Minnesota Department of Labor and Industry
Construction Codes and Licensing Division

STATEMENT OF NEED AND REASONABLENESS

Proposed Amendment to Rules Governing the Minnesota State Fire Code, Minnesota Rules, Existing Chapter 7510; Proposed New Chapter 7511.

I. INTRODUCTION

The commissioner of the Minnesota Department of Labor and Industry proposes to adopt amendments to Chapter 7510, the Minnesota State Fire Code. The Minnesota State Fire Code is administered by the Department of Public Safety through the Fire Marshal Division. Effective May 16, 2005, the authority for promulgating the fire code was transferred to the Department of Labor and Industry, in consultation with the State Fire Marshal. (See discussion of statutory authority below.)

The state fire code was originally adopted October 3, 1975. It was last amended effective March 31, 2003. It is the duty of the Commissioner of Labor and Industry, in consultation with the State Fire Marshal, to amend the code to maintain the most up-to-date standards consistent with nationally recognized good practice establishing minimum safeguards of life and property together with regulating the use and maintenance of buildings, structures and premises.

The current state fire code, Minnesota Rules, chapter 7510, incorporates by reference the 2000 edition of the *International Fire Code* with certain amendments. The proposed rules amend the existing rules to incorporate and make amendments to the 2006 *International Fire Code* (IFC)[1] as promulgated by the International Code Council (ICC) of Falls Church, Virginia. The IFC is one of two model fire prevention codes that presently exist in the United States. It is widely considered to be a companion to the *International Building Code* (IBC) In a separate rulemaking proceeding, the Department of Labor and Industry is proposing that Minnesota Rules, chapter 1305, incorporate the 2006 IBC, with amendments.[2] The ICC provides a total package of codes (i.e. Building, Fire, Residential, Mechanical, etc.) that are intended to give jurisdictions adopting these codes a complete, comprehensive, and compatible set of codes.

The decision to adopt the IFC was primarily based on a recommendation to the State Fire Marshal from the Minnesota State Fire Chiefs Association (MSFCA) Code Committee. That committee is comprised of members of the MSFCA as well as state and local fire and building officials.[3] The committee conducted an exhaustive evaluation, taking almost a year to complete, that compared the current state fire code with the 2003 editions of the IFC and the *NFPA Uniform Fire Code* (NFPA 1) as promulgated by the National Fire Protection Association of Quincy, Massachusetts. While both the IFC and NFPA 1 were found to have their strengths and weaknesses, on an extremely close vote, the MSFCA Code Committee recommended adoption of the IFC for this rulemaking cycle.

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[1] The 2006 IFC is available for review at the Minnesota Department of Public Safety by contacting Mr. Jon Nisja, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, MN 55101-5145, (651) 201-7204, Fax: (651) 215-0525, email: jon.nisja@state.mn.us. TTY users may call the Fire Marshal Division at (651) 282-6555.
[2] Chapter 1305 currently incorporates the 2000 IBC. *See* Minn. R. 1305.0011, subp. 1 (2005).
[3] Members of the committee are listed in Exhibit A.

The state fire code needs to be updated because of substantial changes made to the model national codes that are incorporated into Minnesota's code. These codes have been researched and drafted by national bodies of experts in the fire protection field. They are updated and amended at 3-year intervals based on recommendations received from knowledgeable fire and building officials, architects, engineers and representatives from the various industries to which the codes apply. The intent is to produce up-to-date codes that will not only achieve a reasonable degree of safety to life and property, but also allow for the use of modern methods, devices, materials and techniques which will tend to lower construction and maintenance costs.

The proposed rules establish minimum uniform requirements for Minnesota by incorporating the entire model IFC and making amendments to it in order to be consistent with Minnesota laws and rules, as well as to address fire safety concerns that are specific to the state.

A number of the amendments contained in these rules are made to conform to the proposed amendments of the state building code incorporating the 2006 IBC into Chapter 1305 of the Minnesota Rules. The Department of Labor and Industry is attempting to correlate the provisions of the state fire code with the fire protection provisions in the state building code, to avoid conflicts.

Other proposed amendments to the state fire code are necessary to correlate the fire code with Minnesota Rules, Chapter 1311 (the Minnesota Conservation Code for Existing Buildings), which is part of the state building code. *See* Minn. R. 1300.0050 (2005). Chapter 1311 had not been formally adopted when the 2003 amendments to the state fire code amendments were drafted. The proposed rule represents the first attempt to correlate the fire code with Chapter 1311.

Other amendments are being proposed at the request of the MSFCA Code Committee. Some amendments are being proposed in an effort to reduce the complexity of the fire code adoption process at the local level. Others are being proposed to help local units of government by making the fire code both less complex and easier to enforce. In addition, some of the proposed amendments are intended to assist local communities in addressing their unique fire safety concerns. This is consistent with Minnesota Statutes, section 299F.011, subdivision 4, which allows local units of government to adopt fire safety regulations that are in addition to or more stringent than the state fire code, as long as those regulations are uniform for each type of building covered and do not exceed the applicable requirements of the state building code.

For clarity, most of chapter 7510 is proposed for repeal. A new chapter 7511 would be created, and the parts in chapter 7510 that are not repealed would be renumbered in the new chapter 7511.

II. ALTERNATIVE FORMAT

Upon request, this Statement of Need and Reasonableness can be made available in an alternative format, such as large print, Braille, or cassette tape. To make such a request, please contact: Mr. Jon Nisja at the Minnesota Department of Public Safety, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, MN 55101-5145, (651) 201-7204, Fax: (651) 215-0525, and email: jon.nisja@state.mn.us. TTY users may call the Division at (651) 282-6555.

III. STATUTORY AUTHORITY

Until May 16, 2005, the State Fire Code was adopted, administered, and amended by the Department of Public Safety pursuant to Minnesota Statutes, section 299F.011, subdivision 1, which provides: "The commissioner of public safety through the division of fire marshal may promulgate a uniform fire code and make amendments thereto in accordance with the administrative procedure act in chapter 14."

By Executive Order effective May 16, 2005 (Department of Administration Reorganization Order No. 193), Governor Pawlenty transferred to the Department of Labor and Industry, in consultation with the State Fire Marshal, the responsibility for carrying out the rulemaking procedures and promulgating a state fire code as set forth in Minnesota Statutes 2004, section 299F.011. This reorganization order was issued under Minnesota Statutes, section 16B.37, and is effective until amended or superseded. Because the reorganization order has not been amended or superseded, the Department of Labor and Industry has the same authority to amend the State Fire Code that the Department of Public Safety had before May 16, 2005. The reorganization order did not, however, change the responsibility for the administration of the state fire code, which still rests with the Department of Public Safety, Division of Fire Marshal.

The adoption of the IFC (as one of the nation's model fire prevention codes) satisfies additional language in Minnesota Statutes, section 299F.011, subdivision 1, which states: "The code and its amendments shall conform insofar as practicable to model fire codes generally accepted and in use throughout the United States, with consideration given to existing statewide specialty codes presently in use in the state of Minnesota."

Under these statutes and the reorganization order, the Department of Labor and Industry has the necessary statutory authority to adopt the proposed rules.

IV. REGULATORY ANALYSIS

Minnesota Statutes, section 14.131, sets out seven factors for a regulatory analysis that must be included in the SONAR. Paragraphs (1) through (7) below quote these factors and then give the agency's response.

"(1) a description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule"

A. Persons Affected Who Will Bear the Costs of the Proposed Rules

Property owners and managers are those who most frequently bear the cost of fire code compliance. Due to the broad impact of the state fire code, it is impossible to identify all classes of persons who may be impacted from a cost standpoint. A sincere attempt was made during the development of these rules to minimize the fiscal impact wherever possible, while still maintaining a reasonable level of safety to life and property. Where specific classes of persons are expected to be impacted by a certain section, that class of persons is specifically identified in the rule-by-rule analysis.

B. Persons Affected Who Will Benefit From the Proposed Rules

The classes of persons who may benefit from these rules really needs to be considered from a global perspective, since the rules are intended to establish minimum uniform fire and life safety standards that apply throughout the state of Minnesota. The taxpayers and residents of a community benefit through the reduction of fire loss and its associated impact (higher taxes, loss of tax base, decay of community, etc.). The fire service benefits by not only being able to control its fire safety concerns through fire prevention, but also by having provisions available that assist with fire fighting operations and firefighter safety (e.g. fire department access and water supply, sprinklers and standpipes, controls on hazardous materials, and so on).

The insurance industry potentially benefits through reduced fire losses. In the long term, these reductions can result in lower insurance premiums to the insured. The fire protection industry (e.g. sprinkler and fire alarm companies) has also been identified as benefiting from these rules.

The rules also benefit design professionals (i.e. architects and engineers) by having a uniform set of minimum design standards that apply throughout the state. In addition, there is some benefit to the construction industry, which is often called upon to make the physical repairs required by the various provisions of the code.

Occupants, residents and guests also benefit from an enhanced level of fire and life safety in the various buildings and premises they frequent, live, stay and work. Where a specific class of persons is expected to benefit by a certain section, that class of persons is specifically identified in the rule-by-rule analysis.

The Department of Public Safety's Fire Marshal Division and the Department of Labor and Industry's Construction Codes and Licensing Division have been working with various organizations and associations on the development of these rules, including the following:

- Minnesota State Fire Chiefs Association
- Fire Marshals Association of Minnesota
- Minnesota Building Officials

"(2) the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues"

A. Probable Costs to the Department of Public Safety to Implement and Enforce

The State Fire Marshal Division, which is the primary state enforcement agency for these rules, will incur some costs for implementation. Most of these costs relate to the purchase of new code books and training of staff and the state fire service. The costs to the agency for code books are estimated at $3,000 ($75.00 times 40); most of the training costs will be off-set by fees (except for staff time). There will also be several hundreds of hours in staff time updating and amending code references in various policies, inspection reports, and inspection software programs.

B. Probable Cost to Other Agencies to Implement and Enforce

Other state agencies are impacted by the state fire code, particularly those that own or construct facilities, equipment or systems that are regulated by the code. There will also be a minimal cost to other agencies for the purchase of new code books and state amendments.

As indicated earlier, most of the proposed rules are intended to lessen the impact of the code, so these rules would not represent an increase in the cost to other state agencies. In addition, there are a number of changes from the 2000 IFC to the 2006 IFC that reduce the cost of construction.

C. Anticipated Effect on State Revenues
There is no anticipated effect on state revenues.

"(3) a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule"

Most of the proposed amendments to the model code are intended to lessen fiscal impact or be less intrusive. The specific reason for each amendment is outlined in the rule-by-rule analysis.

"(4) a description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule"

The State Fire Marshal received requests from the public asking for inclusions and amendments to the state fire code. These were considered and discussed throughout the development and adoption process. Many of the requests were incorporated into the proposed rules and are identified in the rule-by-rule analysis. The following is a synopsis of the requests that were considered and rejected:

- The Fire Equipment Manufacturers' Association requested that the IFC fire extinguisher exception in certain sprinkler-protected occupancies be removed. The State Fire Marshal rejected that request because fire extinguishers have an initial purchase cost and on-going maintenance costs. For some of the occupancies that are part of this exemption, fire extinguishers are a major vandalism issue (i.e. school buildings). The fire code rules, however, were amended in this section to more clearly indicate where fire extinguishers are required in these sprinkler-protected properties.
- The Minnesota Petroleum Marketers Association requested that persons at self-service gas stations be required to remain in attendance at the vehicle being fueled. This proposal was rejected because the language proposed would be difficult to enforce and was ambiguous. (What does it mean to "remain in attendance"? What if a driver decided to check the vehicle's oil or wash the windshield?)

"(5) the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals"

This section and the following section deal with the fiscal impact. This section deals with probable costs of compliance. The next section deals with probable costs or consequences if the rules are not adopted. These topics are related and somewhat intertwined. The State Fire Marshal acknowledges that there are costs associated with compliance with the state fire code. It is difficult, if not impossible, to assign a cost/benefit to preventing an incident from occurring or, if one does occur, keeping the amount of damage and potential for death or serious injury to a minimum.

While there will be costs of complying with the proposed rules, these costs are expected to be fairly limited. In fact, as stated previously, many of the proposed rules are intended to lessen the fiscal impact of the code, while still maintaining an acceptable minimum level of fire and life safety.

The State Fire Marshal has some experience with compliance costs based on a close working relationship with the Minnesota Department of Education (MDE). The State Fire Marshal reviews MDE's Health and Safety Funding requests. Annually, MDE requests approximately $18 million of Health and Safety Funding in response to fire code orders, preventative maintenance, and inspections of fire protection systems and equipment. There are approximately 164,266,500 square feet of public school property in Minnesota. This equates to about $0.11 per square foot. This amount can be used as a benchmark, although this amount should be assumed to be at the higher end of compliance costs since the fire code requirements for schools tend to be more restrictive than for other occupancies.

Another estimate of compliance costs relates to installation of an automatic fire extinguishing system in a building. Installing a sprinkler system would be among the most expensive of remedies recognized by the state fire code. The State Fire Marshal reviews about 600 sprinkler system installation plans per year and collects permit fees for these installation costs. The cost of installing a fire extinguishing system in an existing building is between $2.00 and $4.00 per square foot; there are a number of variables based on the type of occupancy, type of interior layout, and type of construction. Automatic fire extinguishing systems have an effective life of 30 years, so the cost per square foot over 30 years would be $0.13 (based on $4.00 per square foot over 30 years). It should be noted, however, that there are often insurance reductions associated with sprinkler installation; these cost estimates deal with installation costs, not with net costs following insurance premium reductions.

"(6) the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals"

There are three main goals of the state fire code and fire prevention in general: life safety, property protection, and protection of the property's mission (maintaining the continuity of operations). According to national statistics, most businesses that experience a serious fire do not rebuild on the same site. In addition, Minnesota state law allows such properties to be assessed taxes at a lower rate (similar to undeveloped land). Based on these considerations, fire prevention also helps prevent the erosion of the local tax base and keeps employers operating within a community or within the state.

Fire prevention efforts must, therefore, be looked upon as a long-term investment and measured over time. Measurements of effectiveness occur over time; comparisons can be made to other health and safety campaigns that have taken decades to become effective. Examples of long-term safety programs include promoting seat belt use, smoking cessation, and discouraging drunk driving. Few people would argue that these efforts are not working but it is commonly acknowledged that these efforts did not happen quickly.

The issue of fiscal impact to the property owner versus the taxpayer or community at large is another consideration that needs to be addressed when discussing the fiscal impact of the state fire code. While the code does impose requirements that may be costly to the individual property owner, it does so not only to protect that individuals and persons occupying the property, but also to ultimately reduce the burden of fire protection on the community as a whole. The question becomes: Is it in the best interests of the community to, for example, require that a property owner provide automatic fire sprinkler protection for a newly constructed building instead of having the taxpayers of the community pay for public enhancements to the city's infrastructure (more fire hydrants and larger water mains) and response capabilities (more fire stations, apparatus and firefighters)?

According to the Minnesota Taxpayers Association, the portion of property and income taxes paid for fire protection in Minnesota is significantly less than other states. This can be explained by a heavy reliance on fire prevention rather than fire response services. Minnesotans spend about $53 per year per resident for fire protection (45th of 50 states in spending for fire protection).[4] The average of the 50 states is over $90 per year per resident. Without an emphasis on fire prevention and fire code enforcement, the cost of municipal fire protection could double. While having a low cost for fire protection, Minnesota also has a relatively low fire death rate compared to similar states (and the fire death rate has been steadily declining since Minnesota has had building and fire codes).

In addition, the fire incident, fire injury and fire death rates in Minnesota were compared to national statistics.[5,6] As the following table shows, these rates are all much lower in Minnesota than in the United States as a whole and in the north central region:

Measurement:	**United States:**	**North Central Region:**	**Minnesota:**
Fires per 1,000 population (2004)	5.3	5.2	3.4
Fire injuries per million population (2004)	60.7	75.6	23.7
Fire deaths per million population (2004)	13.3	16.0	8.4

Furthermore, the fire death rate in Minnesota (deaths per 100,000 population) has dropped about 61% in 30 years. This roughly coincides to the period of time when Minnesota has had a state fire code.[7] Clearly, there are other factors that contribute to these favorable statistics, and the adoption of a statewide fire code is not the only reason for reductions in the number of fire incidents, fire injuries, and fire deaths. Many fire service people believe, however, that it is not coincidental that we have these low fire rates; they credit the fire code as a major contributing factor in reducing these losses.

"(7) an assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference"

There are no existing federal regulations that specifically address fire safety and fire prevention efforts within buildings that are privately owned. There are, however, U.S. Department of Health and Human Services regulations, found at 42 CFR § 483.70(a), applicable to healthcare facilities that receive federal Medicare and Medicaid monies. These regulations do not replace, but are applied over and above requirements found in state building and fire codes. In addition, the U.S. Department of Housing and Urban Development promulgates federal rules, found at 24 CFR § 3280, that preempt state laws and codes in the construction of manufactured homes and buildings. Finally, while there has been some change in philosophy in recent years, the federal government has historically exempted federally owned buildings and facilities from state building and fire codes. With these exceptions, the federal government has historically regarded fire protection, including fire code enforcement efforts, as the role of state and local units of government.

[4] How Does Minnesota Compare? State by State Rankings of Revenues and Spending. Minnesota Taxpayers Association. October, 2004. Available on-line at: http://www.mntax.org/cpfr/hdmc.php

[5] Fire Loss in the United States During 2004 – National Fire Protection Association. Quincy, MA, 2005. This publication is available for review at the Minnesota Department of Public Safety by contacting Mr. Jon Nisja, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, MN 55101-5145, (651) 201-7204, Fax: (651) 215-0525, email: jon.nisja@state.mn.us. TTY users may call the Fire Marshal Division at (651) 282-6555.

[6] Fire in Minnesota – 2004. Minnesota Department of Public Safety. Available on-line at: http://www.dps.state.mn.us/fmarshal/mfirs/FireinMinnesota2004.pdf

[7] The first state fire code became effective on October 3, 1975.

Federal Medicare/Medicaid regulations require compliance with the 2000 edition of NFPA 101; the proposed rules also incorporate the 2000 edition of that standard for existing healthcare facilities.

V. PERFORMANCE-BASED RULES

Minnesota Statutes, section 14.002, requires state agencies to emphasize "superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulated party and the agency in meeting those goals." Pursuant to Minnesota Statutes, section 14.131, the agency must describe how it considered and implemented this policy of performance-based regulatory systems.

The IFC and the amendments proposed to it are based on the application of scientific principles, approved tests and professional judgment, and to the extent possible, are written in terms of required results rather than required specific methods or materials. The fire code uses performance standards wherever possible. A specific amendment allowing the use of performance-based designs and setting forth specific goals, objectives and acceptance criteria that must be met appears in existing part 7510.3520, subpart 2d (proposed rule part 7511.0104).

VI. ADDITIONAL NOTICE

This Additional Notice Plan was reviewed by the Office of Administrative Hearings and approved in an October 26, 2006, letter by Administrative Law Judge Kathleen D. Sheehy.

We will e-mail or send by United States mail the Dual Notice (the Notice of Intent to Adopt Rules or Notice of Hearing) to the following interested parties:

- Minnesota Building Officials: All municipal building code officials and others involved in building code administration. This list has over 800 names and includes: all municipal building officials responsible for administration of the state building code; officials from other cities, towns, and counties who need to be aware of these proposed rules as they apply to public buildings within their jurisdiction; and University of Minnesota and MSP airport building officials.
- American Society for Civil Engineering
- American Council of Engineering Companies of Minnesota
- Association of Minnesota Counties
- Associated General Contractors of Minnesota
- Builders Association of Minnesota
- Builders Association of the Twin Cities
- Insurance Federation of Minnesota
- Minnesota Association of Plumbing, Heating and Cooling Contractors
- Minnesota Mechanical Contractors Association
- Minnesota Historical Society
- Minnesota Electrical Association
- Minnesota Housing Finance Agency
- League of Minnesota Cities
- Metropolitan Council
- Minnesota Building Owners and Managers Association
- Associated Builders and Contractors, Minnesota Chapter

- Minnesota Association of School Maintenance Supervisors
- Minnesota Association of Townships
- Minnesota Department of Corrections
- Minnesota Utility Contractors Association
- Minnesota Licensed Family Child Care Association
- Minnesota Pipe Trades Association
- Minnesota Petroleum Marketers Association
- Minnesota Propane Gas Association
- Minnesota Retailers Association
- Minnesota State Fire Chiefs Association, including all members of the Minnesota State Fire Chiefs Association (MSFCA) Code Committee

We will also publish the proposed rules, Statement of Need and Reasonableness, and Dual Notice on the Department of Labor and Industry's Web site.

Our Notice Plan also includes giving notice required by statute. We will mail the rules and Notice of Intent to Adopt to everyone who has registered to be on the Department's rulemaking mailing list for the fire code under Minnesota Statutes, section 14.14, subdivision 1a. Those persons include:

a. Care Providers of Minnesota
b. Association of Minnesota Building Officials
c. Society of Fire Protection Engineers
d. Minneapolis Building Trades Council
e. Fire Marshal's Association of Minnesota
f. AIA (American Institute of Architects) Minnesota
g. Hospitality Minnesota
h. Pipefitters Union Local 455
i. Plumbers and Pipefitters Local 11 Zone 2
j. Minnesota Department of Education
k. Minnesota Department of Health
l. Minnesota Department of Human Services
m. Minnesota Health Care Engineers Association
n. Minnesota Health and Housing Alliance
o. Minnesota Multi-Housing Association

We will also give notice to the Legislature per Minnesota Statutes, section 14.116.

VII. CONSULT WITH FINANCE ON LOCAL GOVERNMENT IMPACT

As required by Minnesota Statutes, section 14.131, the Department has consulted with the Commissioner of Finance. We did this by sending to the Commissioner of Finance copies of the documents sent to the Governor's Office for review and approval by the Governor's Office prior to the Department publishing the Notice of Intent to Adopt. We sent the copies on October 2, 2006. The documents included: the Governor's Office Proposed Rule and SONAR Form; the almost final draft rules; and the almost final SONAR. The Department of Finance sent a memorandum dated October 20, 2006, which included the following paragraph:

As part of the rulemaking process, DLI has invited comment from representatives of local governments on the proposed changes. In my opinion, the proposed changes will not impose a significant cost on local governments.

Local units of government are impacted by the state fire code, particularly those local governments that own or construct facilities, equipment or systems that are regulated by the code. There will also be a minimal cost for the purchase of new codebooks and state amendments. As indicated previously, most of the proposed rules are intended to lessen the impact of the code, so these rules would not represent an increase in the cost to local governments. In addition, there are a number of changes from the 2000 IFC to the 2006 IFC that reduce the cost of construction.

In the long run, having buildings and facilities that comply with the fire code can reduce the impact on local units of government through fewer fires and fires that are controlled or limited in size. In addition, having a statewide fire code means that each jurisdiction does not have to go through a legal adoption process. This saves staff time. As shown in the previous section on consequences or costs of not adopting the proposed rules, Minnesota has a long history of reducing the incidence of fires, fire deaths, and fire injuries; this reduction seems to coincide to the adoption of a state fire code. At the same time, costs for local fire protection services (firefighters, fire stations, equipment, etc.) is less in Minnesota than in most other states; this also is partly attributable to having a statewide fire code.

VIII. COST OF COMPLYING FOR SMALL BUSINESS OR CITY

Agency Determination of Cost

As required by Minnesota Statutes, section 14.127, the Department has considered whether the cost of complying with the proposed rules in the first year after the rules take effect will exceed $25,000 for any small business or small city. The Department has determined that the cost of complying with the proposed rules in the first year after the rules take effect will not exceed $25,000 for any small business or small city.

The Department has made this determination based on two considerations: (1) the State Fire Marshal's policy of providing between three and five years for compliance with the most costly fire code requirements; and (2) the probable costs of complying with the proposed rule, as described in the Regulatory Analysis section of this SONAR.

The State Fire Marshal has adopted a uniform policy for granting extensions of time for compliance with corrective orders. A copy of the policy is attached as Exhibit B and is at http://www.dps.state.mn.us/fmarshal/FireCode/INS02CorrectOrderTime.pdf. The policy was adopted because of the "reasonable time" requirement in Minnesota Statutes, section 299F.011, subdivision 6: "No person shall be convicted for violating the Uniform Fire Code unless the person shall have been given notice of the violation in writing and reasonable time to comply." The policy provides for time extensions of three or more years:

6. Time extensions up to 3 years from the date of the orders can be given by the Deputy inspecting the property. Compliance times beyond 3 years must be reviewed and approved by the supervisor. Requests for time extensions exceeding 5 years must be referred to the Fire Marshal Code Advisory Panel (FMCAP).

In determining the length of the extension given, the State Fire Marshal considers the cost and scope of work. Because of this policy, it is extremely unlikely that any significant compliance costs to a small business or city would need to be born within the first year after the rules take effect.

Moreover, based on an analysis of the probable costs of compliance with the rules, the Department has determined that the cost of compliance will not exceed $25,000 for any small business or city, without even considering whether compliance is needed within one year. As described in the Regulatory Analysis section of this SONAR, the estimated compliance cost for school buildings is $0.11 per square foot. Using this estimate, a building would need to be 227,273 square feet in size before the $25,000 trigger is met. This would be an unusually large building, which could legally accommodate at least 456 individuals at one time.[8] The Department is not aware of any such building owned in Minnesota by a business with less than 50 full-time employees, or by a statutory or home rule charter city with less than ten full-time employees.

IX. LIST OF WITNESSES

If these rules go to a public hearing, the department anticipates having the following witnesses testify in support of the need for and reasonableness of the rules:

Jerry Rosendahl, State Fire Marshal, Minnesota Department of Public Safety, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, Minnesota 55101-5145.

Jon Nisja, Supervisor, Minnesota Department of Public Safety, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, Minnesota 55101-5145.

Robert Dahm, Chief Deputy State Fire Marshal, Minnesota Department of Public Safety, Fire Marshal Division, 444 Cedar Street, Suite 145, St. Paul, Minnesota 55101-5145.

A representative from the Commissioner's Office, Minnesota Department of Public Safety, 445 Minnesota Street, Suite 1000, St. Paul, Minnesota 55101.

Any other employee of the State Fire Marshal Division, the Minnesota Department of Public Safety, or the Minnesota Department of Labor and Industry.

X. RULE-BY-RULE ANALYSIS

Throughout the proposed rule, the rule parts relating to the IFC are proposed for renumbering for consistency with the numbering conventions used in other chapters of the state building code. For example, in chapter 1305, which amends the International Building Code, the last four digits of the rule number are the same as the section number in the International Building Code. It is reasonable to re-number the rules to follow this numbering convention, to make is easier for the reader of the International Fire Code to find the amendments to a specific provision of the code that are applicable in Minnesota. Because of the re-numbering, the fire code is being moved to a new chapter 7511, for

[8] This has been calculated using the largest load factor in the existing fire code, which is the load factor for warehouses. *See* 2000 International Fire Code, table 1003.2.2.2, as incorporated by reference in Minn. R. 7510.3510 (2005). In a warehouse, all or almost all of the individuals present are likely to be employees. The permitted occupancy would be even higher in other types of buildings that have lower load factors.

clarity.[9] Also, throughout the proposed rule, the abbreviation for the International Fire Code (IFC) has been substituted for the full name of the code, to save space.

Where the only changes to a proposed part are renumbering of the part and/or cross-references and the abbreviation of the IFC, this SONAR will indicate that there is no substantive change from the existing part.

7510.5520 DEFINITIONS.

The proposed amendments in this part include changes in numbering that are needed for consistency with the 2006 IFC and the renumbering of chapter 7511. The change from "Uniform" to "State" Fire Code is needed for consistency with proposed part 7511.0101, subpart 1. The other proposed amendments to subpart 4 are needed for consistency with the definitions of occupancy classifications in proposed part 7511.0201.

7511.0001 PURPOSE.
This is current part 7510.3490. There are no substantive changes.

7511.0002 SCOPE.
This is current part 7510.3500. There are no substantive changes.

7511.0100 RULES AND STANDARDS INCORPORATED BY REFERENCE.
This is a revised version of current part 7510.3510. The revised rule part incorporates an updated version of the IFC; it changes the incorporated version from the 2000 IFC to the 2006 IFC. The only other proposed change in this rule part adds the Department of Labor and Industry as a location where the IFC is made available.

7511.0101 SECTION 101, GENERAL.
This is a revised version of current part 7510.3520, subparts 1 and 2. There are no substantive changes.

7511.0102 SECTION 102, APPLICABILILTY.
Subpart 1 modifies IFC Section 102.1; this section of the code deals with the applicability of the code to buildings and structures. The three conditions outlined represent three of the four conditions set forth in the IFC.

This amendment deletes a fourth condition: Existing buildings and structures not legally in existence at the time of fire code adoption. This provision is being removed because this provision creates enforcement problems. It often requires an extensive analysis of which code(s) were in effect at each time that the building was constructed, renovated, or added to. Even if records are available, this may require a huge amount of inspector staff time. If records are not available, this provision requires a report from a third party (consultant or design professional). Often the report findings are inconclusive because of problems with record-keeping and the difficulty in accessing past editions of the code. This causes a waste of public sector staff time and an expense for property owners.

Items 2 and 3 of subpart 1 apply to existing conditions. Item 2 states that the code applies to existing conditions when specifically identified in the code. There are sections of the code, especially in Chapters

[9] To accomplish this move to the new chapter 7511, most of chapter 7510 is proposed for repeal. The parts in chapter 7510 that are not proposed for repeal would be renumbered in the new chapter 7511, according to the renumbering instruction at the end of the proposed rules.

8, 9, and 10, which apply specifically to new conditions or to existing conditions. Item 2 reinforces the code intent that code provisions apply retroactively. Item 3 allows the fire official to render an opinion that the existing conditions constitute a distinct hazard to life or property and require correction of the egregious condition.

Section 102.1.1 is proposed to clarify the application of existing fire protection features. It states that existing protection features that exceed the requirements of the fire code for existing buildings but are less than the requirements for new buildings should not be negatively altered or removed. This is a companion to IFC Section 901.6, which does not allow existing fire protection features to be removed. The second sentence of proposed section 102.1.1 states that existing protection features that exceed the code requirements for new buildings can be removed or the property owner has the option to keep the protection feature subject to on-going maintenance that may be required by other sections of the code. This sentence is necessary so that owners of existing buildings are not required to have protection features that would exceed the requirements for new buildings from the state building or fire codes. This is consistent with the legislative intent of Minn. Stat. § 299F.011, subd. 4, which prevents local units of government from requiring protection that exceeds what is mandated by the state building code.

The second sentence of proposed section 102.1.1 is also necessary to address the issue of changing code requirements. For many years Minnesota adopted the Uniform Building Code (UBC). In several situations, the UBC required protection features that exceeded what is now required by the International Building Code. Without this sentence, the fire code would require that the existing features required by the UBC be maintained even when this level of protection exceeded what the building or fire codes would require for a new building. This is inconsistent with a long-standing past practice of the State Fire Marshal Division and counter-intuitive to how building and fire codes should be applied. (It is reasonable that the code requirements for new buildings should be more restrictive than for existing buildings, and that the code requirements for existing buildings should be less restrictive than for new buildings.)

Subpart 2 adds a sentence that defines operational provisions. IFC Section 102.2 states that the fire code applies operational and maintenance provisions retroactively. Although the term “maintenance” is generally understood in the industry, the term “operational” is more ambiguous. The proposed definition references conditions where the code requires an “operational permit.”

Subpart 3 is a revised version of current part 7510.3520, subpart 2b. This subpart addresses other ICC codes referenced in the IFC. Proposed section 102.6.1 would amend these codes to substitute the name of the code as adopted in Minnesota. The only changes from the current rule are in Items 6 and 8. Item 6 deals with the *International Property Maintenance Code* (IPMC). Previous Minnesota state fire codes stated that the IPMC did not apply. In proposed Item 6, the term International Property Maintenance Code is amended to mean the housing code adopted by the jurisdiction. It makes a notation to a new Appendix J, which adds an optional chapter for municipalities to adopt the IPMC as part of the fire code for those jurisdictions that desire to do so.

Item 8 of proposed section 102.6.1 addresses the Minnesota Building Conservation Code. This code is adopted as part of the state building code and is intended to deal with renovations and additions to existing buildings where compliance with the more restrictive provisions of the IBC are difficult or unduly cumbersome or expensive. The Minnesota Building Conservation Code was not finalized at the time of the last fire code adoption so this reference could not be included in that process.

Proposed subpart 4 is a revised version of current part 7510.3520, subpart 2c. The only substantive change in the first two paragraphs of this subpart is the incorporation of the 2000 edition (instead of the

1997 edition) of the Life Safety Code[10] for health care facilities and detention/correctional facilities. Health care facilities (hospitals and nursing homes) are required to comply with the Life Safety Code to qualify for Medicare or Medicaid reimbursement[11]. The Life Safety Code is also the standard of protection that is used for voluntary certification programs[12]. The Life Safety Code is used by the federal government and contains more comprehensive requirements than the IFC for these specialized occupancies.

A new Section 102.10.1 is proposed to remove a retroactive requirement from the Life Safety Code for separate smoke compartments in existing detention facilities having 300 or more inmates or residents. This is a very expensive and difficult protection feature for existing facilities such as Minnesota's Stillwater and St. Cloud correctional facilities. This has been exacerbated by recent legislative mandates for the Minnesota Department of Corrections to initiate double bunking, essentially doubling the number of inmates in a cell-block or housing area.

Proposed sections 102.11, 102.11.1, and 102.11.2 add definitions and compliance provisions for "mixed occupancies". Mixed occupancies commonly occur in buildings where more than one use or tenant occurs in a building. The definitions and compliance provisions are consistent with the state building code (see section 508 of the IBC). These proposed sections are needed to define "mixed occupancies" because this term is used in proposed part 7511.0705.

7511.0104. SECTION 104, GENERAL AUTHORITY AND RESPONSIBILITIES.

This is comparable to current part 7510.3520, subpart 2d. One substantive change is proposed: proposed section 104.9.1.4 adds a requirement for annual recertification of performance-based design. Performance-based designs are often used as an alternate method of compliance to the building or fire code. Since these design approaches are often unique to the building in question, the fire code official needs to have the ability to determine if an existing building still complies with safety provisions intended in the original design. Since the building would likely not comply with the fire code, it needs to be examined against the original design criteria.

7511.0106. SECTION 106, INSPECTIONS.

This is comparable to current part 7510.3520, subpart 2e, without any substantive changes.

7511.0108. SECTION 108, BOARD OF APPEALS.

This is comparable to current part 7510.3520, subparts 3 and 3a, without any substantive changes.

7511.0109. SECTION 109, VIOLATIONS.

This is comparable to current part 7510.3520, subpart 7, without any substantive changes.

7511.0201. SECTION 201, GENERAL.

This is a revised version of current part 7510.3530, subpart 1a. This subpart

[10] ® National Fire Protection Association

[11] This qualification is through the Center for Medicare/Medicaid Services (CMS).

[12] Two organizations have voluntary certification programs: the Joint Commission for the Accreditation of Health Care Organizations (JCAHCO) for hospitals, and the American Corrections Association (ACA) for jails and prisons.

is being modified to reference the Merriam-Webster Collegiate Dictionary for terms not defined in the code. This is the dictionary used by the Construction Codes and Licensing Division and the Attorney General.

7511.0202. SECTION 202, GENERAL DEFINITIONS.

This proposed part contains definitions. Most of the definitions are the same as the definitions in current part 7510.3530, except that the numbering has changed. The following proposed definitions are new or have been substantially modified:

- Family Adult Day Services,
- Occupancy Classification,
- Residential Hospice Facility.

Family Adult Day Services is a new program licensed by the Minnesota Department of Human Services. This definition is needed to comply with the requirements for this program in Minn. Stat. § 245A.143.

Within the definition of Occupancy Classification the definitions for Institutional Group I and Residential Group R are being modified to be consistent with the state building code. (See proposed parts 1305.0308 and 1305.0310, http://www.doli.state.mn.us/pdf/rulemaking_docket_bcs_1305_ibc.pdf.) Also, section 308.3.1 of the 2006 IBC includes child care facilities as Group I-2 occupancies. The proposed amendments to chapter 1305 do not change this provision of the IBC. Therefore, this provision in proposed part 7511.0202 is identical to section 308.3.1 of the 2006 IBC.

The proposed definition of Residential Hospice Facility would remove the requirement that the facility house "at least six … persons." This amendment would make the definition consistent with the definition or "residential hospice facility" in Minnesota Statutes, Section 144A.75, subd. 13, which is part of the hospice care licensing statutes. That definition contains no minimum number of hospice patients.

7511.0304. SECTION 304, COMBUSTIBLE WASTE MATERIAL

This proposed part would delete an IFC requirement that all garbage, waste, trash, and recycling containers over 40 gallons in size be constructed of non-combustible materials and be equipped with non-combustible lids. Most of these containers are now constructed of plastic materials and would not meet the definition of non-combustible. Even larger dumpsters no longer have metal lids. Without this proposed part, every home or business that has a plastic garbage container over 40 gallons in size would be in violation of the fire code if the container is kept in a building (including an attached garage). This would be unreasonable because typical residential "roll-out" garbage or recycling containers are 40 gallons or more in size.

7511.0307. SECTION 307, OPEN BURNING AND RECREATIONAL FIRES.

The deletion of comparable sections is included in current part 7510.3532, subpart 2. The numbers have been changed because of the renumbering and reformatting of the IFC.

7511.0308. SECTION 308, OPEN FLAMES.

The deletion of comparable sections is included in current part 7510.3532, subpart 2. The numbers have been changed because of the renumbering and reformatting of the IFC.

7511.0315. SECTION 315, MISCELLANEOUS COMBUSTIBLE MATERIALS STORAGE.

Subpart 1 is comparable to current part 7510.3532. subpart 4.

Subpart 2 adds new language dealing with storage in boiler rooms, mechanical rooms, electrical equipment rooms, and elevator equipment rooms. The IFC prohibits all combustible storage in these types of rooms. This section is being amended to allow combustible storage in boiler rooms and mechanical rooms when certain protection features are in place. It is reasonable for materials needed for the construction, maintenance, or operation of the equipment to be excluded from these requirements because these items are needed in the equipment rooms.

Proposed section 315.2.3.1 requires storage in boiler rooms to be neat and orderly and refers the user to one of two sections (315.2.3.1.1 or 315.2.3.1.2) depending on the size of the boiler or furnace. For smaller boilers or furnaces combustible storage is not allowed within 36 inches of the boiler or furnace. For larger boilers or furnaces combustible storage is not allowed within 10 ft. of the boiler or furnace. In both cases an automatic fire extinguishing system is required in the room.

Section 315.2.3.2 deals with mechanical rooms. Similar to the requirements for smaller boiler or furnace rooms, combustible storage is allowed in mechanical rooms when storage is neat and orderly, the room has an automatic fire extinguishing system, and no storage is permitted within 3 feet of the equipment.

Sections 315.2.3.3, 315.2.3.4, and 315.2.3.5 deal with electrical equipment rooms, elevator equipment rooms, and mechanical rooms that open to shafts, respectively. The sections are intended to forbid any combustible storage in these types of spaces or to eliminate all storage (combustible or noncombustible) from electrical equipment rooms and elevator equipment rooms. These requirements are consistent with the state electrical code and the state elevator code.

The amendments to subpart 2 dealing with boiler rooms, furnace rooms, and mechanical rooms are being proposed because many code officials and building owners believe that strict compliance with the IFC as written is unreasonable. The IFC forbids any type of combustible storage in these types of rooms. This would mean that there could be no combustibles of any type, including wood, paper, or plastics. This section as written would arguably cause a major hardship for property owners. It is very common to find combustible materials or storage in boiler rooms, furnace rooms, and mechanical rooms. The protection features defined in these amendments (fire extinguishing system and distance separation) provide a reasonable alternative to eliminating all combustible storage.

7511.0316. SECTION 316, CLEARANCE OF VEGETATION FROM STRUCTURES.

This section is comparable to current part 7510.3532, subpart 5.

7511.0405. SECTION 405, EMERGENCY EVACUATION DRILLS.

This section is comparable to current part 7510.3534, subpart 1.

7511.0408. SECTION 408, USE AND OCCUPANCY-RELATED REQUIREMENTS.

Proposed subpart 1 is comparable to current part 7510.3534, subpart 3. Proposed subpart 2 is comparable to current part 7510.3534, subpart 4. Proposed subpart 3 is comparable to current part 7510.3534, subpart 5.

7511.0508. SECTION 508, FIRE PROTECTION WATER SUPPLIES.

This proposed part would amend IFC section 508.5.1 to reduce the maximum distance allowed to a fire hydrant. The IFC allows any portion of a new building or an addition to an existing building to be up to 400 feet away from the nearest hydrant. This means that if hydrants are distributed in a linear manner the hydrants would be 800 feet apart. Should a hydrant fail or be unavailable for use, the next closest hydrant could be 1200 feet away. This far exceeds the 300 to 800 feet of supply hose that is carried on typical fire department pumpers. Failures of dry barrel hydrants in cold climate states, such as Minnesota, are fairly common. Typical municipal spacing of hydrants is 300 to 500 feet apart. The increases in hydrant spacing allowed in the two exceptions to section 508.5.1 have also been reduced from 600 feet to 400 feet. These amendments would allow fire department pumper hoses to reach an alternate hydrant in the event of the failure of the closest hydrant.

7511.0603. SECTION 603, FUEL-FIRED APPLIANCES.

Proposed subpart 1 would amend IFC section 603.5 and its subsections. The only proposed amendment to IFC section 603.5 is the addition of an exception. This is the same exception added in current part 7510.3536, subpart 1. Sections 603.5.1 and 603.5.2 are unchanged from the 2006 IFC.

Proposed section 603.5.3 is a new section dealing with the clearance between heating appliances and combustible materials. The existing state fire code, in IFC section 603.5.2, specifies that this clearance be in accordance with the manufacturer's instructions and applicable mechanical, fuel gas, or electrical codes. This requirement might be fine for new installations when installation instructions are readily available and the proper inspections are conducted, but it does not work for existing installations. Fire inspectors often do not have access to manufacturer's instructions or these other codes at the time of their inspection. Therefore definitive separation distances are needed. Section 603.5.3.1 specifies a minimum of 18 inches between gas-fueled heating appliances and combustible materials. Section 603.5.3.2 specifies a minimum of 36 inches between solid fuel burning appliances (such as wood stoves) and combustible materials. These distances are consistent with separation distances found in the mechanical and fuel gas codes. Should specific decreases in those distances be allowed by the manufacturer's instructions, listing criteria, or mechanical code, section 603.5.3 allows corresponding reductions.

Proposed subpart 2 is comparable to current part 7510.3536, subpart 2.

7511.0604. SECTION 604, EMERGENCY AND STANDBY POWER SYSTEMS.

This proposed part is comparable to current part 7510.3536, subpart 3.

7511.0605. SECTION 605, ELECTRICAL EQUIPMENT, WIRING AND HAZARDS.

This proposed part would delete IFC section 605.10.4. This section prohibits portable electric space heaters to be operated within 3 ft. of any combustible materials. It is reasonable to delete this section

because the practical effect of this section would be to forbid the use of these types of heaters; it is virtually impossible to locate these heaters more than 3 ft. from any combustible materials. Combustible materials include such things as carpeting, paper, wood, or plastics.

7511.0607. SECTION 607, ELEVATOR RECALL AND MAINTENANCE.

This proposed part is comparable to current part 7510.3536, subpart 4.

7511.0610. SECTION 610, MEZZANINES.

This proposed part is comparable to current part 7510.3536, subpart 6.

7511.0611. SECTION 611, PEDESTRIAN WALKWAYS AND PEDESTRIAN TUNNELS.

This proposed amendment addresses pedestrian walkways and pedestrian tunnels. It is a revised version of current part 7510.3536, subpart 7, which requires all pedestrian walkways to be installed and maintained in conformance with the building code. The building code contains several provisions that are unrealistic to enforce on existing pedestrian walkways. The amended section 611 is being modified to separate new pedestrian walkways and tunnels from existing ones. The first sentence specifies that new pedestrian walkways and tunnels are required to be constructed and maintained in conformance with the building code; this wording is similar to the current rule. The next sentences contain the requirements for existing pedestrian walkways and tunnels. These provisions are far less restrictive than those found in the building code and are consistent with typical skyways and tunnels used by pedestrians. The measurements for minimum width (44 inches) and maximum length and travel distance (400 feet and 200 feet, respectively) come from the means of egress provisions of IBC/IFC Chapter 10.

7511.0704. SECTION 704, FLOOR OPENINGS AND SHAFTS.
This proposed part would add a compliance alternative to allow existing buildings conforming to the requirements of NFPA's Life Safety Code to be considered in compliance with the vertical opening requirements of Section 704. Many existing buildings in Minnesota are in compliance with the Life Safety Code but not with the vertical opening provisions of IFC Table 704.1.

7511.0705. SECTION 705, SEPARATION OF OCCUPANCIES AND HAZARDOUS AREAS.

This proposed part is a revised version of current part 7510.3538, subpart 4. The proposed amendments to section 705.2 remove some discretionary language (“When approved by the fire chief…”) and terminology used in older code editions; these are not substantive changes but will make for better uniformity. The other changes to this section are minor wording changes requested by the Revisor of Statutes.

There are several changes proposed in the amendments to section 705.3. The first sentence is a new statement that incidental use areas must be separated from the rest the building. The section goes on to define “incidental use areas”; this term, these areas, and the sizes specified are consistent with the state building code. Proposed section 705.3.1 would require that these incidental use areas in most occupancies be separated from the rest of the building by one-hour fire resistant construction. Discretionary language is again removed (“When required by the fire chief”); terminology used in older code editions (“occupancy separations”) has also been removed. A sentence has been added at the end of this section indicating that storage rooms need not be separated in certain types of occupancies where the storage room represents less of a hazard than the primary occupancy. An example of this would be

to not require a separation around the storage area containing paper products when the entire building is used for the storage of paper products.

Proposed section 705.3.2 would allow automatic sprinkler systems to be used in lieu of the separation required by this section in most occupancies. Section 705.3.2.1 applies to Group I (Institutional – hospitals and nursing homes) and Group R (Residential – hotels and apartments) occupancies. This section allows automatic sprinkler systems to be used in lieu of all fire separations for these incidental use areas; however the construction of such incidental use areas would need to be capable of resisting the passage of smoke and doors to the areas would need to be fire rated, self-closing, or equivalent doors. This added level of protection is needed in Groups I and R occupancies because the occupants are often asleep and there is a delay in their ability to respond in fire situations.

7511.0801. SECTION 801, GENERAL.

This proposed part is comparable to current part 7510.3542, subpart 1. There are no substantive changes.

7511.0807. SECTION 807, DECORATIVE MATERIALS OTHER THAN DECORATIVE VEGETATION IN NEW AND EXISTING BUILDINGS.

This proposed part is a revised version of current part 7510.3542, subpart 5. The proposed amendment in the first paragraph would restrict the applicability of this section to materials in a Group A occupancy that exceed 20% of the wall or ceiling. The 20% threshold was selected because it is consistent with similar provisions in IFC Chapter 8 (Sections 807.4.3.2 and 807.4.4.2) limiting the amount of artwork in a school or child-care facility to 20% of the wall area.

The proposed second paragraph addresses these types of materials in Group I-2 (hospitals and nursing homes) and Group I-3 (jails and prisons) occupancies. The amendment would allow relatively small quantities of curtains, drapes, hangings, and similar combustible materials. The amendment allows up to 10 square feet of combustible materials for every 50 lineal feet of wall surface. This is comparable to the 20% limit in the first paragraph of this proposed part. Quantities exceeding that amount would be required to be flame resistant or noncombustible. This is needed as these types of occupancies typically have artwork, decorations, or paper instructions on the walls. Without this exception, items such as intake and output charts or get well cards would not be allowed in a hospital, and photographs and paintings would not be allowed in a nursing home. These items are often needed for medical reasons or to create a more pleasant environment for patients or residents.

The last two paragraphs of this proposed part are identical to the last two paragraphs of section 807.1 of the 2006 IFC.

IFC CHAPTER 9-Fire Protection Systems: Proposed Parts 7511.0901 through 7511.0912.

The proposed rules would extensively amend Chapter 9 of the IFC. These amendments are in proposed parts 7511.0901 through 7511.0912. Many of the amendments are subparts in current part 7510.3560 that are being assigned new rule numbers. The following table compares current part 7510.3560 with the corresponding proposed rule:

Proposed Part:	**Current Rule Part 7510.3560:**	**Comment:**
7511.0901, subp. 1	Subpart 1a	Same requirement
7511.0901, subp. 2	n/a	New language – ceilings

7511.0903, subp. 1	Subparts 2 and 2a	Also contains new requirements
7511.0903, subp. 2	n/a	New language – exhaust systems
7511.0903, subp. 3	n/a	New language – balconies and decks
7511.0903, subp. 4	Subparts 2b, 2c, and 2d	Reformat into single subpart – some new requirements for providing sprinkler protection
7511.0903, subp. 5	n/a	New language – safety margin (psi)
7511.0903, subp. 6	Subpart 3	Same requirement
7511.0903, subp. 7	Subpart 3a	Same requirement
7511.0903, subp. 8	Subpart 4a and 4b	Same requirements, combined into single subpart
7511.0904	Subpart 4c	Same requirement; language is simplified
7511.0905, subp. 1	Subpart 5	Expands use of this practice
7511.0905, subp. 2	Subpart 7a	Same requirement
7511.0905, subp. 3	Subpart 7c	Deletes same requirement – stage standpipes
7511.0905, subp. 4	Subpart 7d	Same requirement – correctional standpipes; adds requirement for standpipes in large apartment buildings.
7511.0905, subp. 5	Subpart 7e	Deletes same requirement – assembly standpipes
7511.0906	n/a	New language – fire extinguishers
7511.0907, subp. 1	n/a	New language – protection of control units
7511.0907, subp. 2	Subpart 8	Many requirements are the same; some additional requirements – fire alarms in new buildings
7511.0907, subp. 3	Subparts 9, 10, 10a and 10b	Same requirements – Group A fire alarms, initiation, notification, and 1,000 or more; combined into one subpart
7511.0907, subp. 4	Subpart 11a	Same requirements – Group B fire alarms
7511.0907, subp. 5	Subpart 12	Group E fire alarms – Almost the same requirements: adds an exception for intervening room smoke detection; removes a requirement for all detectors to sound evacuation alarm
7511.0907, subp. 6	Subpart 13a	Same requirements – Group F fire alarms
7511.0907, subp. 7	Subpart 13b	Same requirements – Group H fire alarms
7511.0907, subp. 8	Subpart 14	Same requirements – Group I fire alarms
7511.0907, subp. 9	Subpart 17	Deletes same requirements –Group M fire alarms
7511.0907, subp. 10	Subpart 18	Same requirements – Group R-1 fire alarms
7511.0907, subp. 11	Subpart 19	Group R-2 fire alarms – Almost the same requirements: clarifies height threshold; clarifies congregate living threshold
7511.0907, subp. 12	n/a	New language – fire station & EMS smoke alarms
7511.0907, subp. 13	Subpart 20	Same requirements – battery back up not required if sprinklered
7511.0907, subp. 14	n/a	New language – arc fault circuit protection
7511.0907, subp. 15	Subpart 21	Same requirements – hospice alarms
7511.0907, subp. 16	Subpart 22	Many requirements are the same; some additional requirements – fire alarms in existing buildings
7511.0907, subp. 17	Subpart 23	Deletes same requirements –fire alarm language in existing buildings
7511.0907, subp. 18	Subpart 24	Existing Group E fire alarms – Almost the same requirements: adds an exception for intervening

		room smoke detection; removes a requirement for all detectors to sound evacuation alarm
7511.0907, subp. 19	Subpart 25	Same requirements – Existing Group I fire alarms
7511.0907, subp. 20	Subparts 26, 27, and 28	Combines into one subpart: • current subpart 26: Same requirements – Existing Group R-1 fire alarms • current subpart 27: Existing Group R-2 fire alarms – Almost the same requirements: clarifies height threshold; clarifies congregate living threshold • current subpart 28: Adds requirements for smoke alarms in sleeping areas of fire station and emergency medical crew quarters
7511.0907, subp. 21	Subpart 29	Deletes same exception
7511.0907, subp. 22	n/a	New language – audible alarms
7511.0907, subp. 23	n/a	New language – fire safety functions of detectors
7511.0907, subp. 24	n/a	New language – deletes duct smoke detection
7511.0907, subp. 25	n/a	New language – deletes monitoring
7511.0907, subp. 26	Subpart 30	Same requirements – annual testing
7511.0909, subp. 1	n/a	New language – door opening force
7511.0909, subp. 2	Subpart 31	Same requirements – smoke control in malls and high-rise buildings
7511.0910, subp. 1	Subpart 32	Same requirements – smoke control venting method
7511.0910, subp. 2	Subpart 33	Same requirements – mechanical smoke exhaust
7511.0910, subp. 3	Subpart 34	Same requirements – operation
7511.0910, subp. 4	Subpart 35	Same requirements – supply air
7511.0910, subp. 5	Subparts 36 and 37	Combines into one subpart: • current subpart 36: Revises smoke control design method to air changes per hour • current subpart 37: Same requirements – smoke control testing and maintenance
7511.0912	n/a	New language – fire department connection height

The reasons for the new requirements listed in this table are discussed below. Where the table indicates that the requirements have not changed, there is no further discussion below.

7511.0901. SECTION 901, GENERAL.

Proposed subpart 2 would require suspended or removable ceiling tiles to be maintained in place in buildings which have fire sprinkler or fire detection systems. Ceiling tiles are needed to activate these fire protection devices; if they have been removed the smoke and heat will collect at the ceiling or roof deck above and will result any substantial delay in activation of the fire protection features.

Proposed sections 901.10.1 and 901.10.2 address specific and somewhat unusual ceiling types and refer the user to NFPA 13 for guidance on how to protect these types of ceiling assemblies.

7511.0903. SECTION 903, AUTOMATIC SPRINKLER SYSTEMS.

Subpart 1, IFC Section 903.2.7
This proposed subpart would amend section 903.2.7, which requires automatic sprinkler systems throughout all Group R (Residential) fire areas. This proposed subpart would raise the threshold to 9,250 square feet or when the Group R fire area is located more than three stories above ground level. Three exceptions are proposed to be added. The first exception excludes single-family dwellings. The second exception requires sprinkler protection if required by a licensing provision of a state agency. The third exception exempts attached garages from having to be sprinklered if there is a dry sprinkler installed within 5 ft. of the door between the attached garage and the residence.

The provisions of this proposed subpart are part of a three-way agreement between the Minnesota State Fire Chiefs Association, the Construction Codes and Licensing Division (CCLD) of the Department of Labor and Industry, and the Builders Association of Minnesota (BAM). The provisions apply to residences in excess of the square footage listed. In practical application this will require automatic fire extinguishing systems in townhouses and similar occupancies where there are multiple residents within the same building. It does not apply to single-family dwellings.

The overwhelming majority of fire deaths both nationally and in Minnesota occur in residential occupancies. A large percentage of the residential occupancies being constructed in Minnesota are in townhouse or similar multi-tenant configurations within the same building or under the same roof. In these types of buildings a fire in one unit can cause death, injury, fire loss, or major disruption to all of the tenants of the building.

This provision is needed to reduce life loss, fire related injuries, and fire loss, and to assist fire departments in extinguishing fires in these very large buildings. Most fire departments are equipped and staffed to handle typical single-family dwelling type fires. Most fire departments are not equipped to handle fires involving buildings in the tens of thousands of square feet (which can be seen in these larger townhouse complexes).

The cost of providing automatic fire sprinkler protection in new construction is approximately $2-$3 per square foot. The mortgage increase for a $3,000 increase amortized over a 30 year loan at a 7% interest rate is approximately twenty dollars per month. The net cost following insurance rate reductions (average premium reduction for sprinklering is about 10%) and income tax savings (based on 28% federal and 7.05% Minnesota tax rates) is just over $7 per month.

The second paragraph does not recognize fire walls, party walls or exterior walls as constituting separate buildings. An exception is added allowing these types of walls to separate other occupancies that are not part of the residential fire area.

The IBC-1305 Advisory Committee has reviewed the State Fire Chiefs' Fire Code Advisory Committee recommendations to change to this particular code section and has voted to support this amendment.

Proposed section 903.2.7.1 requires automatic sprinkler protection in residential hospice facilities. This is the same requirement in current part 7510.3560, subpart 2a.

Subpart 2, IFC Section 903.2.12.1
This proposed subpart would amend Section 903.2.12.1 of the 2006 IFC. This model section requires sprinkler protection in all ducts conveying hazardous materials when such ducts are over 10 inches in diameter. The proposed subpart would instead require sprinkler protection in ducts constructed of

combustible materials or conveying materials having the potential for combustible residue build-up. Also, the proposed subpart changes the size of duct at which the sprinkler requirement would apply, in order to address square or rectangular ducts instead of just circular ducts. Instead of requiring sprinkler protection in ducts over 10 inches in diameter, the proposed subpart would require sprinkler protection in ducts with a cross-sectional area of 75 square inches or more. For circular ducts, 75 square inches is equivalent to a 10 inch diameter circle [area= pi times radius squared = 3.14 times 25 ≈ 75 inches].

This subpart is needed to deal with what is viewed as an overly restrictive requirement. Without the subpart, this section of the IBC would require that every duct over 10 inches in diameter that conveys hazardous gases or dusts have sprinkler protection. Not all ducts that convey hazardous materials would be remediated with fire sprinkler protection; for instance, a duct containing a corrosive gas poses no fire risk and the presence of a protection feature that relies on a product of combustion (in this case, heat) is incongruent. The proposed subpart recognizes that ducts made of combustible material or that allow combustible accumulations need this level of protection. Here are some examples of ducts that would need to be sprinklered without this subpart:

- Ducts above lab stations,
- Ducts in wood shops,
- Ducts in semiconductor manufacturing facilities,
- Ducts containing toxic exhausts that are not flammable or combustible.

Subpart 3, IFC Section 903.3.1.2.1

Proposed subpart 3 would amend IFC section 903.3.1.2.1 to lessen the requirement for providing fire sprinkler protection for apartment decks and balconies. This section of the IBC as written would require all decks or balconies of combustible construction to have sprinkler protection. This type of protection is difficult to install in Minnesota due to cold winter temperatures. If the sprinkler protection is installed improperly there is a risk of freezing and subsequent water damage to the building and its contents. This proposed subpart would increase the size of the building and the size of the decks before sprinkler protection is required. It would require this level of protection when the building does not have sprinkler protection in the attic and it has combustible siding on the exterior of the building.

These requirements are reasonable as they address the larger buildings and larger decks which tend to pose the greatest fire risks.

Subpart 4, IFC Section 903.3.1

Proposed subpart 4 contains several modifications to the requirements for providing sprinkler protection in buildings. Proposed section 903.3.1.4 deals with buildings of an undetermined use, and is comparable to current part 7510.3560, subpart 2d. Proposed section 903.3.1.5 deals with special sprinkler design criteria; it requires a higher level of sprinkler protection in certain types of rooms that pose an added risk because of the fuel load. This requirement is similar to that found in existing rule part 7510.3560, subpart 2d. This section, however, has been modified to reduce the list of situations requiring this higher design from six to two.

Proposed section 903.3.1.6 contains a number of modifications to the sprinkler standards in section 903.3.1 of the 2006 IFC. Section 903.3.1.6.1 modifies the hose stream allowances when there is not adequate water supply or when hose streams are provided by other means. Once again this is not a new provision; it can be found in existing rule part 7510.3560, subpart 2b, exception 2.

Section 903.3.1.6.2 contains new requirements dealing with sprinkler protection in elevator shafts, elevator pits, and elevator machine rooms. This section states that sprinkler protection shall not be installed in these locations. This was a change made at the request of an engineering firm and after

consultation with the Minnesota State Fire Chiefs' Fire Code Advisory Committee and CCLD. This is being done to remove confusion and inconsistency. It will also reduce construction costs and potentially make elevators more reliable during certain fire conditions.

Section 903.3.1.6.3 omits sprinkler protection on the ceilings of rooms containing swimming pools; once again this is not a new requirement it can be found in existing rule part 7510.3560, subpart 6, item 6.

Section 903.3.1.6.4 modifies the sprinkler installation requirements of NFPA 13. In the first paragraph, NFPA 13 section 8.6.4.1.4.2 is modified to require sprinklers near the peak of a pitched roof as sprinklers near the peak of a pitched roof are more likely to activate since heat rises. In the second paragraph NFPA 13 section 8.6.4.1.4.3 is modified to require sprinklers to be located within 5 feet of eaves in combustible concealed spaces. This requirement is intended to specify a minimum distance so that sprinklers can develop an effective pattern. In both cases this language will appear in the 2007 edition of NFPA 13 but is not contained in the 2000 edition that is adopted as part of this code. These sections are being adopted to promote consistency and to provide better sprinkler protection in areas with sloped roofs or ceilings.

NFPA 13 section 8.14.8.2 is being amended to exclude sprinkler protection in small closets and pantries within dwelling units. The size of such rooms is limited to 12 square feet with any dimension not to exceed 3 ft. This change is needed to promote consistency and uniformity. Many code officials do not require sprinkler protection in these small spaces while others do, since there is no exclusion presently permitted by the sprinkler installation standards. A similar exclusion, however, exists for closets within guestrooms of hotels. This provision is reasonable since these relatively small rooms are not common areas of origin for fire. Since an average apartment unit may contain anywhere from two to five of these types of rooms, this exemption would also reduce the cost of sprinkler installation since it would reduce the number of sprinklers required.

NFPA 13 sections 8.16.2.5.1, 8.16.2.5.1.1, and 8.16.2.5.1.2 deal with the installation of check valves in a fire department connection of a fire extinguishing system. A check valve allows water to flow in one direction but not the other. A check valve is installed in a fire department connection so that water can be pumped in by the fire department but it will not flow out. Before water will flow, the fire department must pump the air out of the pipe length between the check valve and the fire department connection inlet.

Proposed sections 8.16.2.5.1.1, and 8.16.2.5.1.2 are new language. Proposed section 8.16.2.5.1.1 would require that there be a maximum of 25 feet of pipe length between the check valve and the fire department connection inlet. This is to reduce the volume of air that would need to be exhausted out of this section of pipe when the fire department pumps water into the connection inlet. Most fire department connections are located on an exterior wall of a building so the location of the check valve (within 25 feet) in not a problem. However, free-standing fire department connections are located on the lawn or boulevard and typically enter the building through a basement. There is often much more than 25 feet between a free-standing fire department connection and the building, which makes the 25 foot requirement problematic. Therefore, the exception for free-standing fire department connections is needed and reasonable.

Section 8.16.2.5.1.2 requires that the check valve be installed at a location to minimize the potential for freezing. This is needed and reasonable because of the winter weather conditions in Minnesota.

Subpart 5, IFC Section 903.3.8
This proposed subpart requires that the available water supply exceed the sprinkler system demand by a minimum of 5 psi. This provides a safety margin should modifications be necessary at the time of installation or later in the life of the system. It also provides a safety margin should the water supply degrade over time due to increased system demand, weather conditions, or internal corrosion of the underground pipes. Adding a safety margin at the time of design typically adds little or no cost to the system. If however no safety margin is present at the time of design, future modifications may involve extensive upgrades to the sprinkler system.

7511.0905. SECTION 905, STANDPIPE SYSTEMS.

Subpart 1, IFC Section 905.2.
This subpart would modify the pressure requirements for a fire department standpipe. This amendment allows the pressure requirements of NFPA 14 (Standpipe Systems) to be modified in sprinklered buildings. NFPA 14 presently requires 100 psi at the upper-most location in the building for firefighting purposes. This amendment permits less than 100 psi when the building is sprinkler protected as long as the sprinkler design is acceptable. The major proposed change in this subpart is that the proposed subpart would expand the use of this modification from buildings four or less stories in height to all buildings other than high-rise (defined as 75 feet high; typically 7 or more stories). The other changes to this subpart relate to minimum criteria for design and acceptance of this method (minimum and maximum pressures, gallons per minute per connection, and accessibility to fire hydrants).

Without this amendment, these buildings would typically require the installation of a fixed fire pump inside the building. A fire pump adds at least $60,000 to the installation cost of the fire protection system. When a fire department responds to a building with a standpipe or sprinkler connection, they supplement the pressure by pumping into the fire department connection. Standard fire department protocol is to supply these systems at 150 psi. When pumping at 150 psi, the required check valve will close when the fire apparatus pumper is supplying more pressure than the building's fire pump.

This is a reasonable provision since these are sprinklered buildings and since the standpipes are intended for fire department use. In many ways this provides a better fire protection scenario as it allows the fire department to control the pressure based on need, not based on an automatic setting at the pump. (If there is a fire pump in the building, the fire department cannot limit that pressure.) In addition, fire apparatus undergo rigorous annual testing and have a low history of failure. This, coupled with a multiple apparatus response to these types of incidents, provides a higher degree of reliability than a fixed fire pump inside the building.

Subpart 4, IFC Section 903.
The first two paragraphs of this proposed subpart are comparable to current part 7510.3560, subp. 7d. The third paragraph of this proposed subpart would add a new requirement for fire department standpipes in newly constructed apartment buildings. This was specifically requested by some fire officials based on the large size of some of the modern apartment buildings being constructed. Frequently, many portions of these buildings are well beyond the reach of standard fire department hoselines. Typical pre-connected fire department hoselines are 200 feet in length. In a large apartment building that is set back from the main parking lot, the fire department hoseline may only reach a short distance inside the building; it clearly would not be able to reach remote apartments. This paragraph adds a requirement for a standpipe within stairwells of larger apartment buildings (three or more stories in height and 200 feet or more from the point of fire department vehicle access).

This amendment is needed because the size of these apartment buildings is growing and many fire departments are not capable of reaching all of the apartments with conventional fire department pre-connected hoselines. This potentially adds some cost for additional piping within the building but the cost is an incremental increase because much of the piping is already present to provide sprinkler system mains. While these buildings are often sprinklered, fire department hoselines are needed to assist in final fire extinguishment and for fire department overhaul and "mop-up" operations following a fire.

7511.0906. SECTION 906, PORTABLE FIRE EXTINGUISHERS

This proposed part contains two amendments to IFC section 906.1. First, the exception to item #1 would be amended. The exception allows fire extinguishers to be deleted in certain occupancies (assembly, business, and educational) when those occupancies are sprinklered. The proposed amendment clarifies the type of sprinkler system where this exception can be used by referencing the sprinkler sections (903.3.1.1 and 903.3.1.2). The second proposed amendment would specify the locations where fire extinguishers are still required. The 2000 IFC stated that fire extinguishers were only required in "special hazard areas" of these sprinkler-protected occupancies. The 2006 IFC requires fire extinguishers in areas delineated in items 2 through 6 of section 906.1. Item 6 continues to refer to "special hazard areas" but adds no guidance as to what those areas are.

The amended exception specifies what "special hazard areas" are by providing a list of the types of rooms or areas that represent a higher fire risk. The addition of this exception will allow for more consistent and uniform application of this provision. This proposed amendment also more closely matches the intent of this code section; it was not intended to result in the removal of all fire extinguishers in these occupancies. It was intended to result in the removal of fire extinguishers from common areas where they are often subject to vandalism or damage while maintaining their availability for staff use in areas where fires more commonly occur. The following table shows the leading areas of fire origin in these types of occupancies based on fire loss in Minnesota; this amendment would continue to require fire extinguishers in most of the areas of origin represented in the table:

	Assembly:	**Educational:**	**Offices:**
Leading Area	Kitchen/Cooking (30%)	Trash Area (34%)	Kitchen/Cooking (12%)
2nd Leading Area	Trash Area (19%)	Kitchen/Cooking (32%)	Trash Area (7%)
3rd Leading Area	Lav./Locker Room (6%)	Lav./Locker Room (8%)	Heating Area (6%)
4th Leading Area	Outside area (3%)	Laundry Room (3%)	Exterior (5%)
All Other Areas	42%	23%	70%

These data are from Fire in Minnesota – 2004[13]. Although there has been some fluctuation in the percentages and areas from year to year, the data consistently show that fires tend to originate in the types of rooms and areas where fire extinguishers would be required under this proposed part.

7511.0907. SECTION 907, FIRE ALARM AND DETECTION SYSTEMS.

Subpart 1, IFC Section 907.1.3.
This proposed subpart deals with the protection of fire alarm control panels. The existing fire alarm installation standard (NFPA #72) requires that a smoke detector be located at each fire alarm control

[13] Fire in Minnesota – 2004; Minnesota Department of Public Safety. 2005. Available on-line at: http://www.dps.state.mn.us/fmarshal/mfirs/FireinMinnesota2004.pdf

panel unless that space is continuously occupied. This proposed subpart adds an exception for sprinklered buildings. This is consistent with a change being made to future editions of NFPA #72.

Subpart 2, IFC Section 907.2.
Proposed subpart 2 amends IFC Section 907.2; it is similar to existing rule part 7510.3560, subp. 8. This subpart is the charging paragraph for when fire alarm systems are required in various types of occupancies. It contains three proposed revisions. First, the language in the second sentence was changed from "area separation walls or fire walls" to "fire barrier walls or fire walls." The term "area separation wall" is not used in the International Codes; the code uses "fire walls" or "fire barrier walls" to define separate occupancies.

The second proposed revision to this section is the addition of a new sentence dealing with mixed occupancy or multi-tenant buildings. This sentence clarifies that when a fire alarm system is required by the following sections, the fire alarm system need only be installed in the portion of the building that requires it based on the occupancy type, assuming that the occupancies are fire separated. Without this amendment, the code could be interpreted to mean that a large shopping center or office building would be required to have an alarm system throughout simply because one area housed an occupancy requiring a fire alarm system (such as a day care center).

The third change is to the exception to Section 907.2 and actually contains three smaller changes. The first change specifies the type of sprinkler protection that can be installed to be able to omit fire alarm and detection equipment. This is done by referencing Sections 903.3.1.1 and 903.3.1.2. The second difference is a change from "heat detectors" to "fire detectors"; heat detectors are one type of fire detector. Since these amendments often do not specify the type of detection (except as mentioned later in this section), the designer or installer can use any of the types of detection (heat, smoke, flame, etc.). This allows any of these types of detectors to be omitted, not just heat detectors.

The third change is the addition of a 2nd sentence stating that when these sections specifically require smoke detectors, that type of detection should be installed and the installation of sprinklers should not allow the omission of smoke detectors. Smoke detectors are required in these sections in areas and occupancies that pose a high life safety risk. This is often because the occupants of that building are asleep, incapacitated, or their egress is impeded in some manner. As such the earlier warning provided by smoke detectors is critical to waking these occupants or to alert the appropriate staff to aid in facilitating or initiating egress.

Subpart 5, IFC Section 907.2.3.
The first paragraph of proposed section 907.2.3 has been modified by deleting language about sprinkler systems and fire detection systems being connected to the building fire alarm system. This is antiquated code language that is not consistent with current construction practices. The current language requires that every detector in a building must be connected to the fire alarm system and set off the alarm system, even in situations where that detector is intended to control equipment (such as a smoke detector in an air handling system or for elevator recall). These devices were never intended as life safety devices or to cause evacuation of occupants; they are there to control the equipment. The deletion of this language is consistent with the addition of proposed subpart 31, amending IBC section 907.10 on fire safety functions.

This proposed subpart also adds an exception to Section 907.2.3.2. This exception would allow sprinklered schools to be exempt from the requirements of intervening room smoke detection. Sprinkler protection will keep fire conditions to pre-flashover conditions helping to ensure that occupants have an opportunity for egress. Smoke detectors, while certainly beneficial for life safety, are a frequent cause of

false fire alarms, which are particularly disruptive in a school environment. By adding this exception, an adequate level of life safety is maintained while reducing burdensome false alarms in schools. In addition, the types of rooms used as intervening rooms are not always conducive to smoke detector installation. For example, an individual may have to exit from one shop through another or one laboratory through another; neither environment is an area where smoke detection is desirable. Another example would be a case of smaller locker rooms, practice gyms, or classrooms where individuals must exit through a larger gymnasium.

Subpart 11, IFC Section 907.2.9.
This subpart is proposed for amendment to correct an identified flaw and to clarify the application of these provisions. The first change is to item 1 of Section 907.2.9; language has been added to clarify that fire alarm systems are required in apartment buildings that are three or more stories in height (two or more stories above the lowest level of exit discharge). The current rule states that the apartments must be three or more stories above the level of exit discharge. Assuming the level of exit discharge to be the first story (which is the most common scenario), the current rule could be interpreted as not requiring a fire alarm system unless there were apartments three stories about the level containing the exit discharge. This was not the intent of the previous language; it was always intended to apply to three story apartment buildings. This change corrects that potential misinterpretation.

The second change to subpart 11 corrects an error in item 4 of section 907.2.9. The current rule requires fire alarm systems in Group R-2 occupancies with 20 persons because this was a requirement in the Uniform Fire Code for what was then called “congregate residences”. Congregate residences are facilities such as dormitories, fraternities, sororities, and similar facilities where there are often three or more persons sleeping in a single room. However, when the current rule was promulgated, the “20 or more” language was included without limiting its application to “congregate-type” residences. Since 20 or more people calculated at 200 sq. ft. per person (the occupant load factor assigned by the IFC) means a size of 4,000 square feet, a fire alarm system is required under the current rule when the building exceeded 4,000 sq. ft. As a general rule, each apartment uses about 1,000 sq. ft of space (counting common egress areas (corridors, stairs, and lobbies) and service areas (laundries, storage, and boiler rooms). Without this change a fire alarm system would be required in all apartment buildings having about five or more apartments (rather than the 17 apartments required in item 3).

Proposed section 907.2.9.3 would clarify that smoke detectors inside dwelling units should not activate the building’s fire alarm system. The exception allows connection for annunciation purposes (which would sound an alarm at a staff location but without activating the fire alarm evacuation signal). This is necessary at some facilities (such as assisted living for the elderly) where staff want to be aware of possible fire conditions in a tenant’s apartment. However, it is not desirable to activate the entire fire alarm evacuation signal every time a smoke detector activates inside an apartment.

Subpart 12, IFC Section 907.2.10.1.4.
This proposed subpart would require areas used for sleeping in fire stations and emergency medical and ambulance crew quarters to be equipped with smoke detectors. This is needed as these areas are often defined as Group B occupancies, and smoke alarms are only required in Groups I (Institutional) and R (Residential) occupancies. It is critical to protect emergency response personnel who may be sleeping while on duty.

Subpart 14, IFC Section 907.2.10.5.
This proposed subpart is needed because of changes to the state electrical code. For the past few years, the electrical code has required arc-fault circuit interrupters for bedrooms. The following provisions are

from the 2002 National Electrical Code, which is incorporated by reference in Minnesota Rule 1315.0200, subp. 1:

> 210.12 Arc-Fault Circuit-Interrupter Protection.
> (A) Definition. An arc-fault circuit interrupter is a device intended to provide protection from the effects of arc faults by recognizing characteristics unique to arcing and by functioning to de-energize the circuit when an arc fault is detected.
> (B) Dwelling Unit Bedrooms. All branch circuits that supply 125-volt, single-phase, 15- and 20-ampere outlets installed in dwelling unit bedrooms shall be protected by an arc-fault circuit interrupter listed to provide protection of the entire branch circuit.

In lay terms, an arc fault is a "short circuit." This condition occurs when the two conductors of a wire come in contact with each other often resulting in an arc or spark. The arc or spark can be of sufficient heat energy to ignite materials such as paper, carpeting, draperies, etc. For the most part, this requirement is only for new construction but it could occur where extensive electrical renovation takes place in a bedroom. Should an arc-fault circuit interrupter be installed on an electrical branch circuit that also powers the smoke detectors, those detectors would be out of service should there be a "trip" of the arc-fault device. This would remove smoke detectors during a period of time when they would be critical (i.e. an electrical fault is occurring). The occupants would have no knowledge that the circuit was out of service unless they tried to operate an electrical device on that circuit. Smoke detectors with batteries would continue to function and alert occupants.

Subpart 16, IFC Sections 907.3 through 907.3.1.2; and
Subpart 18, IFC Sections 907.3.2 through 907.3.2.3.
Proposed subparts 16 and 18 are companions to proposed subparts 2 and 5. Proposed subparts 2 and 5 amend IFC Section 907.2 dealing with new buildings. Proposed subparts 16 and 18 amend IFC Section 907.3 dealing with existing buildings. The requirements and justifications for these proposed amendments are the same (see comments above).

Subpart 20, IFC Section 907.3.4 through 907.3.6.1.
Proposed subpart 20 would add sections 907.3.4 through 907.3.6.1. Proposed sections 907.3.4 through 907.3.4.3 (regarding Group R-1) are identical to the sections set forth in current part 7510.3560, subpart 26.

Proposed sections 907.3.5 through 907.3.5.3 (regarding Group R-2, apartments) are comparable to proposed sections 907.2.9 through 907.2.9.3 as set forth in proposed subpart 11. The provisions in subpart 11 deal with new buildings, while the provisions in proposed subpart 20 deal with existing buildings. See the discussion of proposed subpart 11 for an explanation of the changes to these Group R-2 provisions.

Proposed section 907.3.6 is identical to section 907.3.6 set forth in current part 7510.3560, subpart 28. Proposed section 907.3.6.1 is a new section, which adds requirements for smoke alarms in sleeping areas of fire station and emergency medical crew quarters. This is a companion to proposed subpart 12, which deals with new facilities. Proposed section 907.3.6.1 deals with existing facilities. This proposed section would require smoke alarms in these facilities. The retail price for a smoke detector is approximately $15.00.

Subpart 22, IFC Section 907.10.2.
This proposed subpart is needed for consistency between the 2006 IFC and NFPA 72 – National Fire Alarm Code. Although most of the language is the same as in the 2006 IFC, the proposed subpart would

make two changes to the sound pressure levels (i.e. volume of the fire alarm system). The first change would be raise the sound pressure from 70 dBA in sleeping rooms to 75 dBA. The second change would be to reduce the maximum sound level permitted from 120 dBA to 110 dBA. The first change for sleeping rooms is based on recent research showing that 70 dBA is not sufficient to wake up a large percentage of the sleeping population. The maximum sound pressure level is being reduced to match OSHA hearing protection guidelines and proposed changes to the 2007 edition of NFPA 72. According to the National Institute of Occupational Safety and Health (NIOSH), exposure time to 109 dBA should not exceed 2 minutes, and hearing loss occurs almost immediately above 115 dBA.

Subpart 23. IFC Section 907.11.
This proposed subpart is needed to clarify the intent of fire alarm detection equipment. The first sentence states that fire alarm system detectors required by sections 907.2 (for new buildings) and 907.3 (for existing buildings) must activate the fire alarm system as prescribed. The second sentence states that when detection is installed for reasons other than required by section 907.2 or 907.3, it shall perform the intended function. If a fire alarm system is otherwise installed in the building, the detection shall sound a "supervisory" signal at the fire alarm control panel. Supervisory signals do not set off the fire alarm bells or horns; they are intended to notify appropriate staff of a "non-normal" condition. If there is no fire alarm system or control panel, the detection must activate a visual and audible alarm at an approved location.

Basically this section is stating that detection required or installed that is not required to be part of the fire alarm system in Sections 907.2 and 907.3 should not set off the fire alarm audible and visual appliances (bells, horns, strobe lights, etc.).

Section 907.11.1 addresses air handling and air distribution systems, also called heating, ventilation, and air conditioning (HVAC) systems. Smoke detectors are required by the state mechanical code for larger air handling systems (over 2,000 cfm of air movement)[14]. Section 907.11.1 requires that smoke detectors in these air handlers, when activated, shut down the equipment. The second sentence clarifies that air handling equipment that is part of a smoke control system should switch to the smoke control functions upon activation of the detector.

Section 907.11.1.1 specifically states that these smoke detectors are not intended to nor should they activate the fire alarm evacuation signal. This is consistent with the language in the state mechanical code.[15] Air handling equipment smoke detectors are a common cause of false fire alarms. This false alarm issue, coupled with the fact that these detectors are intended to control equipment and not to act as a life safety early warning device, and consistency with the state mechanical code are the reasons for this change.

Section 907.11.2 contains similar requirements for detectors installed to control, capture, or recall elevators. These detectors are for the elevator system and should not sound the fire alarm system. Conversely, other detectors on the fire alarm system should not initiate elevator control, capture, or recall.

The issue of elevator operation in emergency fire conditions is complex. Smoke detectors are installed in elevator lobbies (usually in the corridor near the elevator car). Should that detector activate, the elevator will not stop at that floor and, therefore, not expose elevator passengers to fire conditions. Detectors can also be installed in elevator machine or mechanical rooms; these detectors are intended to capture the

[14] Section 606.2 of the 2000 International Mechanical Code, incorporated by reference in Minnesota Rule 1346.0050.
[15] Section 606.4 of the 2000 International Mechanical Code, incorporated by reference in Minnesota Rule 1346.0050.

elevator and place it out of service since there may be conditions injurious to the elevator control system.

Section 907.11.3 addresses smoke detectors used to hold open fire doors during non-emergency conditions. When the detector activates, it allows the door to close. Sometimes these are "local" systems; the smoke detector powers a magnetic door hold-open device. In other cases, these door hold-opens are connected to the fire alarm system. This section states that these detectors are not required to be part of the fire alarm system, but that they may be used to also fulfill the smoke detector requirements of subparts 19 to 31 (section 907.2 for new buildings) or subparts 37 to 41 (section 907.3 for existing buildings). It also does not require the audible or visual alarm required by 907.11 for other types of detectors as it would be apparent since the normally-open door would now be closed.

Some people feel that any detectors in a building should be part of the fire alarm system. This is not the intent of these other types of fire safety functions (HVAC, elevator, door hold-opens, etc.). These amendments clarify the intent and reduce installation costs because a separate fire alarm system would not be required.

Subpart 24, IFC Section 907.12
This proposed subpart is a companion to proposed subpart 23. Section 907.12 is proposed for deletion because the function of duct detectors outlined in Section 907.12 is contained in the amendment to Section 907.11.

Subpart 25, IFC Section 907.15
This proposed subpart would delete the requirement that all fire alarm systems be monitored. This adds additional expense to the property owner ($60-100 per month) and is not needed for many fire alarm systems. The requirements for monitoring are included in 2006 IFC section 903.4 (sprinkler system monitoring), as amended by proposed part 7511.0903, subpart 6, and in proposed part 7511.0907, subparts 8 and 19 (monitoring for Group I occupancies).

7511.0909. SECTION 909, SMOKE CONTROL SYSTEMS.

Subpart 1, IFC Section 909.4.7.
The purpose of this proposed amendment regarding door-opening force is to clarify the requirement. During special inspections, this is usually one of the requirements over-looked by designers; a violation of this requirement often causes great consternation, since these systems are tested just before approving the certificate of occupancy. The general design provision applies to all methods employed. This reinforces the intent of the code and provides a reminder to the designer. An exit door is of no use if the door cannot be opened, regardless of where it is in the building or the smoke control method employed.

7511.0910. SECTION 910, SMOKE AND HEAT VENTS.

Subpart 5, IFC Section 910.
This proposed subpart would add proposed sections 910.5 through 910.6.4 to the IFC. Proposed sections 910.5 through 910.5.5 are similar to sections added by current part 7510.3560, subpart 36, dealing with the design of mechanical smoke exhaust systems. The proposal would vastly simplify the current rule by eliminating the need for a fairly complex fire engineering analysis, and instead requiring three air changes per hour. This would also greatly reduce the amount of text in the rule and the complexity of the requirements. Most mechanical contractors are accustomed to dealing with movement of air (air changes per hour). The State Fire Marshal Division modeled several fire scenarios using

computer simulation software programs. These models showed that 3 air changes per hour were roughly equivalent to the volumetric calculations required under the current rule.
Proposed sections 910.6 through 910.6.4 are the same as the sections in current part 7510.3560, subpart 37.

7511.0912. SECTION 912, FIRE DEPARTMENT CONNECTIONS.

This proposed part would add to the 2006 IFC a new section 912.2.3. This language specifies the minimum and maximum height of fire department connections for fire sprinkler and standpipe systems. It requires connection heights between 18 and 48 inches. This is similar to the recommended heights found in the installation standards. The addition of this language provides the fire or building official with a defined height, not a recommendation or suggested height. This change is needed in Minnesota because these connections could otherwise be located below the depth of snow cover, which could delay fire department access to these critical connections.

IFC CHAPTER 10-Means of Egress: Proposed Parts 7511.1001 through 7511.1028.

The proposed rules would extensively amend Chapter 10 of the IFC. These amendments are in proposed parts 7511.1001 through 7511.1028. Many of the amendments are subparts in current part 7510.3580 that are being assigned new rule numbers. The following table compares current part 7510.3580 with the corresponding proposed rule:

Description of 2006 IFC Provision:	**Proposed Part:**	**Current Part 7510.3580:**	**Comment:**
1001.1 – General	7511.1001, subp. 1	n/a (Subpart 1a)	New language: Scope; contains previous subpart 1a.
1001.3 – Special exiting – younger students	7511.1001, subp. 2	Subpart 1b	Same language.
1002 – Definitions	7511.1002	Subpart 1c	Same language.
1007 – Accessible means of egress	7511.1007	Subpart 1e	Similar requirements but major revision; amendment deletes the requirements.
1008.1.8 – Door operations (locks)	7511.1008, subp. 1	Subpart 3	Similar requirements but significant format change.
1008.1.8.6 – Delayed egress	7511.1008, subp. 2	Subpart 3b	Same language.
[*]1008.1.10 – Special locking arrangements	7511.1008, subp. 3	Subpart 4	Same language; changes to code number references.
[*]1008.1.11 – Special egress control devices	7511.1008, subp. 3	n/a	New language for consistency with state building code.
[*]1008.1.12 – Exit stair re-entry	7511.1008, subp. 3	n/a	New language.
1009.5.2 – Outdoor conditions	7511.1009	Subpart 11	Same language.
1014.4 and subsections – Aisles & aisle accessways	7511.1014	n/a	New language.

[*] All three of these provisions are combined in proposed part 7510.1008, subpart 3.

1015.1 – Exit & exit access doorways	7511.1015	n/a (Subpart 12)	New language. Accomplishes the same as former subpart 12.
1019.1 – Minimum number of exits	7511.1019, subp. 1	n/a	New language.
1019.1.3 – Press box roof access	7511.1019, subp. 2	Subpart 9	Similar to prior amendment but language has changed.
1025.6.4 – Width for bleachers	7511.1025, subp. 1	Subpart 14	Same language; changes to code number references.
1025.9.5 – Assembly aisle termination	7511.1025, subp. 2	Subpart 15	Same language; changes to code number references.
1025.14 – Assembly guards	7511.1025, subp. 3	n/a	New language.
1026.1 – Escape windows	7511.1026	Subpart 16	Similar to prior amendment but language has changed.
1027 – Means of egress for existing buildings	7511.1027	Subparts 17, 18 & 19	New language for ease of use.
1028 – Maintenance of means of egress	7511.1028	n/a	New language

The reasons for the new requirements listed in this table are discussed below. Where the table indicates that the requirements have not changed, there is no further discussion below.

7511.1001. SECTION 1001, ADMINISTRATION

The language in subpart 1 has been amended; the last two sentences were revised to reflect that sections 1001 (Administration) and 1002 (Definitions) also apply to new and existing egress requirements. It also requires that new egress provisions be in compliance with the maintenance provisions of Section 1028. Maintenance is generally considered to be applicable in existing buildings but should apply to new buildings also. A building constructed in conformance with this code is considered a "new building" for the length of this code edition's adoption (see IFC section 202, definition of "existing") so a building 3-4 years old may still be considered new. The functionality of egress provisions as outlined in Section 1028 should apply to these buildings also.

Subpart 2 is identical to existing part 7510.3580, subpart 1b. This deals with the permissible location for younger students in an educational setting to minimize travel up or down stairs due to their age and difficulty traversing stairs.

7511.1002. SECTION 1002, DEFINITIONS

This proposed part is identical to existing part 7510.3580, subpart 1c.

7511.1007. SECTION 1007, ACCESSIBLE MEANS OF EGRESS

This proposed part would delete IFC Section 1007 (Accessible Means of Egress). This IFC section addresses accessibility issues that are under the scope of the state accessibility code and Americans with Disabilities Act. The Minnesota Accessibility Code is codified as Minnesota Rules, Chapter 1341, which has been proposed for amendment in a separate rulemaking proceeding.

7511.1008. SECTION 1008, DOORS, GATES AND TURNSTILES

Subpart 1 proposes to amend the IFC section on door operations. The proposed amendment to Section 1008.1.8.1 (Hardware) would remove requirements for accessibility and graspability of door handles, locks, and latches; these are accessibility issues that are under the scope of the state accessibility code and Americans with Disabilities Act. The proposed amendment instead includes general language requiring that handles, locks, and latches require a single operation to release the door from the inside; this is the intent of most egress locking provisions. Without the amendment of this IFC language, fire officials would have been requiring the removal and replacement of thousands of door knobs and door locks. This would have cost property owners millions of dollars per year in Minnesota.

The proposed amendment of section 1008.1.8.2 (Hardware height) would remove the second sentence that allowed locks for security purposes to be installed at any height. The IFC language is poorly worded and could be interpreted to allow any kind of locking device to be installed at any height if it was declared to be necessary for security. This could potentially allow occupants to be locked inside a building and unable to escape in emergency conditions (which is what occurred at the E2 Nightclub in Chicago in 2003).

The proposed amendment of section 1008.1.8.3 (Locks and latches) would add an additional four conditions (items 5-8) to the existing four conditions where locking of doors is allowed. Item 5 would permit delayed egress locks in accordance with section 1008.1.8.6 (proposed subpart 2 of this part). This does not represent a change from current law but merely a change of format. See current part 7510.3580, subp. 3.

Proposed item 6 of section 1008.1.8.3 would allow special egress control devices in accordance with section 1008.1.11. In the current law, the state fire code references the building code where these requirements are found (see current part 7510.3580, subpart 3, exception 4, and part 1305.1003, subpart 4). Proposed item 6 does not represent a change from current law but merely a change of format.

Proposed item 7 of section 1008.1.8.3 references an acceptable method for securing egress doors in health care facilities to which Appendix I applies (see current part 7510.3710, subpart 12). This does not represent a change from current law but merely a slight change of format.

Proposed item 8 of section 1008.1.8.3 permits special locking arrangements in accordance with section 1008.1.10 (see proposed subpart 3). This does not represent a change from past requirements but merely a slight change of format. See current part 7510.3580, subpart 3, exception 6.

Proposed subpart 2 is the same as current part 7510.3580, subpart 3b. It is being relocated due to format changes within the code.

Proposed subpart 3 includes amended code sections 1008.1.10 and all subsections, as well as amended code sections 1008.1.11 and 1008.1.12. The proposed amendments to sections 1008.1.10 and subsections are the same as the amendments current part 7510.3580, subpart 4, except that the numbering of the cross-references has changed. These provisions are being relocated due to format changes within the code.

The proposed amendment to section 1008.1.11 is comparable to current part 1305.1003, subpart 4. Items 10, 11 and 12 in current part 1305.1003, subpart 4, are not included in the proposed amendment to section 1008.1.11 because these items relate to construction and are not enforced under the fire code.

The proposed 1008.1.12 is a new section adding requirements for stairway doors to permit reentry into the building. This has been an issue in several recent high-rise building fires (notably the World Trade Center – in both 1993 and 2001 incidents – and the Cook County Administration Building in 2003). This is particularly a problem in buildings four or more stories in height as there is increased egress time due to traveling down (or in some rare cases, up) stairs. This amendment allows four options; the first option is for doors to remain unlocked from the stairs into tenant spaces. Another option allows delayed egress locks in accordance with Section 1008.1.8.6 (Subpart 6).

A third option allows compliance with the relocking provisions of the State Building Code as outlined in IBC Section 403.12. The fourth option allows compliance with NFPA 101 – Life Safety Code® for these stair re-entry provisions.

7511.1009. SECTION 1009, STAIRWAYS

This proposed part is the same as existing rule part 7510.3580, Subpart 11.

7511.1014. SECTION 1014, EXIT ACCESS

This proposed part amends IFC section 1014 dealing with aisles (paths that lead to exit doors) and aisle accessways (paths that provide access to aisles). The existing language in the IBC and IFC on this issue is confusing and contains conflicting requirements. The proposed language amends section 1014.4 by adding the phrase “and aisle accessways” to the title and after the term “aisles” in three locations in this section. The proposed amendment to section 1014.4.1 addresses the required width where fixed seating occurs at tables or counters along an aisle or aisle accessway; it requires a minimum of 19 inches of distance. This is consistent with the language in IBC/IFC Section 1014.4.3 and NFPA 101 – Life Safety Code®. The exception is the same as the exception found in IBC/IFC Section 1014.4.

Proposed section 1014.4.1.1 specifies a minimum aisle accessway width of 12 inches. This width increases as the aisle accessway gets longer (1/2 inch wider for every foot of length beyond 12 feet). This is consistent with IBC/IFC Section 1014.4.3.2 and NFPA 101 – Life Safety Code®.

Proposed section 1014.4.1.2 specifies a minimum aisle width of 36 inches. The exception allows the width to be reduced to 28 inches when serving less than 50 persons. These minimum widths are consistent with IBC/IFC Section 1014.4.2 and NFPA 101 – Life Safety Code®.

Proposed section 1014.4.2 specifies a maximum aisle accessway length prior to connecting with an aisle or a corridor; that distance is 30 feet. This is consistent with IBC/IFC Section 1014.4.3.3 and slightly less than the distance allowed by NFPA 101 – Life Safety Code® (36 feet).

7511.1015. SECTION 1015, EXIT AND EXIT ACCESS DOORWAYS

This proposed part is a continuation of an existing amendment requiring that a new school laboratory containing hazardous materials have two egress doors when over 500 square feet in size. There is a companion change to the existing means of egress provisions (see subpart 19) requiring existing school laboratories to have two egress doors when exceeding 1,000 square feet in size. See current part 7510.3580, subp. 12.

7511.1019. SECTION 1019, NUMBER OF EXITS AND CONTINUITY

Subpart 1, IFC Section 1019.1, Minimum number of exits.
This proposed subpart is a companion to a state building code amendment dealing with the minimum number of exits. See proposed section 1305.1019, subpart 1, at http://www.doli.state.mn.us/pdf/rulemaking_1305_revisors_draft_09_01_06.pdf. The primary purpose of this change is to clarify when multiple means of egress are required from a floor or story of a building. One of the largest complaints received after the adoption of the 2000 IBC/IFC was that the codes were unclear or confusing as to the requirement; the complaint came from both code officials and architects. This change clarifies the requirements and removes the ambiguity.

Subpart 2, IFC Section 1019.1.3, Press Box Roof Access. This proposed subpart is similar to current part 7510.3580, subpart 9, amended section 1003.3.3.1. It needs to be relocated for consistency with the 2006 IFC. This provision has also been re-formatted so that the language is consistent with other (similar) special exiting provisions mandated elsewhere in the 2006 IFC. In addition, the reformatted language clarifies the criteria for using a ships ladder and roof hatch to get on and off the roof of the press box.

Subpart 3, IFC Section 1019.2, and Subpart 4, Table 1019.2. The primary purpose of these changes is to clarify when only one means of egress is required from a floor or a building. One of the largest complaints received after the adoption of the 2000 IBC/IFC was that this code requirement was unclear. The complaint came from both building officials and architects. The agency thought the 2006 model codes would address the problem, but they did not.

7511.1025. SECTION 1025, ASSEMBLY

Subpart 1, IFC Section 1025.6.4. This is comparable to current part 7510.3580, subpart 14. The rule has been renumbered and reformatted for consistency with the 2006 IFC.

Subpart 2, IFC Section 1025.9.5. This is comparable to current part 7510.3580, subpart 15. The rule has been renumbered for consistency with the 2006 IFC.

Subpart 3, IFC Section 1025.14. This is comparable to a provision in the current building code, part 1305.1008, subpart 3. The proposed rule provides consistency with the building code, and has been renumbered for consistency with the 2006 IFC.

7511.1026. SECTION 1026, EMERGENCY ESCAPE AND RESCUE

This proposed rule is a revised version of current part 7510.3580, subpart 16. The proposed rule deals only with egress windows in residential occupancies (Group R and Group I-1). The proposed rule would remove language in the current rule requiring escape windows in day care and foster care rooms, and would remove a reference to the building code. When the current rule was adopted, the agency's intent was to require that sleeping rooms (including those used for day care and foster care) have egress windows or a second means of escape. The current rule has been interpreted differently, to mean that all rooms used for day care or foster care (such as a toy room, play room, dining room, or family recreation room) needed an egress window. The proposed amendment corrects that incorrect interpretation. The six exceptions remain unchanged.

7511.1027. SECTION 1027, MEANS OF EGRESS FOR EXISTING BUILDINGS

This proposed part is a complete re-write of the means of egress requirements for existing buildings. The IFC requirements for existing means of egress are found in Section 1027 but they often refer the user back to the body of the code (Sections 1003 through 1025) for the requirements. It is very confusing and provisions are often missed or overlooked. This proposed amendment brings all of the means of egress requirements for existing buildings into a single section. It also reduces some of the existing egress requirements that are unrealistic for existing buildings.

The following table summarizes the requirements for means of egress in existing buildings in the 2006 IFC and as proposed by the amendment:

Description:	**Proposed Amendment:**	**2006 IFC Unamended:**	**Comment:**
Occupant loads	1027.1.3 – refers to 1004	1004	Same requirements
Egress width	1027.1.4 – refers to 1005.1	1005.1	Same requirements
Ceiling height	1027.1.5 – 78” for corridors and stairs	1003.2 – 90” throughout; 80” for doors	90” and 80” are overly restrictive for existing buildings.
Elevators & escalators	1027.2 – can be an egress component when approved	1027.2 – cannot be an egress component unless approved	Essentially the same requirements.
Exit signs	1027.3 – required where there are two or more exit access doors	1011.1 – required for all spaces having more than one exit.	Essentially the same requirements.
Exit sign illumination	1027.3.5 – internal or external illumination	1027.3 – internal or external illumination	Essentially the same requirements.
Illumination – normal	1027.5.1 – means of egress to be illuminated whenever the building is occupied.	1006.1 - means of egress to be illuminated whenever the building is occupied.	Essentially the same requirements.
Illumination – emergency	1027.5.3 – Required in many occupancies for 30 minute duration	1027.5 – Required in many occupancies for 60 minute duration	Required in same occupancies; performance 30 vs. 60 minutes is different.
Guards	1027.6.1 – 42” except for existing stairs, dwelling units, and historic structures	1027.6.1 - 42” except for existing stairs and dwelling units	Similar but adds historic buildings.
Doors – general and size	1027.7	1027.7	Essentially the same requirements; formatting differences.
Stairs	1027.10 – 8.25” max. rise; 9” minimum run; 36” minimum	1027.10 – 8.25” max. rise; 9” minimum run; 44” minimum	Existing code language only allows width reduction when under 50

	width.	width.	people.
Fire escape stairs	1027.16 – 22" width; 9"maximum rise; 9" minimum run	1027.16 – 36" width; 8.25" max. rise; 9" minimum run	Similar but 36" minimum width is not realistic for many existing buildings.
Corridors	1027.17 – Fire rated corridors required; exceptions for existing churches, schools, offices, and sprinklered buildings. 36" minimum width.	1027.17 – Fire rated corridors required; exceptions for sprinklered buildings. 44" minimum width.	Amendment adds additional exceptions for buildings that rarely have rated corridors. 44" width is not realistic for many existing buildings.
Aisle & aisle accessway width	1027.21 – requirements in table	1027.21 – requirements in text	Essentially the same requirements.
Number of exits	1027.23	1015 & 1019	Essentially the same; adds a table for ease of use.

It is often impractical to require an existing building to comply with some of the code provisions that were intended for new construction. Here are some examples:

- Many older buildings do not have a ceiling height of 7 feet, 6 inches (90 inches); there is no practical way of increasing ceiling height unless it involves removing the existing ceiling or roof and raising it.
- Many stairways in older buildings cannot meet the width, riser height (rise), and tread depth (run) requirements of the code. Replacing an existing stair can be an expensive and disruptive project. It can also be impeded by existing construction features.
- Fire-rated corridors are not found in many older buildings; upgrading to fire-rated corridors can be very expensive as it often involves replacement or modification to existing walls, doors, and windows. This is especially an issue in churches and office buildings. Fire inspectors are often asked to inspect these types of buildings especially when a pre-school or child-care operation is being proposed for the building. This causes the building to have to install fire-rated corridors. The amendments to Sections 1027.17.1.1 and 1027.17.1.2 allow the installation of a fire alarm system with smoke detection in lieu of fire rating these corridors.

In addition to compiling the majority of the means of egress provisions into a single section, it was reformatted to use tables wherever possible. This often makes the code more user-friendly. The section was also re-written to eliminate exceptions; this again makes the section easier to interpret and apply.

7511.1028. SECTION 1028, MAINTENANCE OF THE MEANS OF EGRESS

This proposed part amends IFC section 1028 dealing with maintenance of egress features. The language shown is the same as the IFC language except as described below.

Subpart 1, IFC Section 1028.2, Reliability. This proposed subpart would remove language indicating that the building needed to be occupied before the requirement applied. This change is needed and reasonable because means of egress must always be reliable.

Subpart 2, IFC Section 1028.3, Obstructions. This proposed subpart would modify the model code language by adding the last sentence that forbids combustible storage (files, boxes, paper, books, etc.) in corridors and exit stairs. These areas should never be used for combustible storage because they are critical egress components. In many cases these items would also be an obstruction; such a condition is

already forbidden by this IFC section. However, there are some instances where the storage is not an obstruction but, if ignited, would make egress difficult or impossible. The proposed amendment addresses these instances.

Subpart 3, IFC Section 1028.6, Emergency escape openings. This proposed subpart would modify the model code language by removing a phrase requiring these openings to be maintained in accordance with the code in effect at the time of construction. The removal of this phrase is needed for consistency with proposed rules 7511.0102, 7511.1001, 7511.1026, and 7511.1027.

7511.1408. SECTION 1408, OWNER'S RESPONSIBILITY FOR FIRE PROTECTION.

This is the same as current part 7510.3585. The only change is due to code reformat and renumbering.

7511.2206. SECTION 2206, FLAMMABLE AND COMBUSTIBLE LIQUID MOTOR FUEL-DISPENSING FACILITIES

Current part 7510.3610 deals with service stations and repair garages. The proposed part concerns comparable facilities. The major changes to this section all result from the proposed discontinuation of the rule provisions allowing aboveground tanks and dispensing into motor vehicles. For years the model fire codes did not allow aboveground tanks and dispensing into motor vehicles. Since 1989 the Minnesota State Fire Code has contained an amendment allowing such tanks and dispensing. Gradually the model fire codes have relaxed their prohibition on dispensing from aboveground tanks to the point that it is allowed in the code. In many ways, the aboveground dispensing requirements in the model code are more liberal that what has been allowed by the state amendment (because the model code allows larger quantities); in other ways, the model code is more restrictive than what is currently allowed under state rule (because the model code requires greater separation distances). Since the IFC now allows aboveground dispensing, the agency has determined that the state amendment is no longer needed.

Proposed subpart 1 would add two exceptions to the requirements of IFC section 2206.2.3, Item 1. Exception 1 is proposed to allow the use of non-protected tanks for the storage and dispensing of Class I liquids, when allowed by the fire chief, to be consistent with the current state fire code (current part 7510.3610). Proposed subpart 2 would add identical exceptions for IFC sections 2206.2.3, item 1, and 2206.2.3, item 2, to allow existing aboveground tanks containing Class I or II liquids to continue to be used with the clearances specified in recent editions of the state fire code. Without the proposed exceptions, these existing tanks, which were installed in compliance with the state fire code, would need to be relocated to comply with the newer and more restrictive distance separations.

Proposed subpart 3 continues two amendments allowing aboveground dispensing at resort operations with tank sizes of 560 gallons (for Class I liquids, such as gasoline) and 1,000 gallons (for Class II liquids, such as diesel fuel). These are currently exceptions to the aboveground dispensing rule (Part 7510.3610, subpart 5, section 2206.2.7.1.8, exceptions 1 and 2). The language in proposed subpart 3 contains no substantive changes; it is being relocated due to the repeal of the current rule.

Proposed subpart 4 continues two previous exceptions in the current aboveground dispensing rule but combines them into a single item and moves them to this section. (See existing part 7510.3610, subpart 5, section 2206.2.7.1.8, exceptions 3 and 4.) The language in proposed subpart 4 contains no substantive changes; it is being relocated due to the repeal of the current rule.

7511.2210. SECTION 2210, MARINE MOTOR FUEL-DISPENSING FACILITIES

This proposed part is a continuation of the current rule, which deletes an IFC requirement that wharves, piers, and floats used for marine service station dispensing can be used for no other purposes. (See existing part 7510.3610, subpart 8.) Without this amendment, the IFC requirement would mean that a separate dock or pier is needed for passengers and normal ship loading or unloading. This would be a hardship on the pleasure boating and tourist boating industry on Minnesota's larger lakes and rivers. The language in this proposed part contains no substantive changes; it is being relocated due to format and numbering changes within the IFC.

7511.2306. SECTION 2306, GENERAL FIRE PROTECTION AND LIFE SAFETY FEATURES

This proposed part is a slightly revised version of current part 7510.3611. There are some minor formatting and terminology changes. The term "smoke venting" would be changed to "smoke and heat removal," and the term "curtain board" would be changed to "draft curtain." This rule part contains no substantive changes, but is being relocated for consistency with the 2006 IFC.

7511.2701. SECTION 2701, GENERAL

This proposed part is needed to address the issue of medical gases. This amendment to the IFC was requested by a medical gas supplier and health care inspectors to take medical gases out of the scope of the hazardous materials chapter. It refers medical gas issues to NFPA 99, a standard containing specific requirements for health care facilities, including requirements for medical gas use. Without this amendment, an assisted living facility, nursing home, or similar building would be classified as a Group H (Hazardous) occupancy if it had over two liquid oxygen containers. The use of medical gases or oxygen is very common in these types of residential buildings and is necessary for the occupants.

7511.2703. SECTION 2703, GENERAL REQUIREMENTS

This proposed part is comparable current part 7510.3625, subparts 1 and 2. The language of the proposed part contains no substantive changes; the rule is merely being reformatting and renumbered for consistency with the 2006 IFC.

7511.3006. SECTION 3006, MEDICAL GAS SYSTEMS

This proposed part was requested by a medical gas supplier and health care inspectors to take medical gases out of the scope of the compressed gases chapter. The rationale for this proposed part is the same as the rationale described above for proposed part 7511.2701.

7511.3201. SECTION 3201, GENERAL

This proposed part was requested by a medical gas supplier and health care inspectors to take medical gases out of the scope of the cryogenic fluids chapter. The rationale for this proposed part is the same as the rationale described above for proposed part 7511.2701.

7511.3301. SECTION 3301, GENERAL; and
7511.3308. SECTION 3308, FIREWORKS DISPLAY

When read together, these two proposed parts are the same as current rule 7510.3640. The rule has merely been reformatted and renumbered for consistency with the 2006 IFC.

7511.3401. SECTION 3401, GENERAL

This proposed part 1 adds an additional exception to IFC section 3401.2 allowing alcohol based hand sanitizers in accordance with IFC section 3405.5 (see proposed part 7511.3405).

7511.3402. SECTION 3402, DEFINITIONS

This proposed part contains a definition for "Rigid Nonmetallic Intermediate Bulk Container." This is similar to the current rule's definition of "intermediate bulk container" in 7510.3650, subpart 1b. The proposed definition needs slight changes to reflect changes in federal standards and references.

7511.3404. SECTION 3404, STORAGE

Subpart 1, IFC Section 3404.1, Application of sprinkler protection tables.
This proposed subpart is a slightly modified version of current part 7510.3650, subpart 1c; rather than referring to the term "intermediate bulk container," the proposed part uses the term "rigid nonmetallic intermediate bulk container" to indicate that we are dealing with plastic containers. Other than this change in terminology, there are no substantive changes to the language.

Subpart 2, IFC Section 3404.2.11.3, Burial depth and minimum depth of cover.
This proposed subpart contains new language dealing with burial depth of underground flammable and combustible liquid tanks. These burial depth requirements were in the Uniform Fire Code but do not appear in the 2006 IFC. The 2006 IFC references NFPA 30, the standard for flammable and combustible liquids. Code officials are frequently called to a site while tanks are being installed; the officials need to determine burial depths. Unless they also have NFPA 30 with them, they may not have information with specific distances. This proposed subpart specifies the burial depth based on the type of cover (dirt, asphalt, concrete, etc.). These distances are consistent with the former Uniform Fire Code and NFPA 30. Proper burial depth and cover is critical because excessive weight from vehicles driving on top of a tank can cause the tank to collapse or to force the liquid contents out of vents.

Subpart 3, IFC Section 3404.3.1.2, Rigid nonmetallic intermediate bulk containers.
This proposed subpart cross-references the requirements that rigid nonmetallic intermediate bulk containers must meet in this section and NFPA 30. It also prescribes the proper test method for these containers under NFPA 30.

Subpart 4, IFC Section 3404.3.3.11, Fire-extinguishing systems.
This proposed subpart is comparable to the existing rule on fire protection systems for flammable and combustible liquids (see current part 7510.3650, subpart 1d). The language of this proposed subpart contains no substantive changes; it is merely reformatted and renumbered.

7511.3405. SECTION 3405, DISPENSING, USE, MIXING AND HANDLING

This proposed part adds protection criteria for alcohol-based hand sanitizers. These products have become extremely popular for infection control in health care facilities. The 2006 IFC allows these products but the quantities and protection features are not consistent with the Life Safety Code®, which is the protection standard used for health care facilities by the Minnesota Department of Health and federal health care agencies (such as the Center for Medicare/Medicaid Services). This proposed part uses the language from NFPA 101 with some minor formatting changes; NFPA 101 is the de facto health care protection standard nationally.

7511.3406. SECTION 3406, SPECIAL OPERATIONS

This proposed part is comparable to current part 7510.3650, subparts 1e, 2, and 3. The language of the proposed part does not contain any substantive changes; the only changes are slight formatting changes and the renumbering of the part for consistency.

7511.3800. CHAPTER 38 -- LIQUEFIED PETROLEUM GASES

This proposed part is a modified version of current part 7510.3670. For the past several state fire code adoption cycles, the State Fire Marshal has adopted NFPA Standard 58 for Liquefied Petroleum (LP) Gases. The Minnesota Propane Gas Association requested that this again be done in the fire code and that the most recent edition of NFPA 58 be adopted by reference. The adoption of this newer edition of NFPA 58 – the 2004 edition – is accomplished in the amendments to IFC section 3801.1. The proposed part, in section 3802, amends NFPA 58 to make it consistent with existing Minnesota laws and rules.

In the 2004 edition of NFPA 58, a major revision and reformatting was performed; therefore, amendments to current part 7510.3670 are needed. These are not substantive changes, but are due to the reformat and renumbering of NFPA 58.

7511.4500. CHAPTER 45 – REFERENCED STANDARDS.

This proposed part would adopt more current standards than those adopted in the IFC for fireworks displays and the use of pyrotechnics before a proximate audience. The proposed part adopts 2006 editions of these standards rather than the 2000 and 2001 editions, respectively, adopted in the IFC. Older standards are difficult to obtain once newer standards are in print. The newer standards also represent more up-to-date regulations following recent events such as the Station Nightclub tragedy in Rhode Island in 2003. These proposed changes were requested by a pyrotechnics association.

7511.4600. CHAPTER 46 -- ADULT DAY CARE CENTERS, RESIDENTIAL HOSPICE FACILITIES AND SUPERVISED LIVING FACILITIES

This proposed part is almost identical to current part 7510.3675. There is only one substantive change -- proposed section 4603.1 regarding residential hospice facilities includes the following new language at the end of the first sentence: “if serving six to 12 persons, or as Group R-3 occupancies, if serving five or fewer persons.” This change is needed for consistency with the occupancy classifications and the definition of “residential hospice facility” in proposed part 7511.0202.

7511.4701. AMENDMENTS TO APPENDICES OF INTERNATIONAL FIRE CODE

This proposed part is comparable to current part 7510.3710. The only substantive change is the addition of proposed Appendix J. This appendix was requested by the Minnesota Association of Housing Code Officials to provide them with a method for adopting a model housing or property maintenance code.

REPEALER

Because of the proposed renumbering of the portion of the state fire code relating to the IFC, most of chapter 7510 is proposed for repeal. However, as discussed above, many of the sections are merely

being located elsewhere in the proposed rules. This portion of the SONAR will therefore address only the sections being repealed that are not included in a different rule part in chapter 7511.

7510.3520, subpart 2a

This subpart is no longer needed because the issue is addressed in section 102.6 of the 2006 IFC.

7510.3532, subparts 1 and 3

Subpart 1 contains requirements that recycling and rubbish operations store all materials in vaults, metal containers, or baled conditions. This is not how most commercial recycling or rubbish operations functions. Because these requirements are impractical, this subpart is proposed for repeal.

Subpart 3 is no longer needed because of modifications to the IFC.

7510.3534, subpart 2

This subpart requires school staff to close all doors when exiting the building in event of a fire or fire drill. This subpart is proposed for repeal because school staff members typically perform these functions anyway as part of their regular emergency and evacuation plans.

7510.3536, subpart 5

This subpart removed several overly restrictive requirements for existing commercial kitchen hoods. Most of these requirements dealt with mechanical and air-flow issues that are not germane to fire safety. The 2006 IFC removed those requirements, so that this subpart is no longer necessary.

7510.3538, subparts 1, 2 and 3

Subparts 1 and 2 are proposed for repeal because these requirements are included in sections 703.1 and 703.2 of the 2006 IFC. These subparts were had been adopted in an effort to bridge some terminology differences between the former Uniform Fire Code and the "new" International Fire Code when it was adopted in 2003. The need for using some of this old terminology is no longer needed.

Subpart 3 deals with atria and escalator opening protection. This is no longer needed because it is addressed in Table 704.1 of the 2006 IFC.

7510.3542, subparts 2, 3 and 4

Chapter 8 of the IFC was extensively reformatted between the 2000 and 2006 editions. Subpart 2 is now proposed as an amendment to IFC section 807.4.3.1 (proposed part 7511.0807, subp. 3). Subpart 3 is now proposed as an amendment to IFC section 807.4.4.1 (proposed part 7511.0807, subp. 4). Existing subpart 4 is proposed for repeal because Chapter 8 has been modified; there is no longer a need for a state amendment on Christmas trees because the IFC now contains essentially the same requirements as this subpart.

7510.3650, subpart 1a

This subpart is proposed for repeal because the language is included as proposed part 7511.0901, subp. 1.

7510.3674

This part adopted newer editions of the referenced standards. Adopting the newer editions of these standards was requested by the respective industry groups because they already were using the newer editions. The 2006 IFC has since updated to newer standards, so that this part is no longer necessary.

7510.5540, subpart 4

The IFC contains requirements for the type of furniture allowed in health care facilities. This part was developed in the early 1990s and does not reflect current fire safety provisions. In addition, this part conflicts with the IFC requirements and caused enforcement problems.

CONCLUSION

Based on the foregoing, the proposed rules are both necessary and reasonable.

October 30, 2006

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M. Scott Brener
Commissioner

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Jerry Rosendahl
State Fire Marshal

EXHIBIT A

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David Fisher
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Jerry Streich
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Nyle Zikmund
Fire Chief
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1710 County Highway 10
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EXHIBIT B

MINNESOTA DEPARTMENT OF PUBLIC SAFETY
State Fire Marshal Division

STATEMENT OF POLICY

Policy #: INS-02	Subject of Policy: Time for Correction of Fire Code Orders		
Reviewed and Approved By: **Jerry Rosendahl**	Title: State Fire Marshal	Effective Date: 11/1/1999	Revised Date: 3/31/2003

APPLIES TO:
All Inspection Personnel, Inspection Supervisors, Code/Plans Specialists.

PURPOSE:
To provide for uniform application of compliance times, simplify the process of granting requests for time extensions for corrective orders and reduce the workload of the Fire Marshal Code Advisory Panel (FMCAP).

POLICY:

SECTION 1 — TIME EXTENSIONS FOR ORDERS

Requests for time extensions can be granted for corrective orders by the deputy that issued the orders and the respective supervisor in accordance with the procedures outlined below.

The maximum time frame allowed for initial orders is 90 days. It is recognized, however, that quite often compliance will take substantially longer than 90 days. The following information concerning time extensions will be printed on the written orders sent to the property owner/representative:

> *NOTE: Those items listed as 90 day corrective orders are eligible for time extensions once there has been substantial compliance with the other items listed AND a plan of correction has been developed and submitted to the inspector issuing these orders. Please contact the inspector listed below for additional information.*

Requests for time extensions can be granted under the following conditions:

1. There has been substantial compliance with the other items in the order.
2. A plan of corrective action has been developed:
   a. For orders where the time needed for correction is less than 180 days from the date of the orders, the plan shall show compliance dates and the proposed method of correction.
   b. For orders where the time needed for corrections is 180 days or more from the date of the orders, a written plan of correction shall be required from the property owner or owner's representative. The plan must show specific dates when items will be

corrected, proper justification for the length of time requested, and show that compliance is progressing.

3. The Deputy shall notify the requestor, in writing, of the amount of additional time being granted as well as any other stipulations or conditions that must be met. (NOTE: This can be accomplished on the Inspection and Exit Interview form or in a separate written letter).
4. Approval of the plan of corrective action should be based on the perceived life safety hazard and realistic compliance times.
5. For occupancies which are seasonal in nature (i.e. resorts, schools, etc.), the Deputy is allowed to use the seasonal opening as a target compliance time as opposed to a number of days. (EXAMPLES: Prior to opening May 1, 2000, - or - Prior to opening for the 2000/2001 school year,…).
6. Time extensions up to 3 years from the date of the orders can be given by the Deputy inspecting the property. Compliance times beyond 3 years must be reviewed and approved by the supervisor. Requests for time extensions exceeding 5 years must be referred to the Fire Marshal Code Advisory Panel (FMCAP).