such as a red beacon, could be used as an alternative notification method. Other means acceptable to the AHJ might be more suitable for other animal housing occupancies.

Substantiation: The annex material was editorially revised for clarity. The term "animal area zones" was replaced with a more generic term, "animal areas". Other means for notification, as accepted by the AHJ might be used depending on the type of animal housing facility.

Committee Meeting Action: Accept

150-14 Log #CC1
(A.9.8.2.1)

Final Action: Accept

Submitter: Technical Committee on Animal Housing Facilities,

Comment on Proposal No: 150-16

Recommendation: Revise A.9.8.2.1 as follows:

~~Data can be determined through interview(s) with the person(s) responsible for the animals to determine the above-mentioned~~ Data for design of an effective smoke control system can be obtained from facility staff, animal handlers, researchers, and other subject matter experts including industry associations and regulatory agencies.

Substantiation: The revised annex language clarifies how data can be obtained.

Committee Meeting Action: Accept