

By Mr. Flaherty of Boston, petition of Michael F. Flaherty for legislation to provide that self-contained breathing equipment carried on municipal fire apparatus conform to additional standards and that fire fighters be provided with protective clothing and equipment. Public Safety.

The Commonwealth of Massachusetts

In the Year One Thousand Nine Hundred and Ninety.

AN ACT PROVIDING THAT SELF-CONTAINED BREATHING APPARATUS CARRIED ON MUNICIPAL FIRE APPARATUS CONFORM TO ADDITIONAL STANDARDS AND THAT FIRE FIGHTERS BE PROVIDED WITH PROTECTIVE CLOTHING AND EQUIPMENT.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 Chapter 48 of the General Laws is hereby amended by striking
2 out section 51A, as most recently amended by chapter 186 of the
3 acts of 1973, and inserting in place thereof the following section:

4 Section 51A. Each city, town or district with a population of
5 more than fifteen thousand persons shall equip any fire apparatus
6 operated by it with at least three self-contained breathing
7 apparatus. Such apparatus shall contain an air cylinder rated for
8 a minimum of thirty minutes of use and shall be equipped with
9 an audible alarm to indicate to the wearer thereof, and to any other
10 persons in the area, that there is only a specific designated
11 minimum supply of air remaining, and that such wearer should
12 leave a contaminated area. Regulators for such breathing
13 apparatus shall operate on the principle of pressure demand also
14 known as positive pressure. All such breathing apparatus shall,
15 in addition to the above, meet the requirements of the standards
16 cited in this section. The requirements for self-contained breathing
17 apparatus shall not apply to any fire apparatus designed solely
18 for extinguishing woods or brush fires.

19 The fire department of each city or town or fire district with
20 a population of more than fifteen thousand persons shall provide,

21 at no cost to the members and assure the use and maintenance,
22 of protective clothing and equipment which complies with the
23 performance requirements of this section. The fire department
24 shall assure that protective clothing and equipment ordered or
25 purchased after July 1, 1988, meets the requirements contained
26 in this section. As the new equipment is provided, the fire
27 department shall assure that all fire fighters and fire officers wear
28 the clothing and equipment when performing interior structural
29 fire fighting and at other times prescribed by this section. After
30 July 1, 1992, the fire department shall assure that all fire fighters
31 and fire officers wear protective clothing and equipment meeting
32 the performance requirements of this section when responding to
33 and working at fires and other emergencies prescribed by this
34 section.

35 The personal protective clothing and equipment provided to
36 individual fire fighters and fire officers shall consist of the
37 following components:

38 (1) Fire helmet equipped with ear covers and eye shields or face
39 shields.

40 (2) Station uniforms consisting of a short sleeve fire retardant
41 summer shirt, a long sleeve winter shirt and fire retardant work
42 pants or a one-piece fire retardant coverall.

43 (3) Gloves which depending upon design of fire coat wristlets
44 designed with gauntlets or wristlets.

45 (4) Protective fire coats, so called turnout coats.

46 (5) Protective trousers, so called night hitch, which depending
47 upon design of the protective fire coat may be required.

48 (6) Protective footwear which depending upon design of the
49 protective fire coat and protective trousers may be required to
50 protect the ankles and six inches above the heel, so called
51 protective work shoes or may be required to also protect the entire
52 leg up to the thigh, so called protective rubber boots.

53 The performance requirements for the personal protective
54 clothing and equipment required by this section shall be as
55 follows:

56 (1) Fire helmets shall meet the requirements specified in the
57 National Bureau of Standards publication, "Considerations in
58 Establishing Performance Criteria for Structural Fire Fighters
59 Helmets", NBSIR 77-1251, May 1977. Fire helmets which meet

60 the requirements of the National Fire Protection Association
61 Standard, NFPA No. 1974 (1987) shall be in compliance with this
62 section.

63 (2) Station uniforms consisting of short sleeve fire retardant
64 summer shirt and fire retardant work pants shall meet the
65 requirements of NFPA No. 1975 (1985), Station/Work Uniforms
66 for Fire Fighters. Winter work shirts (long sleeve) shall be
67 constructed with one hundred per cent cotton (or equivalent
68 nonthermoplastic) exterior and ninety to one hundred per cent
69 cotton (or equivalent nonthermoplastic) interior. Collars of the
70 winter work shirt shall meet the flammability requirements of
71 NFPA No. 1975 (1985). Winter work shirts (long sleeve) which
72 are manufactured from inherently flame resistant fabrics or from
73 fabrics treated to impart flame resistant qualities which meet the
74 requirements of NFPA No. 1975 (1985) shall be in compliance
75 with this section. One-piece fire retardant coveralls shall meet the
76 requirements of NFPA No. 1975 (1985).

77 (3) Gloves shall meet the requirements of NFPA No. 1973
78 (1983), Gloves for Structural Fire Fighters or Federal OSHA
79 1910.156 (4), (1980), Hand Protection for Fire Brigades. Gloves
80 with wristlets conforming to either standard shall be specified for
81 fire coats without extended wristlets which cover the knuckles;
82 gloves with gauntlets may be specified for fire coats with extended
83 wristlets.

84 (4) Protective fire coats and protective trousers where required
85 by this section manufactured with fire retardant fabric outer shells
86 a moisture barrier and a thermal barrier shall meet the
87 requirements of NFPA No. 1971 (1986), Protective Clothing for
88 Structural Fire Fighting. Protective fire coats manufactured with
89 fire retardant coated fabric outer shell and a thermal barrier shall
90 be in compliance with this section if the responsible fire
91 department develops specifications and performance require-
92 ments to assure a satisfactory level of safety. Past performance
93 of fire coats designed and constructed with a fire retardant coated
94 outer shell and a thermal barrier shall be considered a basis for
95 judging the acceptability of the specification and performance
96 requirements.

97 (5) Protective rubber boots which extend to the knees or to the
98 upper thigh (so-called 3/4 boots) shall meet the requirements of

99 NFPA No. 1974 (1987), Protective Footwear for Structural Fire
100 Fighting.

101 (6) Protective work shoes are required to extend over the ankles
102 and be constructed with a stainless steel puncture resistant mid
103 sole which shall not allow puncture through sole with heel when
104 tested to no less than 400.0 pounds (182.0 kg) in accordance with
105 Section 5.3 of ANSI Z41, (1983) Standard for Safety-Toe
106 Footwear. Protective work shoes shall be manufactured with a
107 safety toe construction which shall be tested in accordance with
108 Section 1.4 of ANSI Z41, (1983) Standard for Safety-Toe
109 Footwear. Compression requirements shall be 2500 pounds
110 (11121 N). Impact requirement shall be 75 foot pounds (101.7 J).

111 (7) Self-contained breathing apparatus shall be tested and
112 certified jointly by the National Institute for Occupational Safety
113 and Health (NIOSH) of the U.S. Department of Health and
114 Human Services and the Mine Safety and Health Administration
115 (MSHA) of the U.S. Department of Labor in accordance with
116 the requirements of Title 30, Code of Federal Regulations (CFR),
117 Part 11, Subpart H.

118 Self-contained breathing apparatus which was tested and
119 certified to comply with requirements published by the Bureau
120 of Mines of the U.S. Department of Interior shall not comply with
121 the requirements of this section.

122 Fire fighters and fire officers responding to and working at fires
123 and other emergencies prescribed by this section shall wear the
124 protective clothing and equipment required by this section in
125 accordance with the following use practice:

126 (1) Station uniforms consisting of a fire retardant short sleeve
127 shirt and fire retardant work pants or a long sleeve winter shirt
128 and fire retardant work pants or a one-piece fire retardant coverall
129 shall be worn at all times while on duty. Station uniforms shall
130 be worn under the protective fire coat/protective trousers/
131 protective footwear ensemble required by this section.

132 (2) The protective fire coat/protective trousers/protective
133 footwear ensemble shall consist of one of the following
134 combinations:

135 (a) A knee length fire coat combined with fire retardant work
136 pants and protective footwear. The protective footwear shall be
137 the 3/4 length protective fire boots; protective work shoes may

138 replace the fire boots at the discretion of the incident commander
139 or on the basis of a fire department order issued for certain
140 conditions. The protective fire boots shall always be available on
141 the fire apparatus should their use be required.

142 (b) A mid-thigh length fire coat combined with protective
143 trousers and protective footwear. The protective footwear shall
144 be 3/4 length or knee length protective fire boots, protective work
145 shoes may replace the fire boots at the discretion of the incident
146 commander or on the basis of a fire department order issued for
147 certain conditions. The protective fire boots shall always be
148 available on the fire apparatus should their use be required.

149 (3) Fire helmets shall be worn at all times.

150 (4) Self-contained breathing apparatus shall be worn and
151 activated by fire fighters and fire officers working at building fires
152 and at other emergencies such as chemical incidents where
153 respiratory protection is required. Fire departments shall establish
154 orders and procedures for the mandatory use of self-contained
155 breathing apparatus at fires and other emergencies.

