

Technical Committee Documentation

**A Compilation of the Documented Action on Comments Received
by the Technical Committees Whose Reports Have Been Published
Prior to Consideration at the NFPA Fall Meeting**

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**National Fire Protection Association
470 Atlantic Avenue, Boston, MA 02210**

**Supplementary
Report of
Committee on Fire Service Professional Standards
Development for Fire Fighter Qualifications**

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Fire Service Professional Standards Development Committee for Fire Fighter Qualifications presents for official adoption its supplementary report on the Standard on Fire Fighter Professional Qualifications. This supplementary report contains the documentation of the Committee's action on those public comments and recommendations submitted to it in response to its report as published in the Technical Committee Reports on May 13, 1974. In addition, the Committee itself proposed amendments and additions to the Standard on Fire Fighter Professional Qualifications as previously published in its report on May 13, 1974. To aid the reader, the Standard on Fire Fighter Professional Qualifications, as proposed for final adoption, is printed, herewith, in its entirety, following the public comments and Committee documentation on these comments. A single rule in the margin indicates a change being proposed as a result of a public comment. A double rule in the margin indicates a change being proposed by the Committee itself.

This supplementary report has been submitted to letter ballot of the Committee which consists of 13 voting members, of whom 13 have voted affirmatively.

Public comment changes are indicated by a single rule on the margin of the reprinted Standard contained herein.

Submitter:

Bert Cohn, Gage-Babcock, Westchester, Illinois

Recommendation:

Delete Section 1-3.3

Supporting Comment:

"OK to set up qualifications, but unwise to dictate who will do the evaluation."

Committee Action:

Rejected

Committee Comment:

It is the unanimous opinion of the committee that someone has to be recommended to evaluate the performance objectives. The committee feels that the autonomy of evaluation would remain within the local area; thus, the term "the authority having jurisdiction" is used.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation: 1-3.4

Change paragraph 1-3.4 to read "When hired, the individual shall have met all of the physical and educational requirements for acceptance and shall, through pre-entrance testing, show the potential for successfully completing the various level performances to the position of Fire Fighter III."

Supporting Comment:

"It seems to make sense that if we have a standard in that we hire candidates, those candidates should meet all of their physical and educational requirements, and they should definitely have potential to progress to Fire Fighter III. If they do not have this potential, where will the future fire officers come from? Therefore, we should have some portion of the standard that will directly relate to the future success of the fire fighter."

Committee Action:

Accepted

Committee Comment:

The committee, in response to this comment, has rewritten 1-3.4 to read as follows: "When appointed to the fire department, after fulfilling the entrance requirements of Chapter 2 the individual may be called a fire fighter."

Submitter:

Eulan G. Tucker, Chief, Toledo Fire Department
Kenneth S. Pauken, Deputy Chief, Toledo Fire Department

Recommendation: 2-1.5

Add to paragraph 2-1.5 "The candidate shall possess a valid motor vehicle operator's license."

Supporting Comment:

"This requirement would serve to screen out those individuals who were unable to qualify for a license for any reason, e.g., lack of coordination, inability to memorize driving laws, etc. This would also exclude those drivers who had lost their license due to bad driving. In any case, the objective of improving the fire service would be furthered by employing this requirement."

"Another good reason for this requirement is that, many times, at fire scenes, a fire fighter finds it necessary to drive a car or truck, as a part of the fire fighting operation. A car may have to be driven or pushed away from a hydrant. Trucks may be driven from a burning building. A confused civilian driver may require assistance by being driven out of the way of operations."

Committee Action:

Rejected

Committee Comment:

This subject was discussed in committee during several different meetings, and it was decided that it was not necessary for a fire fighter to possess a valid motor vehicle operators license. Possession of such a license would certainly be desirable and would be required when a person would actually be operating the apparatus; but to become a fire fighter, it would be a discriminatory practice in many parts of the country, not a valid requirement.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation: 2-1

Add to Section 2-1 "Fire fighters will be subjected to a comprehensive mental examination to determine the candidate's fitness to work under extremely demanding and hazardous conditions, also his potential for company assimilation."

Supporting Comment:

"Fire fighters are asked to work under extremely stressful and dangerous situations. They are also required to work within the operation of a fire company. The individual fire fighter candidate must have the mental capacity and ability for this type of work. Therefore, a mental test should be developed to determine his abilities in this area."

Committee Action:

Rejected

Committee Comment:

Whereas this is a minimum standard the committee agrees that high school graduation, or its recognized equivalent, be accepted as demonstration of mental competence for the position unless some other characteristic proves otherwise.

Submitter:

C. V. Lovett, Webster, New York

Recommendation: 2-2

"I am not a doctor but feel very few people could pass without rejection if the examination is strictly followed. What is the norm of the population that could pass this examination."

Supporting Comment:

"None, but hope several Fire Department medical doctors and other practicing doctors have reviewed Chapter 2 and agree from a medical standpoint."

Committee Action:

Rejected

Committee Comment:

The standard was in part prepared by, and in total reviewed by qualified medical doctors; and fire department medical officers have also reviewed the standard and found it acceptable.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation:

"Create a new subsection to 2-2.6 that will allow candidates who are equipped with prosthetic devices to take the physical agility test, and if their performance is satisfactory, appointment could be granted."

Supporting Comment:

"As the skill aspect of this standard is performance based, the portions of the medical aspect should also be performance based. There are recorded cases of persons engaged in active occupations that can function with prosthetic devices. There is also on record in our state alone two volunteer fire fighters who are equipped with a prosthetic leg or portion thereof who are still able to perform the duties of a fire fighter."

Committee Action:

Rejected

Committee Comment:

The committee felt that if there were a loss of extremities, the ruling(s) of the authority having jurisdiction will supersede the standard; that the authority having jurisdiction can take exception to the standard that is felt necessary. The committee, however, must stand by its recommendation that those applying with the loss of extremities shall be eliminated due to the dangerous and highly technical work that a fire fighter would be exposed to. The committee realizes there are many useful functions that a fire fighter could still perform even with the loss of hands or fingers, but these should be weighed on an individual basis within individual departments, and these departments should have the autonomous authority to make any exception(s).

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation:

Change paragraph 2-2.6.1.2 to read "This particular section should be changed to a performance criterion whereby if the fire fighter can pass the physical performance examination for fire fighters, then the absence or loss of parts of hands or fingers should not be cause for rejection."

Supporting Comment:

"The standard dealing with the fire fighters actual job is all performance based. In performance of this job, there are many fire fighters now employed who are missing parts of either their hand or finger and are still employed. Therefore, rejection on this basis should be based solely on whether or not the individual can perform the actual duties, and the entire section should be based around a performance based physical fitness section."

Committee Action:

Rejected

Committee Comment:

The committee felt that if there were a loss of extremities, the ruling(s) of the authority having jurisdiction will supersede the standard; that the authority having jurisdiction can take exception to the standard that is felt necessary. The committee, however, must stand by its recommendation that those applying with the loss of extremities shall be eliminated due to the dangerous and highly technical work that a fire fighter would be exposed to. The committee realizes there are many useful functions that a fire fighter could still perform even with the loss of hands or fingers, but these should be weighed on an individual basis within individual departments, and these departments should have the autonomus authority to make any exception(s).

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation:

Change paragraph 2-2.6.2.2 to read "This section should be written around a performance-based physical fitness examination thereby allowing the potential fire fighter a chance to prove or disprove whether or not missing parts of the toes or foot would interfere with satisfactory performance."

Supporting Comment:

"The standard dealing with the fire fighters actual job is all performance based. In performance of this job, there are many fire fighters now employed who are missing parts of either their toe or foot and are still employed. Therefore, rejection on this basis should be based solely on whether or not the individual can perform the actual duties, and the entire section should be based around a performance-based physical fitness section."

Committee Action:

Rejected

Committee Comment:

The committee felt that if there were a loss of extremities, the ruling(s) of the authority having jurisdiction will supersede the standard; that the authority having jurisdiction can take exception to the standard that is felt necessary. The committee, however, must stand by its recommendation that those applying with the loss of extremities shall be eliminated due to the dangerous and highly technical work that a fire fighter would be exposed to. The committee realizes there are many useful functions that a fire fighter could still perform even with the loss of hands or fingers, but these should be weighed on an individual

basis within individual departments, and these departments should have the autonomus authority to make any exception(s).

Submitter:

R.W. Cohrs, Sandia Laboratories

Recommendation: 2-2.8.2 (i)

Delete paragraph 2-2.8.2 (i)

Supporting Comment:

"Peyronie's Disease is not a disease in the usual sense. It is a physically bent penis, and no germ, no bacteria, no contagion is involved. It does not affect urination, It does not affect ability to work. It might affect the sex act only, but even that act is possible."

Committee Action:

Accepted

Committee Comment:

The committee reconulted a medical opinion on subject in response to this comment and agreed with Mr. Cohrs that it was not really necessary that this requirement be included in the standard and it has been eliminated.

Submitter:

C. V. Lovett, Webster, New York

Recommendation: 2-3

"Add additional requirements."

Supporting Comment:

"Climbing stairs, ladder, rope, etc."

Committee Action:

Rejected

Committee Comment:

Having a national cross country-representation on the committee gave the committee a great deal of exposure to the physical fitness test problem as it has been contested in the courts throughout the country. To recommend climbing stairs, ladders, ropes, etc., directly conflicts with what the court tests have been admonishing the fire departments to do in the matter of physical agility. Mr. Lovett will note that the committee itself has recommended considerable change to this section since the Technical Committee Report has been published.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation:

Change section 2-3.1 to read "Must be able to climb the aerial ladder extended 70 feet. Applicant will climb the ladder from the platform to the top, touching the tip of the ladder and proceeding back down the ladder to the platform. This test is to be completed in a continuous climb and descend without any stops or hesitation. The angle of climb for the aerial ladder will be 70 degrees. This test will be followed by a five minute rest. This test is designed to ascertain the absence of acrophobia (fear of heights). Fire fighters are required to perform fire fighting and rescue work above ground level.

Applicant must pull a dry section of hose from the ground to the seventh floor of a drill tower. The rolled section of hose will be attached to a 3/4" manila rope. The section must be pulled to the roof in one continuous motion, hand over hand on the rope, no stops will be allowed. This exercise will be followed by a five minute rest. This test is designed to check the arm and back muscles, stamina of these muscles. This is an actual duplication of action necessary to raise equipment above ground level.

Must be able to pull a charged 2 1/2" nozzle attached (two sections-100 feet). The hose will be lying in a straight line from a hydrant at the beginning of the test. The person being tested will then grasp the nozzle and turn down the line of hose and drag at least one section of hose past the 4 1/2" outlet of the hydrant. This exercise must be accomplished within a one minute time period. This test will be followed by a five minute rest. This test is designed to test general ability to perform a task repeated at every fire when advancing hose lines."

Must be able to carry a 50 foot section of 2 1/2" hose with nozzle (approximate weight 75 pounds) seven floors up, and back down the stairway of the training tower in three minutes. The hose will be folded in a shoulder-fold carry and will be on either shoulder with the nozzle carried in the hand. This test is designed to test leg, back, arm muscles, lungs, and general stamina of the candidate. This test duplicates activities performed at all fire incidents above ground level.

Must be able to run from a standing start 45 feet and scale a six foot wall and then continue running 45 feet. Applicant will then turn around and run back 45 feet and rescale the six foot wall and run to the starting point. More than one attempt at the wall will be acceptable as long as the course is completed within one minute.

This test duplicates fire fighters having to gain access into backyards of residential housing for hose advancement and rescue work."

Supporting Comment:

"The particular basis for recommending the change is that all of these items in this particular section are directly related to

fire ground operations and would be very difficult to challenge as discriminatory in the courts. Trying to defend the standard as is of the 1 1/2 mile run within twelve minutes can be very difficult and time-consuming. There is nothing in that standard even remotely mentioned in fire department related activity. We most confidently feel that the recommendation will test the candidates aerobic ability very close as mentioned in the original standard."

Committee Action:

Rejected

Committee Comment:

The purpose for the 1 1/2 mile run in 12 minutes is not to stimulate fire fighting activities but rather to measure a person's stamina. A very important part of fire fighting is the body's ability to get oxygen into the blood stream, out to the individual cells and back again. The committee was informed by the Iowa State Physical Fitness Department that it takes at least a run of one mile to begin to measure this kind of ability. The physical fitness standards submitted by Mr. Bush are all very well prepared. However, these are the kinds of physical fitness performances that have been thrown down by the courts when challenged by an applicant since they are all related to the actual job but are the things that the fire department should teach men and to be able to do when well trained, but be expected when a person comes in off the street applying for a position. The committee has reworked, quite drastically, the minimum physical fitness requirements and will continue to do so at future committee meetings.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation: 2-3.6

Change paragraph 2-3.6 to read "Change the particular paragraph from "shall lift" to "shall lift or drag" the model.

Supporting Comment:

"In most cases, fire fighters will not be lifting victims and carrying them in such a manner. They more aptly will be dragging victims to points of refuge."

Committee Action:

Rejected

Committee Comment:

The intent of the requirement as written is to give an indication of a person's physical stamina, and it was the feeling of the committee that the candidate should be able to lift and carry rather than lift and drag the weight.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation: 3-3

Add to section 3-3 to read "Fire fighters shall demonstrate their knowledge of the toxicity of fire gases by being able to list three common fire gases found in common fire situations."

Supporting Comment:

"If fire fighters are aware of the affect of toxicity, we eliminate the dangerous "smoke eater" and hopefully make a more operational interior fire fighter."

Committee Action:

Rejected

Committee Comment:

The committee felt the behavioral objectives adequately covered the material desired. These are terminal objectives and all instructional objectives, that were mentioned, could be added as leading to the terminal objectives.

Submitter:

Barry Bush, Fire Service Training, Education & Research Division, State of New Hampshire

Recommendation:

Rewrite paragraph 4-2.2 to read "The fire fighter shall demonstrate forcible entry through any door or window by jimmying, conventional entry, through the lock, and with power tools. He shall also demonstrate a method of opening ceilings, roofs, floors or vertical barrier specified by the authorities as having justification."

Supporting Comment:

"The change that we are recommending here allows for a more modern approach to forcible entry and is the approach now taken by many of the larger fire departments in the country whereby personnel are being trained by forcible entry experts."

Committee Action:

Rejected

Committee Comment:

The committee reviewed the comments and felt the sections were adequate as written.

Submitter:

Austin Buchanan, Medfield, Massachusetts Fire Department

Recommendation:

Add to paragraph 4-4.15 "The fire fighter shall identify the symptoms of traumatic shock."

Add to paragraph 4-4.16 "The fire fighter shall demonstrate how to treat traumatic shock."

Supporting Comment:

Mr. Austin Buchanan submitted a list of references for his supporting comment.

Committee Action:

Accepted

Committee Comment:

The committee incorporated the suggested corrections in both 4-4.15 and 4-4.16.

Submitter:

Austin Buchanan, Medfield, Massachusetts, Fire Department

Recommendation: 4-12.7

Rewrite paragraph 4-12.7 to read "The fire fighter shall demonstrate the proper use of each type of breathing aid apparatus, and shall explain the precautions necessary in the use and maintenance of each."

Supporting Comment:

"Each fire fighter should know the various types of breathing aid equipment carried on the apparatus, its special applications (i.e., compatible with Cardiopulmonary resuscitation) its limitations (i.e., inhalator not a resuscitator) etc."

Committee Action:

Accepted

Committee Comment:

The committee incorporated the recommendation and reworded 4-12.7 and also added an appendix to clarify the objective.

Submitter:

Austin C. Buchanan, Medfield, Massachusetts Fire Department

Recommendation:

Move paragraph 4-12.7 "This item would more properly come under the heading of first aid."

Supporting Comment:

"Use of breathing aid equipment is usually part of the emergency first aid procedures."

Committee Action:

Rejected

Committee Comment:

The committee acted to retain 4-12.7 in the Rescue section. The instructional objectives to reach this objective may be taught at any time, and during a first aid course if so desired. The testing for this objective will be held under the Rescue section.

Submitter:

C. V. Lovett, Webster, New York

Recommendation:

Add to paragraph 4-13.4 "A water systems normal operating pressure-static pressure."

Supporting Comment:

"Refer to NFPA Inspection Manual, p. 285 (3rd Ed. 1970)."

Committee Action:

Rejected

Committee Comment:

The committee rejected the recommendation in an attempt to use modern terminology. There often is no "static" pressure in a water distribution system as some water is always flowing, hence it is the system "normal operating pressure".

Submitter:

C. V. Lovett, Webster, New York

Recommendation:

Add to paragraph 4-14.9 "d. Pre-action sprinkler c. Recycling sprinkler system."

Supporting Comment:

"Refer to page 271 of the NFPA Inspection Manual (3rd Ed. 1970)."

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. Both sprinkler systems suggested are types of dry sprinkler systems.

Submitter:

Eulan G. Tucker, Chief, Toledo, Ohio Fire Department, Kenneth S. Pauken, Deputy Chief, Toledo, Ohio Fire Department

Recommendation:

Add to Chapter 5 "The fire fighter shall demonstrate proper operation over the road of all types of apparatus used in the local fire department."

The fire fighter shall demonstrate pump operation, both at draft and with inlet pressure or head.

The fire fighter shall demonstrate aerial ladder and platform operation, including all uses employed in the local fire department.

The fire fighter shall identify the various first echelon apparatus maintenance procedures employed in the local fire department."

Supporting Comment:

"It is essential that the ability to operate fire apparatus be included in the skill package of a Fire Fighter III.

No justification can be found for creating another distinct category of fire fighting employment, such as "driver" or "pump operator," when the proposed standard for professional qualifications already provides for three levels of progression below the officer ranks.

Obviously, pay rates will be tied to a fire fighters attained level of competence in most fire departments. Three grades of skill/pay for fire fighters, with the highest including competence in equipment operation, is sufficient for good operation of a fire department."

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. There will be a separate standard developed for fire apparatus operation. The committee was charged to develop strictly the minimum skills for the fire fighter with this standard. The committee feels that fire apparatus operation is extremely important and will be dealt with in the appropriate standard.

Submitter:

C. V. Lovett, Webster, New York

Recommendation:

Add to paragraph 5-2.2 d. Pressure - demand air

Supporting Comment:

"This is just another type of protective breathing apparatus on the market that fire departments should be using. Industry has used this type for years."

Committee Action:

Accepted

Committee Comment:

The committee rewrote 5-5.2 as recommended.

Submitter:

C. V. Lovett, Webster, New York

Recommendation:

Change wording in 5-9.3 and 5-9.4 from "alarm test" to "inspector's test valve".

Supporting Comment:

"NFPA No. 13- 3-8.2 (1973)."

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. An alarm test valve and an inspectors test valve are two entirely different valves.

Submitter:

Lon Bellamy, Chief, Bowling Green, Kentucky Fire Department

Recommendation:

Complete section 5-13 "Complete overhaul practices"

Supporting Comment:

"I feel that there has been far too many call backs for rekindled fires in building where fires were assumed to have been extinguished properly and correct overhaul was not made thus causing a greater loss than the original fire."

Committee Action:

Accepted

Committee Comment:

The committee added a section on Overhaul in Fire Fighter II that will give greater coverage to this area through the instructional objectives developed to meet the terminal objective.

Submitter:

C. V. Lovett, Webster, New York

Recommendation:

Add to Appendix B " NFPA after Open Up!, Kimball, 1965, NFPA; List publisher of The New Aerobics, so this book could be ordered if desired; Fire Officer's Guide to Emergency Action, NFPA, 1974."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The entire Appendix B was revised by the committee.

Submitter:

Robert T. Cuff, Jr, Ashton, Maryland

Recommendation: 1-3.1

Add to section 1-3.1 the sentence "Time limits for fitness testing are listed in section 2-3.7". Establish a new paragraph stating a time limit to complete tasks and a stated resting period between tests.

Supporting Comment:

"As pointed out in the standards, care must be taken not to over-exert the applicants. Running this series of tests in 1/2 hour or consecutively without a break between each test may cause over-exertion and injury to the applicant. Lack of a time limit for performance and a specified resting time between tasks allows the testing staff to be too subjective in running tests. The door is left open for charges of discrimination and/or charges of purposely rushing an individual so that he/she will fail the fitness tests. Consultation with physicians and physical education instructors should be helpful in establishing the necessary time frames. The resting period may only be one minute, but I feel that some definite time should be listed in the standard."

Committee Action:

Accepted

Committee Comment:

The Committee agrees with the intent of the recommendation for time limits for the physical fitness exam. Our medical authorities have agreed with the new wording that now appears in Appendix A 2-3 leaving the stated times to the authority having jurisdiction after they have received advice from their medical authorities that would include any local requirements that may exceed this Standard.

Submitter:

Robert T. Cuff, Jr., Ashton, Maryland

Recommendation:

Rewrite 2-3.6 "The candidate, given a model in the shape of a human and weighing 100 lbs., shall pick the model up and carry it 50 feet over flat terrain."

Supporting Comment:

A. Upon consultation with several individuals, one a wrestler and one a weight lifter and construction worker, agreement was reached that the weight was too high for picking up from a floor position for a person of normal strength. The strain of such a lift could easily cause back and/or other injuries. Placing the body in an unnatural position for lifting due to lack of training must also be considered.

B. It is obvious that this stringent requirement is not at all consistent with the other physical fitness tests. Special training is needed to become proficient at picking up such a large amount of dead weight from the floor without injury.

C. There is little need to lift a victim up off the floor in actual fireground situations. Fire fighters are trained to remove victims as quickly as possible from hazardous areas. Dragging victims away certainly accomplishes this goal more quickly and efficiently, as one person could possibly drag two victims out in the same time required to pick one victim up and carry him out.

D. Fire fighters are taught a cardinal rule of search and rescue - always work in pairs. Adhering to this rule as often as is practicable greatly reduces the need for an individual fire fighter to actually pick up and carry a victim without help. Fire fighters should only attempt to carry light to moderate weight victims (children or small adults). Picking up and carrying a victim could cause serious injury to a victim or greatly increase injuries present prior to the rescue attempt. Fire fighters are taught to drag victims along the long axis of the body for safest rescue removal. There is no time during a true rescue attempt under hazardous conditions to examine the victim - we must remove them as rapidly as possible causing as little injury as possible.

E. Fire fighters are taught carries and drags for rescue, with emphasis on using the method that permits the maximum number of rescues to be made per man. Time lost in picking up a victim for rescue is difficult to justify. An injury to a fire fighter due to efforts to pick up a victim is also difficult to justify. An injured fire fighter depletes the list of rescuers by one and adds to the list of those to be rescued, multiplying the problem threefold. The Committee should consult with experts in the Medical, Educational and Fire Service professions to devise another test for 2-3.6, or reduce requirements therein (proposed text). I hope that the tests are to be run without fire fighting equipment on!

Committee Action:

Accepted

Committee Comment:

The committee agrees in part with the recommendation. Our medical authorities have approved 2-3.6 as rewritten. This test is to measure physical strength and the committee was advised to refrain from citing a specific function that should be taught and only the ability to be able to learn and perform it be tested.

Submitter:

Robert T. Cuff, Jr., Ashton, Maryland

Recommendation: 3-9.6

Rewrite the section 3-9.6 "The firefighter shall climb the full length of the highest aerial ladder and ground ladder used in the jurisdiction sponsoring the test, and immediately descend the same ladders. The aerial ladder climb, to be performed first, shall be followed by a three-minute rest period."

Supporting Comment:

"Many of the same reasons for not using the "Carry" in section 2-3.6 are also valid here. In addition, if an "injury" is serious enough, the victim should be placed on a stretcher, checked and treated as much as possible and lowered by aerial ladder or other method, not by carrying. What do you mean bring them down the full length of the ladder? Most times fire fighters work in pairs and assist each other in rescue evolutions. The evolution to be performed in this test needlessly endangers the "victim" and "rescuer". Under emergency conditions fire fighters seem to muster almost super-human strength and accomplish extremely strenuous and dangerous tasks, such as bringing a 250 pound "victim" down a 35 foot ladder unassisted. I would not want to be the "victim" in your ladder rescue test, escorted by a totally untrained and inexperienced "rescuer".

Most of my fireground experience and the comments of fellow fire fighters seem to reinforce my beliefs about Section 3-9.6. Professional advice should be sought in reference to this particular test."

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. This is a terminal objective to be met only after the fire fighter has been thoroughly trained in these rescue techniques. This objective is not an entrance requirement. Certainly, each fire fighter should know how to perform a rescue over a ladder.

Submitter:

Robert T. Cuff, Jr., Ashton, Maryland

Recommendation: 5-7.1

Add the following section after 5-7.1, to be 5-7.2 "The firefighter shall demonstrate an ability to assume command of a firefighting operation in the absence of a fire officer."

Supporting Comment:

"Firefighters do now assume command of fire fighting and rescue operations in the absence of an officer. If we can trust them now to command a rescue operation having direct effect on life (more valuable than worldly goods), certainly their ability to command at a fire deserves mention in 5-7.2."

Committee Action:

Accepted

Committee Comment:

The committee accepts the recommendation. New section 5-1.4 reads: "The fire fighter shall demonstrate assuming command of a fire ground operation in the absence of a fire officer."

Submitter:

Robert T. Cuff, Jr., Ashton, Maryland

Recommendation:

Rewrite section 5-12.1 "The fire fighter shall identify and explain the symbols used to designate broad categories of hazardous materials and storage areas according to the _____ labeling system, and identify the general precautions that fire fighters are expected to observe in such areas". ("broad categories" = oxidizers, acids, radioactive Mtt'ls.).

Supporting Comment:

"The requirement as written is too loose and general. It is impossible to know each and every symbol for chemicals. This should be a requirement, on specific terms, for fire officers. The standard is too general and does not define the source of the test material."

Committee Action:

Accepted

Committee Comment:

The committee agrees with the intent of the recommendation. Specific reference to hazardous marking systems is made in Appendix 5-11.1. The fire fighter should be taught these systems that are found in his area as well as be familiar with other national systems

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

Change paragraph 1-4.10 "Paragraph 1-4.10 should provide the authority having jurisdiction the times necessary to perform the objective. This will keep the standard behaviorly oriented."

Supporting Comment:**Committee Action:**

Rejected

Committee Comment:

The committee rejects the recommendation. Our medical authorities have agreed with the new wording that now appears in Appendix A2-3 leaving the stated times to the authority having jurisdiction after they have received advice from their medical authorities that would include any local requirements that may exceed this Standard.

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

"Paragraph 2-2.7.2 is not clear about the minimum acceptable visual standards. From the way it reads, there is no minimum as long as one eye can be corrected to 20/20 and the other to 20/100."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee agrees with the recommendation and 2-2.7.2. has been rewritten to reflect the opinion of the committee's medical authorities.

Submitter:

Warren E. Isman, Fire/Rescue Training Officer, Montgomery County, Maryland.

Recommendation:

"Paragraph 3-8.2 requires the Firefighter I to attack a live Class B fire. This may prove difficult in certain jurisdictions, particularly because of the air pollution problem."

Supporting Comment:**Committee Action:**

Rejected

Committee Comment:

The committee rejects the recommendation. It is felt that the Appendix A 3-8.2 properly clarifies the behavioral objective.

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

"Paragraph 3-12.4 requires the firefighter to use a life net. I think this may prove to be a difficult evolution to complete."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee agrees with the recommendation and this was the intent of the original 3-12.4. However, 3-12.4 has been rewritten to read: "The fire fighter shall demonstrate the use of the life net used by the authority having jurisdiction."

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

"Several objectives of the Firefighter II class should be moved to the Firefighter I class. The particular evolutions described are needed by the fire fighter immediately after entering the service. I would move paragraph 4.2, Forcible Entry; paragraph 4-3.3, Protective Breathing Apparatus; paragraph 4-7.5, hose lays; paragraph 4-10.2, ventilation; paragraph 4-10.4, windows; and paragraph 4-16.1, chemistry of fire."

Supporting Comment:**Committee Action:****Committee Comment:**

This comment refers to several different sections that are referred to separately below:

4-2 Rejected--Committee voted that this was Fire Fighter II material by the scope of this Standard.

4-3.3 Rejected--Committee voted that this was Fire Fighter II material by the scope of this Standard.

4-7.5 Accepted--Committee voted to move old 4-7.5 to be new 3-7.4.

4-10.2 Rejected--Committee voted that this was Fire Fighter II material by the scope of this Standard.

4-10.4 Accepted--Committee voted to move old 4-10.4 to be new 3-10.3.

4-16.1 Accepted--Committee has added an entirely new section 3-16 covering fire behavior.

The committee also suggests all interested persons review 1-3.2 where it is stated that: "It is not required for the objectives to be mastered in the order they appear. The local or state training program content to prepare individuals to meet their performance objectives of this Standard."

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

"Paragraph 4-8.7 has the firefighter demonstrating a simulated foam stream. I think it is important to require an actual foam stream be used."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee agrees with the recommendation and 4-8.7 has been rewritten to incorporate these requirements.

Submitter:

Warren E. Isman, Captain, Fire/Rescue Training Officer, Montgomery County, Maryland

Recommendation:

"Paragraph 5-2.2 should be moved to the Firefighter I section. A beginning fireman should be able to demonstrate how the various breathing apparatus operates."

Supporting Comment:**Committee Action:**

Rejected

Committee Comment:

The committee rejects the recommendation; however, 5-2.2 was rewritten as follows: "The fire fighter shall demonstrate the principles of operation of the following types of breathing apparatus approved for fire fighting: A. an open circuit demand using compressed air; B. open circuit pressure demand air; C. closed circuit demand air; D. closed circuit chemically generated." (This refers to the ANSI standard Z88.5, 1973.) This, again, can be taught at any level of instruction.

Submitter:

Anthony D. Manno, Supervisor, Fire Service Training Program, State of Kentucky

Recommendation:

Change paragraph 1-3.4 "The term, when hired, specifically refers to those individuals in the paid fire service. I think this should either be changed or amended so as not only paid personnel are spelled out.

Since volunteer fire fighters outnumber paid fire fighters at least two or three to one, I feel this change is necessary for the majority of the others."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee accepts the recommendation and has reworded 1-3.4 to reflect this recommendation.

Submitter:

Anthony D. Manno, Supervisor, Fire Service Training Program, State of Kentucky

Recommendation:

Rewrite paragraph 2-3.1 "I question whether all of the physical fitness requirements demon-

strate exactly what a fire fighter has to do. Specifically in 2-3.6. I am not sure that a fire fighter has to lift a 150 pound human being and carry that person 100 feet in any actual fire fighting circumstance. I think a more precise performance objective would be for a fire fighter to have to move from one point to another covering at least 100 feet, the stated object. All fire fighters might not carry it, some may drag it."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee agrees in part with the recommendation. Our medical authorities have approved 2-3.6 as rewritten. This test is to measure physical strength and the committee was advised to refrain from citing a specific function that should be taught and only the ability to be able to learn and perform it be tested.

Submitter:

Anthony D. Manno, Supervisor, Fire Service Training Program, State of Kentucky

Recommendation:

Rewrite paragraph 2-3.2 "Is a standing board jump or a running board jump more indicative of actual fire ground conditions? I personally feel a running board jump has more reality."

Supporting Comment:**Committee Action:**

Accepted

Committee Comment:

The committee agrees and 2-3.2 has been eliminated entirely.

Submitter:

Anthony D. Manno, Supervisor, Fire Service Training Program, State of Kentucky.

Recommendation:

"Throughout the text of the Standard, the phrase 'by the authority for jurisdiction' is used repeatedly. I believe that the scope of this standard was to develop a national performance based requirement for fire fighters. The utilization of such terminology as mentioned above will only produce a thousand different standards because there are at least that many authorities having jurisdiction. I believe this is a serious problem for both the

committee, the Professional Qualifications Board, and NFPA must address itself too.

The Standard is not a standard. The Standard will not produce mobility within the fire service. However, it may increase the chances of this being achieved."

Supporting Comment:

Committee Action:

Rejected

Committee Comment:

The committee and the Professional Qualifications Board gave this a great deal of consideration. The preface to the Standard by the Professional Qualifications Board may help in clarifying the philosophy of the system.

Submitter:

Anthony D. Manno, Supervisor, Fire Service Training Program, State of Kentucky

Recommendation:

Add to Appendix B "The only referenced publications for training of fire fighters in this standard are the various Oklahoma publications, a few NFPA publications and standards, and some material from the International Association of Fire Fighters. I believe that the list of referenced publications is somewhat too narrow for national useage. Although I am fully cognizant of the problem with finding out what training materials are available, I do not think the standard should specifically list only these without acknowledging the existence of other material in the field. I am sure that the various authorities having jurisdiction will find other materials than those referenced in the standard."

Supporting Comment:

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. The appendix was never intended to be a list of training publications for national use. The list is of those books used by the committee. Mr. Manno also did not offer any suggestions for inclusion in the list.

Since the following comments were received as letters and not in the format provided by the Association, the content of the letters that is relevant to recommended changes is reproduced.

Submitter:

Frederick S. Caldwell, M.D.

Recommendation:

A. "The visual requirements listed on page 33, paragraph 2-2.7.2 (b) indicate that uncorrected distant visual acuity of any degree is acceptable providing that it corrects to 20/20 in one eye and 20/100 in the other eye within 8 diopters of plus or minus refractive error.

The current County medical standards for fire-fighters require an uncorrected visual acuity of 20/40 in each eye, corrected to 20/20 in each eye by appropriate safety glasses. There is obviously a great difference between these two sets of requirements, and I feel that the requirements as listed in Technical Committee Reports are far too lax for the safety of firefighters and the general public.

B. According to Technical Committee Reports, hearing of 20 decibel loss (up to 25 decibel loss), both ears together, is acceptable assuming that the better ear has no more than 15 decibel loss, with no requirement whatsoever on the worse ear. As you know, County standards require hearing of 25 decibel loss or less in each ear measured separately. Here again, our standards are based primarily upon the same safety standards mentioned above in the discussion under vision. The primary problem here, of course, is with respect to operating motor vehicles and motorized equipment, where adequate hearing in both ears is essential to operate such equipment safely. Additionally, there is the problem of hearing with respect to firefighters in burning buildings, where inadequate hearing in one ear can lead to the inability to localize sounds properly, or failure to hear instructions from other firefighters and supervisors who might happen to be on the side where the bad ear is. Here, again, I believe that the County standard requiring essentially normal hearing in each ear measured separately are far more valid and should be continued as presently stated.

C. The medical standards under Technical Committee Reports make no reference whatsoever to height or weight standards, the assumption being that none have been adopted or are required.

Lengthly discussions can be made regarding the pros and cons of height and weight standards, but I will try to make a few comments suffice for the sake of brevity. As you may be aware, Mr. Jones and I visited the Fire Training Academy on two occasions, and watched training procedures for firefighters as demonstrated at that location. This was a very interesting, rewarding, and educational experience, and pointed out to me in great depth the tremendous physical ability and agility required of firefighters in order to perform their duties with safety to themselves and their fellow workers as well as the general public. Much of the work involved required strenuous physical exertion, such as could not even reasonably be expected of persons who are small in height or stature, of limited muscular strength or ability, or who are markedly overweight with respect to their height and frame."

Supporting Comment:

See Recommendation

Committee Action:**Committee Comment:**

A. The committee agrees with the intent of the recommendation and 2-2.7.2 has been rewritten to reflect the opinion of the committee's medical authorities. The person submitting the recommendation did not give any proposed text.

B. The committee agrees with the intent of the recommendation and 2-2.4.2 has been rewritten to reflect the opinion of the committee's medical authorities. Again, the person submitting this recommendation did not propose any revised test or text.

C. The committee rejects the recommendation. The physical fitness requirements were developed and reviewed by medical doctors who advised that they should cover height/weight problems.

Specific references to height/weight requirements have been rendered invalid by court rulings.

Submitter:

Chief Keith Fairfax, Bay District Volunteer Fire Department

Recommendation:

"We have reviewed the proposed Fire Service Professional Standards for Fire Fighters (1001) and offer the following comments.

The medical standards contained in section 2-2 are extremely high standards and entirely too rigorous. We suggest that the physical examination required by the armed services is sufficient with the exception of minor handicaps which must be reviewed by a fire department committee to determine its impact on the candidates performance as a fire fighter. We believe that the High/Supreme Court could strike down these rigorous medical standards. The motivation and attitude of a candidate must also be examined.

The physical standards and associated physical fitness test must be required of a candidate. However, we feel that the physical fitness test should be given annually to fighters up to age 40 years. We believe that the minimum age of 18 and the education requirements are a must for the paid fire departments. However, we have had very good success with the 16 and 17 year old junior firemen in the volunteer service. In fact, the majority of the long term volunteer firemen come from the junior firemen ranks. Think this age requirement over very carefully for volunteer fire departments.

We have found the fire fighter 1, 2, and 3 requirements to be practical and can be met with the training programs in the State of Maryland.

In conclusion we believe that a highly motivated physically fit, and educated fireman is all important and less emphasis should be placed on medical standards."

Supporting Comment:

See Recommendation

Committee Action:

Rejected

Committee Comment:

The committee rejects the recommendation. Whereas this is a national Standard, the committee felt the minimum age should be maintained at 18. Younger individuals may not be suitable to many fire departments. This does not prohibit a department from having younger individuals as fire fighters but the minimum age, 18, will hold for this Standard.

Our medical authorities have advised the committee that medical standards are correct and defensible in court.

Submitter:

Carl E. McCoy, Executive Director, Illinois Fire Commission

Recommendation:

"Thirteen subject areas which should be required for all levels of fire fighter training and certification have been either entirely omitted or too briefly introduced.

See attached annual report, Certified Fire Fighter, Certified Advanced Fire Fighter course outlines enclosed and sample of unit training package which specifically defines performance standards or behavioral objectives.

Illinois has implemented this entire course in approximately 100 fire departments with a total population of approximately 10,000. The level identified as required for fire fighter I, II, III in many instances will not qualify a person for certification even at the lowest level in the State of Illinois."

Supporting Comment:

See Recommendation

Committee Action:

Rejected

Committee Comment:

Mr. McCoy's comments were reviewed carefully by the committee and Professional Qualifications Board and although the basic intent of his comment is to drop this Standard in favor of another is rejected, some very good specifics were incorporated into various parts of the Standard. This Standard is a minimum standard and this does not restrict any jurisdiction from exceeding these requirements.

Submitter:

Joseph M. McDonagh, Seabrook, Maryland

Recommendation:

"It seems to me that the three categories of Fire Fighter bear no relationship to what actually happens or would be if you had ideal training and education. This applies to both Paid and Volunteer personnel. A Paid person should be a Fire Fighter III to ride the back step. A Volunteer should have certain minimum training before he rides the back step. However, there is no relationship between the two. The Paid person should get the training to become a III in recruit school. Thus there is no real reason to have a break down for him, at least the way it is written now. For the Volunteer it might work out ok with some revision in the requirements.

There are gross vacuums of information lacking in the three categories.

- a. Nothing on Protective Clothing - or is this treated so casually by the writers because they don't believe in the protection it should offer. After all, look at our injury rate.
- b. Search Patterns (unless this is assumed to be part of Rescue. If it is, I disagree.)
- c. Chemistry of Fire?
- d. What is a "Constant Air Flow" Breathing Apparatus? I have asked all of the manufacturers and they don't know either.
- e. "...used by the authority having jurisdiction" is a phrase used throughout the standard. But if that authority used less than adequate equipment, the standard has no meaning.

My final comment has to do with the "Appendix B, Referenced Publications". If this means publications used to develop the standard, ok. But if it means publications a fire fighter should use in studying for passing the standard, it is a little biased. All acceptable training manuals should get equal billing. It looks to me as if it is a sales gimmick for IFSTA and NFPA. What is an acceptable training manual?"

Supporting Comment:

See Recommendation

Committee Action:**Committee Comment:**

Mr. McDonagh's comments were reviewed. Many items were covered by either committee action or by other public comments. Mr. McDonagh did not offer any proposed text or substantiation for his comments, and since his comments were not referenced to any paragraph by number the committee has not taken specific action on the comments.

Submitter:

Charles J. Wright, Senior Instructor,
University of Maryland.

Recommendation:

"I am pleased to see the NFPA's interest and effort in an attempt to standardize Fire Fighter Professional Qualifications (NFPA 1001). It has been evident that this type of standardization is critical to having a professional fire service, both career and volunteer. The Europeans have made this standardization work extremely well for many years.

Although I am happy to see the effort expended, I am a bit disturbed at the content of this effort. On page FFQ-1, I see at least eight people on the membership roles of this committee from Oklahoma State University/International Fire Service Training Association. I am certain, with the magnitude of the fire service in this country, that a wider representation of membership could be found.

This group constitutes a membership with a vested interest (their own publications).

This vested interest is indicated further at the end of the publication (page 1001-61) where the Referenced Publications are listed. Many fine publications are not listed here; only those of the membership with vested interest (i.e., IFSTA, NFPA). This portion of the publication will be accepted widely as the "approved list of publications" from whence the standards come. I think that all relevant publications should be referenced.

There are some 2,000,000 volunteer fire fighters in this country who need some standardization as well as 200,000 career fire fighters. This standard should include all fire fighters, but with sentences like "When hired, the individual..." (1-3.4). I realize that this is written for the "fire fighter", but how many volunteers will be turned off by the insinuations?

I feel that a national standard is one which spells out how skills and evolutions should be done on a national basis - to insure that all skills are done the same everywhere - and then be evaluated on performance of these skills. The thought behind this is (1) uniformity, and (2) mobility - the ability to perform anywhere in the country. I feel that this standard does not standardize when the process and procedures are left up to the authority having jurisdiction. One way of accomplishing the desired skills should be spelled out in this publication. The behavioral objectives here are not specific enough - they do not completely communicate intent.

Subject material is not inclusive of areas which should be covered such as:

1. Protective clothing
2. Overhaul
3. Structural fire fighting activities

There is a definite lack of evaluation areas on the different levels. Also, the sequence leaves a

great deal to be desired (for example, see list of protective equipment behavioral objectives attached). These are all considered by Maryland as level one for the fire fighter.

By doing task analysis activities, a determination in many cases should be made as to the most efficient and effective method for doing certain tasks, so that items like 3-7.8 are not in the standard. Item 3-7.8 should read "shall demonstrate the proper means of carrying hose as prescribed by the NFPA (or other organization listed as the standard)". There is only one most efficient method, so why ask a person to know many - for this does not lead to standardization. Maybe this behooves us to do some task analysis to determine these unknowns.

I, therefore, do not feel that tentative standard NFPA 1001 is acceptable as a national standard until the following have been accomplished:

1. The membership of the committee is more fairly and equally divided amongst the total fire service.
2. The Referenced Publications list is broadened to include other valid fire service publications or is deleted.
3. The publication is written to include the 2,000,000 volunteers as well as the 200,00 career fire fighters in the standards.
4. Standards be spelled out by a national group as to exactly what is expected - not two or three methods, and not authority having jurisdiction.
5. Subject material should be more inclusive especially in areas of protective equipment, overhaul, fire behavior, and structural fire fighting.
6. Material must spell out different tasks more completely.
7. Task analysis should be made to come up with one standard method of accomplishing tasks.

Supporting Comment:

See Recommendation

Committee Action:

Committee Comment:

The specific section comments were treated by the committee as follows:

- 1-3.4 Accepted and rewritten
- 3-7.8 Rejected - The local authority will determine what hose rolls are used in the area and will be taught.

Authority having jurisdiction - The committee and the Professional Qualifications Board gave this a great deal of consideration. The preface to the Standard by the Professional Qualifications Board may help in clarifying the philosophy of the system.

Sub-committee members - The five individuals listed from Oklahoma were students at Oklahoma State University in the fire protection program. They come from all parts of the country and all have fire service backgrounds. They are NON-VOTING members who volunteered their free time to help compile the volumes of material that made this Standard possible.

Mr. Wright did not give recommended revision for Appendix B. The listing of publications is those that were primarily used by the committee. The intent of the committee is to give terminal objectives that any reputable training material could be used for the instructional purpose. Many comments are subjective in nature and don't apply to any one specific point of the Standard. They were all reviewed by the committee. He did not key his particular comments to particular objectives, but they were relative enough to cause a rewrite 4-3.1; redefinition of types of breathing apparatus was added with reference to the American National Standard Institute Standard Z88.5, and a new 3-3.6 was added. Many of the other items referred to are teaching steps in order to reach the terminal objectives of the Standard. Again, we would point out that the Standards are minimum and they may be exceeded by any jurisdiction.

Submitter:

Joseph R. Granados, International Association of Fire Fighters

Recommendation:

"I suggest that the following modifications to proposed NFPA Standard 1001 be submitted:

Amend:

A 3-5.4 The firefighter, using an approved knot, shall hoist any selected hose, ladder, tool, or appliance to a height of at least 20 feet.

B 4-15.1 The firefighter shall identify and demonstrate a knowledge of areas assigned for first alarm response including streets, alarm boundaries, and buildings of special interest.

Add the following to sections indicated:

C 3-6 The firefighter shall identify and describe the Fire Department's responsibility in the area of salvage.

D 3-6 The firefighter, given an approved Fire Department vehicle shall demonstrate driving and operating each vehicle.

E 3-7 The firefighter shall demonstrate the methods of carrying hose into a building to be lowered or connected to a standpipe as specified by the authority having jurisdiction.

F 3-7 The firefighter shall demonstrate the methods for extending a hose line or replacing a burst section as specified by the authority having jurisdiction.

G 3-15 The firefighter shall demonstrate the correct use of all safety equipment to be used in electrical emergencies as prescribed by the authority having jurisdiction.

H 3-15 The firefighter shall identify and explain the use of all safety clothing and equipment used in firefighting as prescribed by the authority having jurisdiction.

I 4-7 The firefighter, given the necessary equipment and operating as an individual and as a member of a team, shall demonstrate the method of working from a ladder with charged attack lines of two different sizes, both of which shall be 1 1/2 inch or larger, from a pumper.

J 4-9 The firefighter shall demonstrate the methods of working from portable or aerial ladders with tools and appliances with and without a life belt as specified by the authority having jurisdiction.

K 5-1 The firefighter shall identify and demonstrate knowledge of the 3 methods of heat transfer.

L 5-12 The firefighter shall identify and explain the symbols used to designate radioactive materials and areas, and identify precautions that firefighters are expected to observe and follow in such areas.

Consider the following sections for deletion:

M 5-5.1 Demonstrate a national accepted annual service test for ground ladders.

N 5-6.9 Demonstrate a private water system-----

P 5-6.12 Identify areas of responsibility of other municipal and state inspection agencies-----."

Supporting Comment:

See Recommendation

Committee Action:

Committee Comment:

- 81A The committee accepted the recommendation and has rewritten 3-5.4.
- 81B The committee rejects the recommendation as this is a teaching objective for 4-15.1 and all terms mentioned can be taught under the present 4-15.1.
- 81C The committee rejects the recommendation as it is covered in the present 3-6.1.
- 81D The committee rejects the recommendation as this is not material to be covered in this Standard. It will be covered, as previously explained, as a speciality area. This is a minimum Standard and there is nothing to prohibit any jurisdiction from exceeding the Standard.

- 81E The committee accepts the recommendation and has adopted the comment as new 3-7.13.
- 81F The committee accepts the recommendation and has adopted the comment as new 3-7.14.
- 81G The committee agrees with the recommendation and has adopted the comment as new 3-15.4.
- 81H The committee agrees with the recommendation and had already added a new 3-15.3 to the Standard before this comment was received. It is felt that the new 3-15.3 covers this comment satisfactorily.
- 81I The committee accepts the recommendation and has adopted the comment as new 3-7.12.
- 81J The committee accepts the recommendation and has adopted the comment as new 3-9.7.
- 81K The committee accepts the recommendation change and has included it in the new 3-16.1 under the heading of Fire Behavior.
- 81L The committee feels that the present 5.11.1 covers the subject area adequately as radioactive materials are considered hazardous materials.
- 81M The committee rejected the recommendation as there was no reasons given by the submitter as to why this should be deleted.
- 81N The committee rejected the recommendation as there was no reasons given by the submitter as to why this should be deleted.
- 81P The committee rejected the recommendation as there was no reasons given by the submitter as to why this should be deleted.

In addition to the public comments received, the committee also revised the following paragraphs.

These changes are indicated by a double rule in the margin of the reprinted Standard contained herein.

- 1-1
1-2
1-3.1
1-3.2
1-3.3
1-3.5
1-3.6
1-4.2
1-4.7 was deleted subsequent paragraphs were re-numbered
1-4.12
1-4.13
2-1.3
2-1.4
2-2
2-2.1(M)

Table 2-2.4.2 was deleted

2-2.6.2.3(A) (2)

2-2.6.3(D) (3)

2-2.7.1.5(A)

2-2.7.1.9(B)

2-2.8.1(M)

2-2.8.1(M) (1) was deleted subsequent sub-paragraphs were renumbered

2-2.8.1(M) (3) was deleted subsequent sub-paragraphs were renumbered

2-2.8.2(G) (1) was deleted subsequent sub-paragraphs were renumbered

2-2.8.2(H) was deleted subsequent paragraphs were renumbered

2-2.8.2(I) was deleted subsequent paragraphs were renumbered

2-2.9.1(B)

2-2.9.1(D) was deleted subsequent paragraphs were renumbered

2-2.11.1(C)

2-2.11.1(J)

2-2.11.3(I)

2-2.12.3(A)

2-2.13.1(B)

2-2.13.2(C)

2-2.13.4

2-2.14(Y)

2-2.15.1(B)

2-2.15.1(C) (3) was deleted subsequent sub-paragraphs were renumbered

2-2.15.1(F)

2-2.16.2(C)

2-2.16.2(H)

2-3.2

2-3.3

2-3.4

2-3.5

2-3.7

3-2.1

3-2.2

3-3.2

3-3.3

3-3.4

3-3.5

3-7.2

3-7.4 was added subsequent paragraphs were renumbered

3-8.4

3-9.2

new 3-9.7 was added subsequent paragraphs were renumbered

3-9.8

3-10.1

3-10.3

new 3-10.3 was added subsequent paragraphs were renumbered

3-10.4

3-10.6

3-13.3

3-13.4

3-14.3

4-3.2

4-4.1

4-4.2

4-4.6

4-4.7

4-4.12

4-4.14

4-5.1

4-6.3

4-7.1

4-7.5 was deleted

4-8.2

4-10.4 was deleted subsequent paragraphs were renumbered

4-12.6

4-13.1

4-13.2

4-13.4

4-13.5

4-13.6

4-14.7

new section 4-17 was added

new section 4-18 was added

5-1.3

new paragraphs 5-1.4 was added

5-2.1

5-6.10

5-7.1

5-8.1

section 5-11 was renumbered as section 5-10, due to numbering error in the Technical Committee Reports subsequent sections were renumbered

A2-1

A2-1.1

new Appendix A2-3 was added

A2-3.1

A2-3.2

A2-3.6

A2-3.7

new Appendix A2-3.7 was added

A3-1.1

A3-2.1

A3-3.4

new Appendix A3-3.4 was added

A3-3.4

A3-4.7

A3-7.1

A3-8.2

A3-9.4

new Appendix A3-9.4 was added

A3-10.3

A4-2.1

A4-3.1

new Appendix A4-3.1 was added

A4-4.3

A4-11.4

A4-12.7

new Appendix A4-12.7 was added

A4-13.1

A4-13.5

new Appendix A4-13.5 was added

A4-14.10

new Appendix A4-13.5 was added

A4-16 was deleted

A5-3.1

A5-5.1

A5-6.6

new Appendix A5-11.1 was added

The entire Appendix B was revised

NATIONAL PROFESSIONAL QUALIFICATIONS SYSTEM
established by the
Joint Council of National Fire Service Organizations

Constituent Members of the
Joint Council of National Fire
Service Organizations

Fire Marshals Association of North America
International Association of Arson Investigators
* International Association of Black Professional Fire Fighters
International Association of Fire Chiefs
International Association of Fire Fighters
International Fire Service Training Association
International Municipal Signal Association
International Society of Fire Service Instructors
Metropolitan Committee of International Association
of Fire Chiefs
National Fire Protection Association

* Became member August 1, 1974

An important step in the establishment of national standards of professional competence for the fire service was taken by the Joint Council of Fire Service Organizations on October 25, 1972.

The Joint Council consists of leaders of the principal national organizations representing the Fire Service of the United States. It meets periodically to review current developments and to establish areas of common interest where cooperative efforts of member organizations can be used for maximum results.

The Council decided that one area of common interest in which national collective action was desirable was in the establishment of standards upon which the levels of competency within the fire service could be determined.

A committee of the Council was delegated the responsibility of preparing an acceptable system for the development of the standards. Following several months of work, during which the suggestions of constituent organizations were incorporated, the Committee submitted the final proposal to the Joint Council and the following system was approved and established:

1. Committees to develop standards of professional competency, made up of peer group representation; and
2. An independent Board to oversee and validate standards developed and the implementation of such standards in a nationally coordinated continuing professional development program for the Fire Service.

The Secretariat for Committees and Board is to be provided by the staff of NFPA.

1. FIRE SERVICE PROFESSIONAL STANDARDS DEVELOPMENT COMMITTEES

There are four committees, each of which is made up of representatives of organizations which are constituent members of the Joint Council and certain other persons nominated by the Joint Council, collectively.

The four committees are respectively responsible for the development and preparation of recommended minimum standards of professional competence required of:

1. Fire Fighters
2. Fire Inspectors and Investigators
3. Fire Service Instructors
4. Fire Service Officers

Each committee is established and operated under NFPA Standards making procedures with one important variation, which is that no draft standard shall be submitted to NFPA for final adoption until it has been approved by the National Professional Qualifications Board for the Fire Service.

Standards are prepared for use after final adoption as a basis for nationally standardized examinations by authorized agencies and the standards are available for adoption by federal, State and local authorities.

Committees do not determine, or become involved in, actual certification procedures or the direct implementation of the Standards;

they do assist implementing agencies by a continuing review and revision of the Standards.

The balance of representation on each committee is as follows:

1. Fire Fighters Qualifications Committee

International Association of Fire Chiefs	-2 persons
International Association of Fire Fighers	-2 persons
Internatioanl Fire Service Training Association	-2 persons
International Society of Fire Service Instructors	-2 persons
National Fire Protection Association	-2 persons
Joint Council of National Fire Service Organizations	-3 persons

2. Fire Inspectors and Investigator Qualifications Committee

Fire Marshals Association of North America	-2 persons
International Association of Arson Investigators	-2 persons
International Association of Fire Chiefs	-2 persons
International Association of Fire Fighters	-2 persons
National Fire Protection Association	-2 persons
Joint Council of National Fire Service Organizations	-3 persons

3. Fire Service Instructors Qualifications Committee

International Association of Fire Chiefs	-2 persons
International Association of Fire Fighters	-2 persons
International Fire Service Training Association	-2 persons
International Society of Fire Service Instructors	-2 persons
National Fire Protection Association	-2 persons
Joint Council of National Fire Service Organizations	-3 persons

4. Fire Service Officers Qualifications Committee

Fire Marshals Association of North America	-2 persons
International Association of Fire Chiefs	-2 persons
International Association of Fire Fighters	-2 persons
International Fire Administration Institute	-2 persons
Metropolitan Committee of International Association of Fire Chiefs	-2 persons
National Fire Protection Association	-2 persons
Joint Council of National Fire Service Organizations	-3 persons

CURRENT COMPOSITION OF THE BOARD

2. NATIONAL PROFESSIONAL QUALIFICATIONS BOARD for THE FIRE SERVICE

A nine person Board appointed by the Joint Council to act on behalf of the Council in the following duties and responsibilities:

(i) The Board is constituted to supervise a nationally coordinated continuing professional development program for the Fire Service.

(ii) The Board shall be responsive to the needs and opinions of all groups involved with the Fire Service and of others, including individuals who have related interests.

(iii) It shall identify and define levels of professional progression.

(iv) It shall correlate, review and validate draft standards prepared by the Technical Committees established to produce professional standards for each level of fire service responsibility.

(v) It shall approve all draft standards before such are submitted for final adoption procedures.

(vi) It shall be responsible for the accreditation and supervision of any national programs of certification and shall coordinate with implementing agencies to ensure validity and reliability of the evaluation criteria used in connection with such programs.

Chairman
(1972-74)

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STATEMENT BY THE BOARD AS TO
THE APPLICABILITY OF STANDARDS
DEVELOPED UNDER THE SYSTEM

It is not the intent of the Board that these standards shall have the effect of rendering invalid any rank, qualification and appointment acquired prior to the adoption of this standard; and the authority having jurisdiction should establish reciprocity of such ranks, qualifications and appointments with the various levels provided in the standards.

Those existing systems of qualifications which meet or exceed these minimum standards should continue in force.

It is the intent, however, that existing systems of qualification which fail to meet these standards be discontinued after adoption of the standard, so that all persons acquiring qualification, thereafter, do so in accordance with this standard.

The Board recognizes that, at present, wide variations exist in the standards of competence required of members of the fire service; and that due to geographic considerations and the differing requirements of the many organizations providing fire protection, higher levels of competence than those provided in the Standards produced under the National System may be desirable in certain areas.

The Board, therefore, directed all committees to develop standards in terms of terminal performance objectives, which are considered the minimum necessary for a person to be considered competent to engage in providing fire service at the respective level and in the role specified by the standard, no matter where

that person is serving.

The Board considers it essential that all members of the fire service eventually achieve the minimum standards.

The Standards are designed so that any member of the service can achieve the level required by various means; these include participation in State and local training programs, self study, attendance at colleges offering suitable courses, and by combinations of these means.

The Standards are the first step: there must also be a controlled testing procedure by which personnel can be officially certified when they have demonstrated their competency. The Board stresses that such testing procedures are essential to a meaningful program of professionalism and, accordingly, is prepared, in conformance with the directions of the Joint Council of National Fire Service Organizations, to review the validity and quality of testing procedures established by State and local authorities, and to accredit such procedures.

The Board strongly recommends that certification procedures be established on a statewide basis in every state where no such system exists at present, and that every fire department participate in the program.

The establishment of Standards and testing procedures will not, in themselves, ensure that all personnel will achieve the required levels of competency. It follows that training programs should be developed to prepare members of the fire service to acquire the skills and knowledge necessary to achieve the terminal performance objectives of the Standards.

In this connection, it is pointed out that the statement of performance objectives contained in the Standards is not a training program outline. A number of instructional steps are required for mastery of an objective. Teaching outlines will be more detailed and extensive, as a single objective can require many hours of instruction and may interrelate to instruction for other objectives.

Throughout the Standards, levels of numerical ascending sequence have been used to denote increasing degrees of responsibility: e.g. Fire Fighter I, II, III, the lowest or basic level being I. A similar sequence will be used in each Standard; the total number of levels varying in accordance with the number of steps involved in the individual standard.

APPRENTICESHIP PROGRAMS

Standard No. 1001, Fire Fighters Professional Qualifications, is recommended for use in apprenticeship programs for fire fighters as certified by the United States Department of Labor. Accreditation and supervision of such programs, as well as certification, shall be coordinated with the Joint Council on Apprenticeship Standards and the National Professional Qualifications Board for the Fire Service, in order to ensure the validity and reliability of the evaluation criteria used in connection with such programs.

APPROVAL OF STANDARD

The final draft of NFPA Standard No. 1001, Fire Fighter Professional Qualifications, was approved by the National Professional Qualifications Board for the Fire Service on the 9th day of August, 1974, with the recommendation that it be submitted for adoption at the NFPA Fall meeting to be held in Seattle, Washington in November, 1974.

(The foregoing is not part of the Standard)

FIRE FIGHTER
PROFESSIONAL QUALIFICATIONS
STANDARD
NFPA NO. 1001
1974

Professional Qualification Standards for Fire Fighters

NFPA No. 1001 - 1974

This is the first edition of the Fire Fighter Professional Qualifications Standard. It was adopted by the National Fire Protection Association on November 20, 1974 at the Fall Fire Conference, on recommendation of the Professional Qualification Standards for Fire Fighters Committee.

COMMITTEE ON FIRE SERVICE PROFESSIONAL
STANDARDS DEVELOPMENT FOR FIRE FIGHTER QUALIFICATIONS

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C. L. Nimmerfroth, International Association of Fire Chiefs	Harold Thompson, International Society of Fire Service Instructors
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ORIGIN AND DEVELOPMENT

Sub-Committee Members

(Sub-Committee Members are Non-Voting Members)

Work on this edition of the Fire Fighter Professional Qualifications Standard was greatly aided by a Sub-Committee that assisted in developing much of the basic material for the detailed consideration of the Fire Fighter Professional Qualifications Committee. These Sub-Committee members have a non-voting status, and there follows a listing of the persons who served on the Sub-Committee.

Wesley Beitzl
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Stillwater, Oklahoma

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Fire Service Training
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Stillwater, Oklahoma

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Illinois Commission on Fire Prot.
Personnel and Education Standards
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William Mecum
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South Bend, Indiana

Jim Weigle
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On December 14, 1972 the National Professional Qualifications Board for the Fire Service directed the chairman of four technical committees to develop minimum standards for each of the following areas: fire fighter, fire instructor, fire investigator and inspector, and fire officer.

In compliance with this movement, the Fire Service Professional Development Committee for Fire Fighter Qualifications met in several general sessions during 1973 and 1974. Vast amounts of material related to the fire fighting profession were reviewed and discussed. The committee concluded that the area of fire fighter standards relates to: (1) the fire fighter, (2) the airport fire fighter, (3) the driver/operator (engineer), (4) the emergency medical technician, (5) the alarm operator, (6) the master mechanic. At this point the committee digressed from levels within six areas only to develop minimum measurable performance standards in each category.

The intent of the committee was to develop performance standards in such a clear and concise manner that they can be used to determine, without doubt, that any person so measured does truly possess the skills to be a fire fighter. The committee further contends that these performance objectives can be used in any fire department in any city, town or private organization throughout the North American Continent. To this end, the committee has recommended basic disciplinary areas of study for the fire fighter and areas that will lead to advancement into other areas of the fire services.

CHAPTER 1 ADMINISTRATION

1-1 Scope: This Standard identifies the professional levels of competence required of fire department members.

It specifically covers the requirements for entrance into the fire department, and the first three levels of progression thereafter.

1-2 Purpose: The purpose of this Standard is to specify, in terms of performance objectives, the minimum requirements of professional competence required for service as a fire fighter.

It is not the intent of this Standard to restrict any jurisdiction from exceeding these minimum requirements.

This Standard shall cover the entrance requirements, and the requirements for the subsequent three levels of progression, i.e., Fire Fighter I, Fire Fighter II, and Fire Fighter III.

1-3 General

1-3.1 All of the performance standards for any level of fire fighter shall meet the following criteria: It shall be performed swiftly, safely, and with competence. Each objective shall be met in its entirety.

1-3.2 It is not required for the objectives to be mastered in the order they appear. The local or state training program shall establish the instructional priority, and the training program content to prepare individuals to meet the performance objectives of this Standard.

1-3.3 Performance of objectives for qualification covered by this Standard shall be evaluated by three approved individuals from the fire service, one of whom may be from the state or regional fire service training agency.

1-3.4 When appointed to the fire department after fulfilling the entrance requirements of Chapter 2 of this Standard, the individual may be called a fire fighter. The fire fighter shall meet all of the objectives for Fire Fighter I before being certified at that level, and before applying for qualification at the next higher level.

1-3.5 The Fire Fighter I shall meet all of the objectives for Fire Fighter II before being certified at that level, and before applying for qualification at the next higher level.

1-3.6 The Fire Fighter II shall meet all of the objectives for Fire Fighter III before being certified at that level, and before applying for qualification at the next higher level.

1-4 Definitions

(See also the Official NFPA Definitions inside front cover.)

1-4.1 Candidate: The person who has made application to become a fire fighter.

1-4.2 Fire Fighter: The member of a fire department who has fulfilled the entrance requirements of Chapter 2 of this Standard, but has not met the objectives for Fire Fighter I.

1-4.3 Fire Fighter I: The fire fighter, at the first level of progression in the fire department, who has demonstrated the knowledge of, and the ability to perform the objectives specified in this Standard for that level; and who works under direct supervision.

1-4.4 Fire Fighter II: The fire fighter at the second level of progression in the fire department, who has demonstrated the knowledge of, and the ability to perform the objectives specified in this Standard for that level; and who works under minimum direct supervision.

1-4.5 Fire Fighter III: The fire fighter at the third level of progression in the fire department, who has demonstrated the knowledge of, and the ability to perform the objectives specified in this Standard; and who works under minimum supervision, but under orders.

1-4.6 Fire Department: The agency that provides both fire suppression and fire prevention services to a state, county, municipality, or organized fire district.

1-4.7 Safely: To perform the objective without injury to self or to others.

1-4.8 With Competence: Possessing knowledge, skills, and judgment needed to perform indicated objective satisfactorily.

1-4.9 Swiftly: The time, as determined by the authority having jurisdiction, it takes an approved fire fighter to perform the objective satisfactorily.

1-4.10 Demonstrate: To show by actual use, illustration, simulation, or explanation.

1-4.11 Identify: To physically select, indicate, or explain verbally or in writing, using standard terms recognized by the fire service.

1-4.12 Objective: Observeable or measurable demonstration of a skill, knowledge, or both.

1-4.13 Qualification: Having satisfactorily completed the requirements of the objectives.

Chapter 2 Entrance Requirements

2-1 General

- ★ 2-1.1 The candidate shall have a high school diploma or a state recognized equivalent.
- ★ 2-1.2 The candidate shall be at least 18 years of age.
- ★ 2-1.3 The candidate shall pass the medical and physical fitness requirements included in Chapter 2.
- ★ 2-1.4 There shall be a thorough investigation and evaluation of the candidate's character before the candidate is accepted into the fire department.

2-2 MEDICAL REQUIREMENTS FOR FIRE DEPARTMENT CANDIDATES

The candidate shall be rejected when the medical examination reveals any of the following conditions: ||

2-2.1 ABDOMINAL ORGANS AND GASTROINTESTINAL SYSTEM

The causes for rejection for appointment shall be:

- A. Cholecystectomy, sequelae of, such as postoperative stricture of common bile duct, reforming of stones in hepatic or common bile ducts, or incisional hernia, or post-cholecystectomy syndrome when symptoms are so severe as to interfere with normal performance of duty.
- B. Cholecystitis, acute or chronic, with or without cholelithiasis, if diagnosis is confirmed by usual laboratory procedures or authentic medical records.
- C. Cirrhosis, with or without history of chronic alcoholism, regardless of the absence of manifestations such as jaundice, ascites or known esophageal varices, or abnormal liver function tests.
- D. Fistula, in ano.
- E. Gastritis, Chronic hypertrophic, severe.
- F. Hemorrhoids.
 - 1. External hemorrhoids producing marked symptoms.
 - 2. Internal hemorrhoids, if large or accompanied with hemorrhage or protruding intermittently or constantly.
- G. Hepatitis, within the preceding 6 months, or persistence of symptoms after a reasonable period of time with objective evidence of impairment of liver function.

H. Hernia:

1. Hernia other than small asymptomatic umbilical or hiatal.
2. History of operation for hernia within the preceding 60 days.

I. Intestinal obstruction, or authenticated history of more than one episode, if either occurred during the preceding 5 years, or if resulting condition remains which produces significant symptoms or requires treatment.

J. Megacolon, of more than minimal degree, diverticulitis, regional enteritis, and ulcerative colitis. Irritable colon of more than moderate degree.

K. Pancreas, acute or chronic disease of, if proven by laboratory tests, or authenticated medical records.

L. Rectum, stricture or prolapse of.

M. Resection, gastric or bowel; or gastroenterostomy.

However minimal intestinal resection in infancy or childhood (for example: for intussusception or pyloric stenosis) is acceptable if the individual has been asymptomatic since the resection and if surgical consultation (to include upper and lower gastrointestinal studies) gives complete clearance.

N. Scars.

1. Scars, abdominal, regardless of cause, which show hernial bulging or which interfere with movements.
2. Scar pain associated with disturbance of function of abdominal wall or contained viscera.

O. Sinuses of the abdominal wall.

P. Splenectomy, except when accomplished for the following:

1. Trauma.
2. Causes unrelated to diseases of the spleen.
3. Hereditary spherocytosis.
4. Disease involving the spleen when followed by correction of the condition for a period of at least 2 years.

Q. Tumors. (see 2-2.17)

R. Ulcer:

1. Ulcer of the stomach or duodenum, if diagnosis is confirmed by X-ray examination, or authenticated history thereof.
2. Authentic history of surgical operation (s) for gastric or duodenal ulcer.

S. Other congenital or acquired abnormalities and defects which preclude satisfactory performance of fire duties or which require frequent and prolonged treatment.

2-2.2 BLOOD AND BLOOD-FORMING TISSUE DISEASES

The causes for rejection for appointment shall be:

A. Anemia:

1. Blood loss anemia--until both condition and basic cause are corrected.
2. Deficiency anemia, not controlled by medication.
3. Abnormal destruction of RBC's: Hemolytic anemia.
4. Faulty RBC construction: Hereditary hemolytic anemia, thalassemia and sickle cell anemia.
5. Myelophthisic anemia: Myelomatosis, leukemia, Hodgkin's disease.

- 6. Primary refractory anemia: Aplastic anemia, DiGuglielmo's syndrome.
- B. Hemorrhagic states:
 - 1. Due to changes in coagulation system (hemophilia, etc.)
 - 2. Due to platelet deficiency.
 - 3. Due to vascular instability.
- C. Leukopenia, chronic or recurrent, associated with increased susceptibility to infection.
- D. Myeloproliferative disease (other than leukemia):
 - 1. Myelofibrosis
 - 2. Megakaryocytic myelosis.
 - 3. Polycythemia vera.
- E. Splenomegaly until the cause is remedied.
- F. Thromboembolic disease except for acute, nonrecurrent conditions.

2-2.3 DENTAL

The causes for rejection for appointment shall be:

- A. Diseases of the jaws or associated tissues, which are not easily remediable and which will incapacitate the individual or prevent the satisfactory performance of duty.
- B. Malocclusion, severe, which interferes with the mastication of a normal diet.
- C. Orthodontic appliances, individuals with orthodontic appliances attached to the teeth are administratively unacceptable so long as active treatment is required. Individuals with retainer orthodontic appliances who are not considered to require active treatment are administratively acceptable.

- D. Oral tissues, extensive loss in an amount that would prevent replacement of missing teeth with a satisfactory prosthetic appliance.
- E. Relationship between the mandible and maxilla of such a nature as to preclude future satisfactory prosthodontic replacement.

2-2.4 EARS AND HEARING

2-2.4.1 EARS

The causes for rejection for appointment shall be:

- A. Auditory canal:
 - 1. Atresia or severe stenosis of the external auditory canal.
 - 2. Tumors of the external auditory canal except mild exostoses.
 - 3. Severe external otitis, acute or chronic.
- B. Auricle: Agenesis, severe; or severe traumatic deformity, unilateral or bilateral.
- C. Mastoids:
 - 1. Mastoiditis, acute or chronic.
 - 2. Residual or mastoid operation with marked external deformity which precludes or interferes with the wearing of a gas mask or helmet.
 - 3. Mastoid fistula.
- D. Meniere's syndrome.
- E. Middle ear:
 - 1. Acute or chronic suppurative otitis media. Individuals with a recent history of acute suppurative otitis media will not be accepted unless the condition is

healed and a sufficient interval of time subsequent to treatment has elapsed to insure that the disease is in fact not chronic.

- 2, Adhesive otitis media associated with hearing level by audiometric test of 20 db or more average for the speech frequencies (500, 1000, or 2000 cycles per second) in either ear regardless of the hearing level in the other ear.
3. Acute or chronic serous otitis media.
4. Presence of attic perforation in which presence of cholesteatoma is suspected.
5. Repeated attacks of catarrhal otitis media; intact greyish, thickened drum (s).

F. Tympanic membrane:

1. Any perforation of the tympanic membrane.
2. Severe scarring of the tympanic membrane associated with hearing level by audiometric test of 20 db or more average for the speech frequencies (500, 1000, and 2000 cycles per second) in either ear regardless of the hearing level in the other ear.

- G. Other diseases and defects of the ear which obviously preclude satisfactory performance of duty of which require frequent and prolonged treatment.

2-2.4.2 HEARING

The cause for rejection for appointment shall be:

Hearing acuity loss by audiometric test of 20 decibels or more for the speech frequencies (500-1000-2000 cycles) in either ear; or loss of speech reception of phonetically balanced words at or below 90 percent normal reception for either ear.

2-2.5 ENDOCRINE AND METABOLIC DISORDERS

The causes for rejection for appointment shall be:

- A. Adrenal gland, malfunction of, of any degree
- B. Cretinism.
- C. Diabetes insipidus.
- D. Diabetes mellitus.
- E. Gigantism or acromegaly.
- F. Glycosuria, persistent, regardless of cause.
- G. Goiter:
 1. Simple goiter with definite pressure symptoms or so large in size as to interfere with the wearing of a uniform or fire fighting equipment.
 2. Thyrotoxicosis.

- H. Gout.
- I. Hyperinsulinism, confirmed, symptomatic.
- J. Hyperparathyroidism and hypoparathyroidism.
- K. Hypopituitarism, severe.
- L. Myxedema, spontaneous or postoperative (with clinical manifestations and not based solely on low basal metabolic rate.)
- M. Nutritional deficiency diseases (including sprue, beriberi, pellagra, and scurvy) which are more than mild and not readily remediable or in which permanent pathological changes have been established.
- N. Other endocrine or metabolic disorders which obviously preclude satisfactory performance of duty which require frequent and prolonged treatment.

2-2.6 EXTREMITIES

2-2.6.1 UPPER EXTREMITIES

2-2.6.1.1 Limitation of motion.

The causes for rejection for appointment shall be joint ranges of motion less than the measurements listed below:

- A. Shoulder:
 - 1. Forward elevation to 90°
 - 2. Abduction to 90°
- B. Elbow:
 - 1. Flexion to 100°
 - 2. Extension to 15°

- C. Wrist: A total range of 15° (extension plus flexion)
- D. Hand: Pronation to the first quarter of the normal arc.
- E. Fingers: Inability to clench fist, pick up a pin or needle, and grasp an object.

2-2.6.1.2 Hand and fingers:

The causes for rejection for appointment shall be:

- A. Absence (or loss) of more than 1/3 of the distal phalanx of either thumb.
- B. Absence (or loss) of distal and middle phalanx of an index, middle or ring finger of either hand irrespective of the absence (or loss) of little finger.
- C. Absence of more than the distal phalanx of any two of the following fingers, index, middle finger or ring finger, of either hand.
- D. Absence of hand or any portion thereof except for fingers as noted above.
- E. Hyperdactylia.
- F. Scars and deformities of the fingers, hands, or both which impair circulation, are symptomatic, or which impair normal function to such a degree as to interfere with the satisfactory performance of fire duty.

2-2.6.1.3 Wrist, forearm, elbow, arm, and shoulder

The causes for rejection for appointment shall be:

Healed disease or injury of wrist, elbow, or shoulder with residual weakness or symptoms of such a degree as to preclude satisfactory performance of duty.

2-2.6.2 LOWER EXTREMITIES (see also 2-2.6.3)

2-2.6.2.1 Limitation of motion

The causes for rejection for appointment shall be joint ranges of motion less than the measurements listed below:

- A. Hip.
 - 1. Flexion to 90°
 - 2. Extension to 10° (beyond 0)
- B. Knee.
 - 1. Full extension
 - 2. Flexion to 90°
- C. Ankle.
 - 1. Dorsiflexion to 10°
 - 2. Plantar flexion to 10°
- D. Toes. Stiffness which interferes with walking, running, or jumping.

2-2.6.2.2 Foot and ankle.

The causes for rejection for appointment shall be:

- A. Absence of one or more small toes of one or both feet, if function of the foot is poor or running or jumping is precluded, or absence of foot or any portion thereof except for toes as noted herein.
- B. Absence (or loss) of great toe (s) or loss of dorsal flexion thereof if function of the foot is impaired.
- C. Claw toes precluding the wearing of service boots.
- D. Clubfoot.
- E. Flatfoot, pronounced cases, with decided eversion of the foot and marked bulging of the inner border, due to inward rotation of the astragalus, regardless of the

the presence or absence of symptoms.

- F. Flatfoot, spastic.
- G. Hallux valgus, if severe and associated with marked exostosis or bunion.
- H. Hammer toe which interferes with the wearing of boots.
- I. Healed disease, injury, or deformity including hyperdactylia which precludes running, is accompanied by disabling pain, or which prohibits wearing of service boots.
- J. Ingrowing toe nails, if severe, and not remediable.
- K. Obliteration of the transverse arch associated with permanent flexion of the small toes.
- L. Pes cavus, with contracted plantar fascia, dorsiflexed toes, tenderness under the metatarsal heads, and callosity under the weight bearing areas.

2-2.6.2.3 Leg, knee, thigh, and hip.

The causes for rejection for appointment shall be:

- A. Dislocated semilunar cartilage, loose or foreign bodies within the knee joint, or history of surgical correction of same if --
 - 1. Within the preceding 6 months.
 - 2. Six months or more have elapsed since operation without recurrence, and there is instability of the knee ligaments in lateral or anteroposterior directions in comparison with the normal knee or abnormalities noted on X-ray; significant atrophy or weakness of the thigh musculature in comparison with the normal side; unacceptable active motion in flexion

and extension or there are other symptoms of internal derangement.

- B. Authentic history or physical findings of an unstable or internally deranged joint causing disabling pain or seriously limiting functions. Individuals with verified episodes of buckling or locking of the knee who have not undergone satisfactory surgical correction or if subsequent to surgery, there is evidence of more than mild instability of the knee ligaments in lateral and anteroposterior directions in comparison with a normal knee, weakness or atrophy of the thigh musculature in comparison with the normal side, or if the individual requires medical treatment of sufficient frequency to interfere with the performance of duty.

2-2.6.2.4 General.

The causes for rejection for appointment shall be:

- A. Deformities of one or both lower extremities which have interfered with function to such a degree as to prevent the individual from following a physically active vocation in life or which would interfere with the satisfactory completing of prescribed training and performance of fire duty.
- B. Diseases or deformities of the hip, knee, or ankle joint which interfere with walking, running, or weight bearing.
- C. Pain in lower back or leg which is intractable and disabling to the degree of interfering with walking running, and weight bearing.

- D. Shortening of a lower extremity resulting in any limp of noticeable degree.

2-2.6.3 MISCELLANEOUS (see also 2-2.6.1 and 2-2.6.2)

The causes for rejection for appointment shall be:

- A. Arthritis.
1. Active or subacute arthritis, including Marie-Strumpell type.
 2. Chronic osteoarthritis or traumatic arthritis of isolated joints of more than minimal degree, which has interfered with the following of a physically active vocation in civilian life or which precludes the satisfactory performance of duty.
 3. Documented clinical history of rheumatoid arthritis.
 4. Traumatic arthritis of a major joint of more than minimal degree.
- B. Disease of any bone or joint, healed, with such resulting deformity or rigidity that function is impaired to such a degree that it will interfere with fire service.
- C. Dislocation, old unreduced; substantiated history of recurrent dislocations of major joints; instability of a major joint, symptomatic and more than mild; or if, subsequent to surgery, there is evidence of more than mild instability in comparison with the normal joint, weakness or atrophy in comparison with the normal side, or if the individual requires medical treatment of sufficient frequency to interfere with the performance of duty.
- D. Fractures.
1. Malunited fractures that interfere significantly

with function.

- 2. Ununited fractures.
- 3. Any old or recent fracture in which a plate, pin, or screws were used for fixation and left in place and which may be subject to easy trauma, i.e., as a plated tibia, etc.
- E. Injury of a bone or joint within the preceding 6 weeks, without fracture or dislocation, of more than a minor nature.
- F. Muscular paralysis, contracture, or atrophy, if progressive or of sufficient degree to interfere with fire service.
- G. Myotonia congenita. Confirmed
- H. Osteomyelitis, active or recurrent, of any bone or substantiated history of osteomyelitis of any of the long bones unless successfully treated 2 or more years previously without subsequent recurrence or disqualifying sequelae as demonstrated by both clinical and X-ray evidence.
- I. Osteoporosis.
- J. Scars. extensive, deep, or adherent, of the skin and soft tissues or neuromas of an extremity which are painful, which interfere with muscular movements, which preclude the wearing of fire equipment, or that show a tendency to break down.
- K. Chondromalacia, manifested by verified history of joint effusion, interference with function, or residuals from surgery.

2-2.7 EYES AND VISION

2-2.7.1 EYES

2-2.7.1.1 Lids.

The causes for rejection for appointment shall be:

- A. Blepharitis, chronic more than mild. Cases of acute blepharitis will be rejected until cured.
- B. Blepharospasm.
- C. Dacryocystitis, acute or chronic.
- D. Destruction of the lids, complete or extensive, sufficient to impair protection of the eye from exposure.
- E. Disfiguring cicatrices and adhesions of the eyelids to each other or to the eyeball.
- F. Growth or tumor of the eyelid other than small early basal cell tumors of the eyelid, which can be cured by treatment, and small nonprogressive asymptomatic benign lesions.
- G. Lagophthalmos.
- H. Ptosis interfering with vision.
- I. Trichiasis, severe.

2-2.7.1.2 Conjunctiva

The causes for rejection for appointment shall be:

- A. Conjunctivitis, chronic, including vernal catarrh and trachoma. Individuals with acute conjunctivitis are unacceptable until the condition is cured.
- B. Pterygium:
 - 1. Pterygium recurring after three operative procedures.
 - 2. Pterygium encroaching on the cornea in excess of 3 millimeters of interfering with vision.

2-2.7.1.3 Cornea.

The causes for rejection for appointment shall be:

- A. Dystrophy, corneal, of any type including keratoconus of any degree.
- B. Keratitis, acute or chronic.
- C. Ulcer, corneal; history of recurrent ulcers or corneal abrasions (including herpetic ulcers).
- D. Vascularization or opacification of the cornea from any cause which interferes with visual function or is progressive.

2-2.7.1.4 Uveal tract.

The causes for rejection for appointment shall be:

Inflammation of the uveal tract except healed traumatic choroiditis.

2-2.7.1.5 Retina.

The causes for rejection for appointment shall be:

- A. Angiomas, phakomas, retinal cysts, and other congenito-hereditary conditions that impair visual function.
- B. Degenerations of the retina to include macular cysts, holes, and other degenerations (hereditary or acquired degenerative changes) and other conditions affecting the macula. All types of pigmentary degenerations (primary and secondary).
- C. Detachment of the retina or history of surgery for same.

- D. Inflammation of the retina (retinitis or other inflammatory conditions or the retina to include Coat's disease, diabetic retinopathy, Eales' disease, and retinitis proliferans).

2-2.7.1.6 Optic nerve.

The causes for rejection for appointment shall be:

- A. Congenito-hereditary conditions of the optic nerve or any other central nervous system pathology affecting the efficient function of the optic nerve.
- B. Optic neuritis, neuroretinitis, or secondary optic atrophy resulting therefrom or document history of attacks of retrobulbar neuritis.
- C. Optic atrophy (primary or secondary)
- D. Papilledema.

2-2.7.1.7 Lens.

The causes for rejection for appointment shall be:

- A. Aphakia (unilateral or bilateral).
- B. Dislocation, partial or complete of a lens.
- C. Opacities of the lens which interfere with vision or which are considered to be progressive.

2-2.7.1.8 Ocular mobility and motility.

The causes for rejection for appointment shall be:

- A. Diplopia, documented, constant or intermittent from any cause or of any degree interfering with visual function (i.e., may suppress).
- B. Diplopia, monocular, documented, interfering with visual function.

- C. Nystagmus, with both eyes fixing, congenital or acquired.
- D. Strabismus of 40 prism diopters or more, uncorrectable by lenses to less than 40 diopters.
- E. Strabismus of any degree accompanied by documented diplopia.
- F. Strabismus, surgery for the correction of, within the preceding 6 months.

2-2.7.1.9 Miscellaneous defects and diseases.

The causes for rejection for appointment shall be:

- A. Abnormal conditions of the eye or visual fields due to diseases of the central nervous system.
- B. Absence of an eye.
- C. Asthenopia severe.
- D. Exophthalmos, unilateral or bilateral.
- E. Glaucoma, primary or secondary.
- F. Hemianopsia of any type.
- G. Loss of normal pupillary reflex reactions to light or accommodation to distance of Adies syndrome.
- H. Loss of visual fields due to organic disease.
- I. Night blindness associated with objective disease of the eye. Verified congenital night blindness.
- J. Residuals of old contusions, lacerations, penetrations, etc., which impair visual function required for satisfactory performance of fire duty.
- K. Retained intra-ocular foreign body.
- L. Tumors. [see also 2-2.7.1.1 (F)]
- M. Any organic disease of the eye or adnexa not specified above which threatens continuity of vision or impairment of visual function.

2-2.7.2 VISION

The cause for rejection for appointment shall be:

- A. Color vision. Failure to identify red, or green, or both.
- B. Standard visual acuity. Standard visual acuity without correction, less than 20/40 in one eye, and 20/100 in the other eye; and with correction, less than 20/20 in one eye, and 20/40 in the other eye.
- C. Near visual acuity. Near vision acuity with correction, less than J6.
- D. Refractive error. Refractive error above 8 diopters spherical equivalent, either plus or minus.
- E. Corrective devices. Complicated impairments requiring contact lens for adequate correction of vision, such as keratoconus, corneal scars, irregular astigmatism; or the comfortable wearing of ordinary glasses (spectacles) without prismatic displacement, ghost images, or similar symptoms.

2-2.8 GENITOURINARY SYSTEM

2-2.8.1 GENITALIA

The causes for rejection for appointment shall be:

- A. Bartholinitis, Bartholin's cyst.
- B. Cervicitis, acute or chronic manifested by leukorrhea.
- C. Dysmenorrhea, incapacitating to a degree which necessitates recurrent absences of more than a few hours from routine activities.

- D. Endometriosis, or confirmed history thereof.
- E. Hemaphroditism.
- F. Menopausal syndrome, either physiologic of artificial if manifested by more than mild constitutional or mental symptoms, or artificial menopause if less than 13 months have elapsed since cessation of menses. In all cases of artificial menopause, the clinical diagnosis will be reported; if accomplished by surgery, the pathologic report will be obtained and recorded.
- G. Menstrual cycle, irregularities of, including menorrhagia, if excessive; metrorrhagia; polymenorrhea; amenorrhea, except as noted in F above.
- H. New growths of the internal or external genitalia except single uterine fibroid, subserous, asymptomatic, less than 3 centimeters in diameter, with no general enlargement of the uterus. (see also 2-2.17)
- I. Oophoritis, acute or chronic.
- J. Ovarian cysts, persistent and considered to be of clinical significance.
- K. Pregnancy.
- L. Salpingitis, acute or chronic
- M. Testicle(s).
 - 1. Undiagnosed enlargement or mass of testicle or epididymis.
- N. Urethritis, acute or chronic, other than gonorrheal urethritis without complications.

- O. Uterus.
 - 1. Cervical polyps, cervical ulcer, or marked erosion.
 - 2. Endocervicitis, more than mild.
 - 3. Generalized enlargement of the uterus due to any cause.
 - 4. Malposition of the uterus if more than mildly symptomatic.
 - P. Vagina.
 - 1. Congenital abnormalities or severe lacerations of the vagina.
 - 2. Vaginitis, acute or chronic, manifested by leukorrhea.
 - Q. Varicocele or hydrocele, if large or painful.
 - R. Vulva.
 - 1. Leukoplakia.
 - 2. Vulvitis, acute or chronic.
 - S. Major abnormalities and defects of the genitalia such as a change of sex, a history thereof, or complications (adhesions, disfiguring scars, etc.) residual to surgical correction of these conditions.
- 2-2.8.2 URINARY SYSTEM (see also 2-2.5 and 2-2.17)
- The causes for rejection for appointment shall be:
- A. Albuminuria if persistent or recurrent including so-called orthostatic or functional albuminuria.
 - B. Cystitis, chronic. Individuals with acute cystitis are unacceptable until the condition is cured.
 - C. Enuresis determined to be a symptom of an organic defect not amenable to treatment.
 - D. Epispadias or hypospadias when accompanied by evidence of infection of the urinary tract or if clothing is soiled with voiding.

- E. Hematuria, cylindruria, or other findings indicative of renal tract disease.
- F. Incontinence of urine.
- G. Kidney.
 - 1. Acute or chronic infections of the kidney.
 - 2. Cystic or polycystic kidney, confirmed history of.
 - 3. Hydronephrosis or pyonephrosis.
 - 4. Nephritis, acute or chronic.
 - 5. Pyelitis, pyelonephritis.
- H. Prostate gland, hypertrophy of, with urinary retention.
- I. Renal calculus.
 - 1. Substantiated history of bilateral renal calculus at any time.
 - 2. Verified history of renal calculus at any time with evidence of stone formation within the preceding 12 months, current symptoms or positive X-ray for calculus.
- J. Skeneitis.
- K. Urethra
 - 1. Stricture of the urethra.
 - 2. Urethritis, acute or chronic, other than gonorrheal urethritis without complications.
- L. Urinary fistula.
- M. Other diseases and defects of the urinary system which obviously preclude satisfactory performance of duty or

which require frequent and prolonged treatment.

2-2.9 HEAD AND NECK

2-2.9.1 HEAD

The causes for rejection for appointment shall be:

- A. Abnormalities which are apparently temporary in character resulting from recent injuries until a period of 3 months has elapsed. These include severe contusions and other wounds of the scalp and cerebral concussion.
- B. Deformities of the skull in the nature of depressions, exostoses, etc., of a degree which would prevent the individual from wearing protective breathing apparatus, or fire headgear.
- C. Deformities of the skull of any degree associated with evidence of disease of the brain, spinal cord, or peripheral nerves.
- D. Loss or congenital absence of the bony substance of the skull except that the examiner may find individuals acceptable when--
 - 1. The area does not exceed 2.5 centimeters square, and does not overlie the motor cortex or a dural sinus.
 - 2. There is no evidence of alteration of brain function in any of its several spheres (intelligence, judgment, perception, behavior, motor control, sensory function, etc.).
 - 3. There is no evidence of bone degeneration, disease, or other complications of such a defect.

2-2.9.2 NECK

The causes for rejection for appointment shall be:

- A. Cervical ribs if symptomatic, or so obvious that they are found on routine physical examination. (Detection based primarily on X-ray is not considered to meet this criterion.)
- B. Congenital cysts of branchial cleft origin or those developing from the remnants of the thyroglossal duct, with or without fistulous tracts.
- C. Fistula, chronic draining, of any type.
- D. Healed tuberculosis lymph nodes when extensive in number or densely calcified.
- E. Nonspastic contraction of the muscles of the neck or cicatricial contracture of the neck to the extent that it interferes with the wearing of a uniform or fire equipment.
- F. Spastic contraction of the muscles of the neck, persistent, and chronic.
- G. Tumor of thyroid or other structures of the neck. (see also 2-2.17)

2-2.10 HEART AND VASCULAR SYSTEM

2-2.10.1 HEART

The causes for rejection for appointment shall be:

- A. All organic valvular diseases of the heart, including those improved by surgical procedures.
- B. Coronary artery disease or myocardial infarction, old or recent or true angina pectoris, at any time.
- C. Electrocardiographic evidence of major arrhythmias such as--

- 1. Atrial tachycardia, flutter, or fibrillation, ventricular tachycardia or fibrillation.
- 2. Conduction defects such as first degree atrio-ventricular block and right bundle branch block. (These conditions occurring as isolated findings are not unfitting when cardiac evaluation reveals no cardiac disease.)
- 3. Left bundle branch block, 2d and 3d degree AV block.
- 4. Unequivocal electrocardiographic evidence of old of recent myocardial infarction; coronary insufficiency at rest or after stress; or evidence of heart muscle disease.
- D. Hypertrophy or dilatation of the heart as evidenced by clinical examination or roentgenographic examination and supported by electrocardiographic examination. Care should be taken to distinguish abnormal enlargement from increased diastolic filling as seen in the well conditioned subject with a sinus bradycardia.
- E. Myocardial insufficiency (congestive circulatory failure, cardiac decompensation) obvious or covert, regardless of cause.
- F. Paroxysmal tachycardia within the preceding 5 years, or at any time if recurrent or disabling or if associated with electrocardiograph evidence of accelerated A-V conduction (Wolff-Parkinson-White).
- G. Pericarditis; endocarditis; or myocarditis, history or finding of, except for a history of a single acute idiopathic or coxsackie pericarditis with no residuals.

- H. Tachycardia persistent with a resting pulse rate of 100 or more, regardless of cause.

2-2.10.2 VASCULAR SYSTEM

The causes for rejection for appointment shall be:

- A. Congenital or acquired lesions of the aorta and major vessels, such as syphilitic aortitis, demonstrable atherosclerosis which interferes with circulation, congenital or acquired dilation of the aorta (especially if associated with other features of Marfan's syndrome), and pronounced dilatation of the main pulmonary artery.
- B. Hypertension evidenced by preponderant blood pressure readings of 150-mm or more systolic in an individual over 35 years of age or preponderant readings of 140-mm or more systolic in an individual 35 years of age or less. Preponderant diastolic pressure over 90-mm diastolic is cause for rejection at any age.
- C. Marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, severe peripheral vasomotor disturbances and sympatheticotonia.
- D. Peripheral vascular disease including Raynaud's pheonmena, Buerger's disease (thromboangiitis obliterans), erythromelalgia, arteriosclerotic and diabetic vascular disease. Special tests will be employed in doubtful cases.
- E. Thrombophlebitis.
1. History of thrombophlebitis with persistent thrombus or evidence of circulatory obstruction or deep venous incompetence in the involved veins.
 2. Recurrent thrombophlebitis.

- F. Varicose veins, if more than mild, or if associated with edema, skin ulceration, or residual scars from ulceration.

2-2.10.3 MISCELLANEOUS

The causes for rejection for appointment shall be:

- A. Aneurysm of the heart or major vessel, congenital or acquired.
- B. History and evidence of a congenital abnormality which has been treated by surgery but with residual abnormalities or complications, for example: Patent ductus arteriosus with residual cardiac enlargement or pulmonary hypertension; resection of a coarctation of the aorta without a graft when there are other cardiac abnormalities or complications; closure of a secundum type atrial septal defect when there are residual abnormalities or complications.
- C. Major congenital abnormalities and defects of the heart and vessels unless satisfactorily corrected without residuals or complications. Uncomplicated dextrocardia and other minor asymptomatic anomalies are acceptable.
- D. Substantiated history of rheumatic fever or chorea within the previous 2 years, recurrent attacks of rheumatic fever or chorea at any time, or with evidence of residual cardiac damage.

2-2.11 LUNGS AND CHEST WALL

2-2.11.1 GENERAL

Until re-examination indicates complete recovery without disqualifying sequelae, the causes for rejection for appointment shall be:

- A. Abnormal elevation of the diaphragm on either side.
- B. Acute abscess of the lung.
- C. Acute bronchitis.
- D. Acute fibrinous pleurisy, associated with acute non-tuberculous pulmonary infection.
- E. Acute mycotic disease of the lung such as coccidioidomycosis and histoplasmosis.
- F. Acute nontuberculous pneumonia.
- G. Foreign body in trachea or bronchus.
- H. Foreign body of the chest wall causing symptoms.
- I. Lobectomy, history of, for a nontuberculous nonmalignant lesion with residual pulmonary disease. Removal of more than one lobe is cause for rejection regardless of the absence of residuals.
- J. Other traumatic lesions of the chest or its contents/with residual physiologic abnormalities.
- K. Pneumothorax, regardless of etiology or history thereof.
- L. Recent fracture of ribs, sternum, clavicle, or scapula.
- M. Significant abnormal findings on physical examination of the chest.

2-2.11.2 TUBERCULOUS LESION (see also 2-2.16.1)

The causes for rejection for appointment shall be:

- A. Active tuberculosis in any form or location.
- B. Pulmonary tuberculosis, active within the past 5 years.
- C. Substantiated history or X-ray findings of pulmonary tuberculosis of more than minimal extent at any time, or minimal tuberculosis not treated with a full year of approved chemotherapy or combined chemotherapy and surgery;

or a history of pulmonary tuberculosis with reactivation, relapse, or other evidence of poor host resistance.

2-2.11.3 NONTUBERCULOUS LESIONS

The causes for rejection for appointment shall be:

- A. Acute mastitis, chronic cystic mastitis, if more than mild.
- B. Bronchial asthma, except for childhood asthma with a trustworthy history of freedom from symptoms since the 12th birthday.
- C. Bronchitis, chronic with evidence of pulmonary function disturbance.
- D. Bronchiectasis.
- E. Bronchopleural fistula.
- F. Bullous or generalized pulmonary emphysema.
- G. Chronic abscess of lung.
- H. Chronic fibrous pleuritis of sufficient extent to interfere with pulmonary function or obscure the lung field in the roentgenogram.
- I. Chronic mycotic diseases of the lung including coccidioidomycosis; residual cavitation or more than a few small-sized inactive and stable residual nodules demonstrated to be due to mycotic disease.
- J. Empyema, residual sacculation or unhealed sinuses of chest wall following operation for empyema.
- K. Extensive pulmonary fibrosis from any cause, producing dyspnea on exertion.
- L. Foreign body of the lung or mediastinum causing symptoms or active inflammatory reaction.
- M. Multiple cystic disease of the lung or solitary cyst which is large and incapacitating.

- N. New growth on breast, history of mastectomy.
- O. Osteomyelitis of rib, sternum, clavicle, scapula, or vertebra.
- P. Pleurisy with effusion of unknown origin within the preceding 5 years
- Q. Sarcoidosis. (see also 2-2.16.1)
- R. Suppurative periostitis of rib, sternum, clavicle scapula, or vertebra.

2-2.12 MOUTH, NOSE, PHARYNX, TRACHEA, ESOPHAGUS, AND LARYNX

2-2.12.1 MOUTH

The causes for rejection for appointment shall be:

- A. Hard palate, perforation of.
- B. Harelip, unless satisfactorily repaired by surgery.
- C. Leukoplakia, if severe.
- D. Ranula, if extensive (for other tumors see 2-2.17)

2-2.12.2 NOSE

The causes for rejection for appointment shall be:

- A. Allergic manifestations.
 - 1. Chronic atrophic rhinitis.
 - 2. Hay fever if severe; or if not controllable by anti-histamines or by desensitization, or both.
- B. Choana, atresia, or stenosis of, if symptomatic.
- C. Nasal septum, perforation of:
 - 1. Associated with interference of function, ulceration or crusting, and when the result of organic disease.
 - 2. If progressive.
 - 3. If respiration is accompanied by a whistling sound.
- D. Sinusitis, acute

- E. Sinusitis, chronic, when more than mild:

- 1. Evidenced by any of the following: Chronic purulent nasal discharge, large nasal polyps, hyperplastic changes of the nasal tissues, or symptoms requiring frequent medical attention.
- 2. Confirmed by transillumination or X-ray examination or both.

2-2.12.3 PHARYNX, TRACHEA, ESOPHAGUS, AND LARYNX

The causes for rejection for appointment shall be:

- A. Esophagus, organic disease of, such as ulceration, varices, achalasia; if confirmed by appropriate X-ray or esophagoscopy examinations.
- B. Laryngeal paralysis, sensory or motor, due to any cause.
- C. Larynx, organic disease of, such as neoplasm, polyps, granuloma, ulceration, and chronic laryngitis.
- D. Plica dysphonia ventricularis.
- E. Tracheostomy or tracheal fistula.

2-2.12.4 OTHER DEFECTS AND DISEASES

The causes for rejection for appointment shall be:

- A. Aphonia.
- B. Deformities or conditions of the mouth, throat, pharynx, larynx, esophagus, and nose which interfere with mastication and swallowing of ordinary food, with speech, or with breathing.
- C. Destructive syphilitic disease of the mouth, nose, throat, larynx, or esophagus. (see also 2-2.18)
- D. Pharyngitis and nasopharyngitis, chronic, with positive history and objective evidence, if of such a degree as

to result in excessive time lost in the fire environment.

2-2.13 NEUROLOGICAL DISORDERS

2-2.13.1 Degenerative disorders.

The causes for rejection for appointment shall be:

- A. Cerebellar and Friedreich's ataxia.
- B. Cerebral arteriosclerosis, symptomatic.
- C. Encephalomyelitis, residuals of, which preclude the satisfactory performance of fire duties.
- D. Huntington's chorea.
- E. Multiple sclerosis.
- F. Muscular atrophies and dystrophies of any type.

2-2.13.2 Miscellaneous.

The causes for rejection for appointment shall be:

- A. Congenital malformations if associated with neurological manifestations and meningocele even if uncomplicated.
- B. Migraine when frequent and incapacitating.
- C. Paralysis or weakness, deformity, discoordination, pain, disturbances of consciousness, disturbances of sensation, or personality abnormalities regardless of cause which are of such a nature or degree as to preclude the satisfactory performance of fire duties.
- D. Tremors, spasmodic torticollis, athetosis or other abnormal movements more than mild.

2-2.13.3 Neurosyphilis

The causes for rejection for appointment shall be:

Any form of neurosyphilis, (general paresis, tabes dorsalis, meningovascular syphilis).

2-2.13.4 Paroxysmal convulsive disorders.

The causes for rejection for appointment shall be:

Disturbances of consciousness, all forms of psychomotor, focal, petit mal, or grand mal epilepsy or history thereof except for seizures associated with toxic states or fever during childhood up to the age of 12.

2-2.13.5 Peripheral nerve disorder.

The causes for rejection for appointment shall be:

- A. Polyneuritis.
- B. Mononeuritis or neuralgia which is chronic or recurrent and of an intensity that is periodically incapacitating.
- C. Neurofibromatosis.

2-2.13.6 Spontaneous subarachnoid hemorrhage.

The causes for rejection for appointment shall be:

Verified history of, unless cause has been surgically corrected.

2-2.14 SKIN AND CELLULAR TISSUES

The causes for rejection for appointment shall be:

- A. Acne. Severe, when the face is markedly disfigured, or when extensive involvement of the neck, shoulders, chest, or back would be aggravated by or interfere with the wearing of fire equipment.
- B. Atopic dermatitis. With active or residual lesions in characteristic areas (face and neck, antecubital and popliteal fossae, occasionally wrists and hands), or documented history thereof.
- C. Cysts.
 1. Cysts, other than pilonidal. Of such a size or

location as to interfere with the normal wearing of fire fighting equipment.

2. Cysts, pilonidal. Pilonidal cysts, if evidenced by the presence of a tumor mass or a discharging sinus.

- D. Dermatitis factitia.
- E. Dermatitis herpetiformis.
- F. Eczema. Any type which is chronic and resistant to treatment.
- G. Elephantiasis or chronic lymphedema.
- H. Epidermolysis bullosa; pemphigus.
- I. Fungus infections, systemic or superficial types: If extensive and not amenable to treatment.
- J. Furunculosis. Extensive, recurrent, of chronic.
- K. Hyperhidrosis of hands or feet: Chronic or severe.
- L. Ichthyosis. Severe.
- M. Leprosy. Any type.
- N. Leukemia cutis; mycosis fungoides; Hodgkin's disease.
- O. Lichen planus.
- P. Lupus erythematosus (acute, subacute, or chronic) or any other dermatosis aggravated by sunlight.
- Q. Neurofibromatosis (Von Recklinghausen's disease).
- R. Nevi or vascular tumors: If extensive, unsightly, or exposed to constant irritation.
- S. Psoriasis or a verified history thereof.
- T. Radiodermatitis.
- U. Scars which are so extensive, deep, or adherent that they may interfere with the wearing of fire equipment, or that show a tendency to ulcerate.
- V. Scleroderma. Diffuse type.

- W. Tuberculosis. (see also 2-2.16.1)

- X. Urticaria. Chronic.

- Y. Warts, plantar, which have materially interfered with the following of a physically active vocation.

- Z. Xanthoma. If disabling or accompanied by hypercholesterolemia or hyperlipemia.

- AA. Any other chronic skin disorder of a degree or nature which requires frequent outpatient treatment or hospitalization, or interferes with the satisfactory performance of duty.

2-2.15 SPINE, SCAPULAE, RIBS, AND SACROILIAC JOINTS

2-2.15.1 SPINE AND SACROILIAC JOINTS (see also 2-2.6)

The causes for rejection for appointment shall be:

- A. Arthritis. (see also 2-2.6.3a)
- B. Complaint of disease or injury of the spine or sacroiliac joints either with or without objective signs or symptoms which have prevented the individual from successfully following a physically active vocation. Substantiation or documentation of the complaint without symptoms and objective signs is required.
- C. Deviation or curvature of spine from normal alignment, structure, or function (scoliosis, kyphosis, or lordosis, spina bifida occulta, spondylolysis, etc.) if--
1. Mobility and weight-bearing power is poor.
 2. More than moderate restriction of normal physical activities is required.

3. Of a degree which will interfere with the wearing of fire equipment.

4. Symptomatic, associated with positive physical finding (s) demonstrable by X-ray.

D. Diseases of the lumbosacral or sacroiliac joints of a chronic type and obviously associated with pain referred to the lower extremities, muscular spasm, postural deformities and limitation of motion in the lumbar region of the spine.

E. Granulomatous diseases either active or healed.

F. Healed fracture of the spine or pelvic bones with associated symptoms which have prevented the individual from following a physically active vocation, or which preclude the satisfactory performance of fire fighting duties.

G. Ruptured nucleus pulposus (herniation of intervertebral disk) or history of operation for this condition.

H. Spondylolysis or spondylolisthesis that is symptomatic or is likely to interfere with performance of duty or is likely to require assignment limitations.

2-2.15.2 SCAPULAE, CLAVICLES, AND RIBS (see also 2-2.6.3)

The causes for rejection for appointment shall be:

A. Fractures, until well healed, and until determined that the residuals thereof will not preclude the satisfactory performance of fire fighting duties.

B. Injury within the preceding 6 weeks, without fracture, or dislocation, of more than a minor nature.

C. Osteomyelitis of rib, sternum, clavicle, scapula, or

vertebra.

D. Prominent scapulae interfering with function or with the wearing of fire equipment.

2-2.16 SYSTEMIC DISEASES AND MISCELLANEOUS CONDITIONS AND DEFECTS

2-2.16.1 SYSTEMIC DISEASES

The causes for rejection for appointment shall be:

A. Dermatomyositis.

B. Lupus erythematosus; acute, subacute, or chronic.

C. Progressive systemic sclerosis.

D. Reiter's Disease.

E. Sarcoidosis.

F. Scleroderma, diffuse type.

G. Tuberculosis:

1. Active tuberculosis in any form or location.
2. Pulmonary tuberculosis.
3. Confirmed history of tuberculosis of a bone or joint, genitourinary organs, intestines, peritoneum or mesenteric glands at any time.
4. Meningeal tuberculosis; disseminated tuberculosis.

2-2.16.2 GENERAL AND MISCELLANEOUS CONDITIONS AND DEFECTS

The causes for rejection for appointment shall be:

A. Allergic manifestations.

1. Allergic rhinitis (hay fever). (see also 2-2.12.2)
2. Asthma. (see also 2-2.13)
3. Allergic dermatoses. (see also 2-2.14)
4. Visceral, abdominal, and cerebral allergy, if severe or not responsive to treatment.

B. Any acute pathological condition, including acute communi-

cable diseases, until recovery has occurred without sequelae.

- C. Any deformity which impairs general functional ability to such an extent as to prevent satisfactory performance of duty.
- D. Chronic metallic poisoning especially beryllium, manganese, and mercury. Undesirable residuals from lead, arsenic, or silver poisoning make the examinee medically unacceptable.
- E. Cold injury, residuals, of (example: frostbite, chilblain, immersion foot, or trench foot) such as deep seated ache, paresthesia, hyperhidrosis, easily traumatized skin, cyanosis, amputation of any digit, or ankylosis.
- F. Positive tests for syphilis with negative TPI test unless there is a documented history of adequately treated lues or any of the several conditions which are known to give a false-positive S.T.S. (vaccinia, infectious hepatitis, immunizations, atypical pneumonia, etc.) or unless there has been a reversal to a negative S.T.S. during an appropriate followup period (3 to 6 months).
- G. Filariasis; trypanosomiasis; amebiasis; schistosomiasis; uncinariasis (hookworm) associated with anemia, malnutrition, etc., if more than mild, and other similar worm or animal parasitic infestations, including the carrier states thereof.
- H. Heat pyrexia (heatstroke, sunstroke, etc.): Documented evidence of predisposition (includes disorders of sweat mechanism and previous serious episode), recurrent episodes requiring medical attention, or residual injury resulting therefrom (especially cardiac, cerebral, hepatic, and renal).

- I. Industrial solvent and other chemical intoxication, chronic including carbon bisulfide, trichlorethylene, carbon tetrachloride, and methyl cellosolve.
- J. Mycotic infection of internal organs.
- K. Myositis or fibrositis, severe, chronic.
- L. Residuals of tropical fevers and various parasitic or protozoal infestations which in the opinion of the medical examiner preclude the satisfactory performance of duty.

2-2.17 TUMORS AND MALIGNANT DISEASES

2-2.17.1 BENIGN TUMORS

The causes for rejection for appointment shall be:

- A. Any tumor of the--
 - 1. Auditory canal, if obstructive.
 - 2. Eye or orbit.
 - 3. Kidney, bladder, testicle, or penis.
 - 4. Central nervous system and its membraneous coverings unless 5 years after surgery and no otherwise disqualifying residuals of surgery of original lesion.
- B. Benign tumors of the abdominal wall if sufficiently
- C. Benign tumors of bone likely to continue to enlarge, be subjected to trauma during service, or show malignant potential.
- D. Benign tumors of the thyroid or other structures of the neck, including enlarged lymph nodes, if the enlargement is of such degree as to interfere with the wearing of fire equipment.
- E. Tongue, benign tumor of, if it interferes with function.
- F. Breast, thoracic contents, or chest wall, tumors, of,

other than fibromata lipomata, and inclusion of sebaceous cysts which do not interfere with fire fighting duties.

G. For tumors of the internal or external female genitalia.

2-2.17.2 MALIGNANT DISEASES AND TUMORS

The causes for rejection for appointment shall be:

- A. Leukemia, acute or chronic.
- B. Malignant lymphomata.
- C. Malignant tumor of any kind, at any time, substantiated diagnosis of, even though surgically removed, confirmed by accepted laboratory procedures, except as noted in 2-2.7.1.1(F).

2-2.18 VENEREAL DISEASES

In general the finding of acute, uncomplicated venereal disease which can be expected to respond to treatment is not a cause for medical rejection for fire service. The causes for rejection for appointment shall be:

- A. Chronic venereal disease which has not satisfactorily responded to treatment. The finding of a positive serologic test for syphilis following adequate treatment of syphilis is not in itself considered evidence of chronic venereal disease which has not responded to treatment. [see also 2-2.16.2(F)].
- B. Complications and permanent residuals of venereal disease if progressive, of such nature as to interfere with the satisfactory performance of duty, or if subject to aggravation by fire fighting duties.
- C. Neurosyphilis. (see also 2-2.13.3)

2-3 MINIMUM PHYSICAL FITNESS REQUIREMENTS

- ★ 2-3.1 The candidate, after successfully completing the medical examination and with written authorization of the examining physician, shall run one and one-half (1.5) miles within twelve (12) minutes.
- ★ 2-3.2 The candidate will perform twenty-five (25) bent-knee sit-ups within ninety (90) seconds.
- ★ 2-3.3 The candidate shall, from a completely extended arm position, pull the body upward so as to chin the horizontal bar being grasped by the hands, palms away, a total of five (5) consecutive times.
- ★ 2-3.4 The candidate shall, from a horizontal position, successfully accomplish ten (10) push-ups as prescribed by the authority having jurisdiction.
- ★ 2-3.5 The candidate; given a beam secured to a level floor and measuring twenty (20) feet long by three (3) to four (4) inches wide, and given a length of fire hose weighing at least twenty (20) pounds; shall walk the length of the beam, carrying the length of hose, without falling off, or stepping off the beam.
- ★ 2-3.6 The candidate, given a weight of one hundred twenty-five (125) pounds, shall lift the weight from the floor and carry the weight one hundred (100) feet without stopping.

★ 2-3.7 The candidate, starting from an erect position with feet apart the distance closely approximating shoulder width, shall move a fifteen (15) pound weight in the following manner: bend over, grasp the weight with both hands while it is at a point on the floor between the feet, and lift weight to waist level; then place the weight on the floor approximately twelve (12) inches outside the left foot, and without letting go, raise the weight to waist level and touch it to the floor about twelve (12) inches outside the right foot. The weight shall then be moved alternately in this fashion from left foot, to waist level, to right; right to waist level to left until it has been moved seven (7) times in each direction with the total horizontal distance of travel being at least twenty-four (24) inches more than the space between the feet for each of the fourteen (14) moves. This shall be done in less than thirty-five (35) seconds.

CHAPTER 3

FIRE FIGHTER I

3-1

General

- ★ 3-1.1 The fire fighter shall demonstrate a knowledge of the organization of the fire department.
- 3-1.2 The fire fighter shall demonstrate knowledge as to the size of the fire department, the scope of its operation, and the standard operational procedures.
- 3-1.3 The fire fighter shall demonstrate knowledge of the fire department rules and regulations that apply to the position of fire fighter.

3-2

Forcible Entry

- ★ 3-2.1 The fire fighter shall identify and demonstrate the use of each type of forcible entry tool used by the authority having jurisdiction.
- 3-2.2 The fire fighter shall demonstrate the method and procedure of properly cleaning, maintaining, and inspecting each type of forcible entry tool and equipment.

3-3 Protective Breathing Apparatus

3-3.1 The fire fighter shall name at least four hazardous respiratory environments encountered in fire fighting.

★ 3-3.2 The fire fighter shall demonstrate the use, in a dense smoke environment, of all types of protective breathing apparatus || used by the authority having jurisdiction.

3-3.3 The fire fighter shall explain the physical requirements of the wearer, the limitations of the protective breathing apparatus, and the safety features of all types of protective || breathing apparatus used by the authority having jurisdiction.

★ 3-3.4 The fire fighter shall demonstrate donning protective breathing || apparatus while wearing protective clothing.

3-3.5 The fire fighter shall demonstrate that the protective || breathing apparatus is in a safe condition for immediate use.

3-3.6 The fire fighter shall demonstrate proper procedure for cleaning and sanitizing protective breathing apparatus for future use. |

3-4 First Aid

★ 3-4.1 The fire fighter shall demonstrate a primary survey for life-threatening injuries.

★ 3-4.2 The fire fighter shall demonstrate procedures for determining whether or not a victim has an open airway.

3-4.3 The fire fighter shall demonstrate procedures for establishing an open airway in a non-breathing person.

★ 3-4.4 The fire fighter shall demonstrate mouth-to-mouth and mouth-to-nose resuscitation.

★ 3-4.5 The fire fighter shall demonstrate oronasal ventilation.

3-4.6 The fire fighter shall identify the three signs of cardiac arrest.

★ 3-4.7 The fire fighter shall demonstrate cardiopulmonary resuscitation.

3-4.8 The fire fighter shall identify three types of external bleeding, and identify the characteristics of each type.

3-4.9 The fire fighter shall demonstrate techniques for controlling external bleeding.

3-5

Ropes

3-5.1 The fire fighter, when given the name, picture, or actual knot used by the department, shall identify it, and describe the purpose for which it would be used.

3-5.2 The fire fighter, when given the proper size and amount of rope, shall demonstrate tying a bowline knot, a clove hitch, and a becket or sheet bend.

3-5.3 The fire fighter, given the proper rope, shall demonstrate the bight, loop, round turn, and half hitch as used in tying knots and hitches.

3-5.4 The fire fighter, using an approved knot, shall hoist any selected forcible entry tool, ground ladder, or appliance to a height of at least 20 feet.

3-5.5 The fire fighter shall demonstrate the methods of inspecting, cleaning, and maintaining rope.

3-6

Salvage

3-6.1 The fire fighter shall identify and describe the purpose of salvage, and its value to the public and the fire department.

3-6.2 The fire fighter, as an individual and as a member of a team, shall demonstrate folds and rolls of salvage covers as used by the authority having jurisdiction.

3-6.3 The fire fighter, as an individual and as a member of a team, shall demonstrate salvage cover throws as used by the authority having jurisdiction.

3-6.4 The fire fighter shall demonstrate the methods of inspection, cleaning, and maintaining salvage equipment.

3-7 Fire Hose, Nozzles, and Appliances

★ 3-7.1 The fire fighter, given an approved fire department pumper, shall identify the sizes, types, amounts, and use of hose carried on that pumper.

3-7.2 The fire fighter, given an approved fire department pumper, shall identify the use of hose adaptors, and hose appliances carried on that pumper.

3-7.3 The fire fighter, given the necessary equipment and operating as an individual and as a member of a team, shall advance dry hose lines of two different sizes, both of which shall be 1 1/2-inch or larger, from a pumper:

- A into a structure
- B up a ladder into an upper floor window
- C up an inside stairway to an upper floor
- D up an outside stairway to an upper floor
- E down an inside stairway to a lower floor
- F down an outside stairway to a lower floor
- G to an upper floor by hoisting

3-7.4 The fire fighter, given the necessary equipment and operating as an individual and as a member of a team, shall advance charged attack lines of two different sizes, both of which shall be 1 1/2-inch or larger, from a pumper:

- A into a structure
- B up a ladder into an upper floor window
- C up an inside stairway to an upper floor
- D up an outside stairway to an upper floor
- E down an inside stairway to a lower floor
- F down an outside stairway to a lower floor
- G to an upper floor by hoisting

3-7.5 The fire fighter shall demonstrate cleaning fire hose, couplings, and nozzles; and inspecting for damage.

3-7.6 The fire fighter shall demonstrate the connection of fire hose to a hydrant, and the operation of fully opening and closing the hydrant.

3-7.7 The fire fighter shall demonstrate the loading of fire hose on fire apparatus as prescribed by the authority having jurisdiction; and shall also identify the purpose of at least three types of hose loads and finishes.

3-7.8 The fire fighter shall demonstrate at least three hose rolls as specified by the authority having jurisdiction.

3-7.9 The fire fighter shall demonstrate at least two hose carries as specified by the authority having jurisdiction.

3-7.10 The fire fighter shall demonstrate at least two hose drags as specified by the authority having jurisdiction.

3-7.11 The fire fighter shall demonstrate at least two methods of coupling and uncoupling fire hose as specified by the authority having jurisdiction.

3-7.12 The fire fighter, given the necessary equipment and operating as an individual and as a member of a team, shall demonstrate the method of working from a ladder with charged attack lines of two different sizes, both of which shall be 1 1/2-inch or larger, from a pumper.

3-7.13 The fire fighter shall demonstrate the methods of carrying hose into a building to be connected to a standpipe, and the methods of advancing a hose line from a standpipe, as specified by the authority having jurisdiction.

3-7.14 The fire fighter shall demonstrate the methods for extending a hose line, and replacing a burst section as specified by the authority having jurisdiction.

3-8

Fire Streams

3-8.1 The fire fighter shall define a fire stream.

★ 3-8.2 The fire fighter, given the necessary resources, shall manipulate the nozzle so as to attack at least two live fires including: a Class A fire and a Class B fire.

3-8.3 The fire fighter shall define water hammer and at least one method for its prevention.

3-8.4 The fire fighter shall demonstrate how to properly open and close a nozzle.

3-9

Ladders

3-9.1 The fire fighter shall identify all ladders specified by the authority having jurisdiction, and describe their uses.

3-9.2 The fire fighter, operating as an individual and as a member of a team, shall demonstrate the following ladder carries, the method of carry being specified by the authority having jurisdiction.

- A one person carry
- B two person carry
- C three person carry
- D four person carry
- E five person carry
- F six person carry

3-9.3 The fire fighter, operating as an individual and as a member of a team, shall raise every type and size of ground ladder as specified by the authority having jurisdiction; and use several different raises for each ladder.

★ 3-9.4 The fire fighter shall correctly climb the full length of every type of ground and aerial ladder, specified by the authority having jurisdiction.

3-9.5 The fire fighter shall correctly climb the full length of every type of ground and aerial ladder, as specified by the authority having jurisdiction, carrying fire fighting tools or equipment while ascending and descending the ladder.

★ 3-9.6 The fire fighter shall correctly climb the full length of every type of ground and aerial ladder as specified by the authority having jurisdiction, and bring an "injured person" down the ladders.

3-9.7 The fire fighter shall demonstrate the methods of working from ground or aerial ladders with tools and appliances, with and without a life belt, as specified by the authority having jurisdiction.

3-9.8 The fire fighter shall demonstrate the proper procedure for cleaning ladders.

3-10 Ventilation

3-10.1 The fire fighter shall define the principles of ventilation, and identify the advantages and effects of ventilation. ||

3-10.2 The fire fighter shall identify the dangers present, and precautions to be taken in performing ventilation.

★ 3-10.3 The fire fighter shall demonstrate opening various types of windows from inside, outside; with, and without the use of fire department tools. ||

3-10.4 The fire fighter shall demonstrate breaking window or door glass, and removing obstruction, without harm to self or others. ||

3-10.5 The fire fighter, given a fire axe, shall demonstrate the ventilation of a roof and a floor.

3-10.6 The fire fighter shall identify and explain the theory of a "back draft explosion." ||

3-11 Inspection

3-11.1 The fire fighter shall demonstrate, in writing, knowledge of the common causes of fires and their prevention.

3-11.2 The fire fighter shall demonstrate a knowledge of the fire inspection procedures used by the fire department.

3-11.3 The fire fighter shall describe the importance of public relations relative to the inspection programs of the fire department.

3-11.4 The fire fighter shall identify dwelling inspection procedures established by the authority having jurisdiction.

3-12

Rescue

3-12.1 The fire fighter shall demonstrate the removal of injured persons from the immediate hazard by the use of carries, drags, and stretchers.

3-12.2 The fire fighter shall demonstrate the procedure for searching for victims in burning, smoke filled buildings, or other hostile environments.

★ 3-12.3 The fire fighter shall demonstrate and explain the uses of a life belt.

3-12.4 The fire fighter shall demonstrate the use of the life net used by the authority having jurisdiction.

3-13

Sprinklers

3-13.1 The fire fighter shall identify the fire department sprinkler connection and water motor alarm.

3-13.2 The fire fighter shall connect hose line/s to a fire department connection of an automatic sprinkler system.

3-13.3 The fire fighter, when given a sprinkler head in serviceable use, shall demonstrate knowledge of how the automatic sprinkler head opens and releases water. ||

3-13.4 The fire fighter, when given the necessary equipment, shall effect a temporary stop of the flow of water from a sprinkler head. ||

the movements of fire apparatus; and the action to be taken upon the receipt of each signal.

3-14 Fire Alarm and Communications

3-14.1 The fire fighter shall demonstrate knowledge of the correct procedure for a citizen to report a fire or other emergencies.

3-14.2 The fire fighter shall demonstrate correctly receiving an alarm or a report of an emergency, and initiate proper action.

3-14.3 The fire fighter shall describe the purpose and functioning of all alarm receiving instruments and personnel alerting equipment provided in the fire station.

3-14.4 The fire fighter shall demonstrate station watch duties as assigned by the authority having jurisdiction.

3-14.5 The fire fighter shall demonstrate any traffic control devices installed in the fire station to facilitate the response of apparatus.

3-14.6 The fire fighter shall demonstrate procedures required for receipt and processing of business and personal calls.

3-14.7 The fire fighter shall demonstrate prescribed fire department radio procedures.

3-14.8 The fire fighter shall demonstrate policy and procedures concerning the ordering and transmitting of multiple alarms of fire and calls for special assistance.

3-14.9 The fire fighter shall identify and explain all fire alarm signals, including multiple alarm, and special signals governing

3-15

Safety

3-15.1 The fire fighter shall identify and explain dangerous building conditions created by fire or disaster, and precautions to protect other fire fighters as prescribed by the authority having jurisdiction.

3-15.2 The fire fighter shall demonstrate procedures for action when trapped or disoriented in a fire situation, or in a hostile environment.

3-15.3 The fire fighter shall demonstrate knowledge of safety procedures to be followed in the use of all equipment and apparatus that the fire fighter may be called upon to use.

3-15.4 The fire fighter shall demonstrate the correct use of all safety equipment to be used in electrical emergencies as prescribed by the authority having jurisdiction.

3-16

Fire Behavior

3-16.1 The fire fighter shall demonstrate the knowledge of fire behavior including the chemistry of fire, flame spread, flash over, phases of burning, classes of fire, and heat transfer.

CHAPTER 4

FIRE FIGHTER II

4-1

General

4-1.1 The fire fighter shall demonstrate responsibilities in determining the point of origin, cause, and protection of evidence in fires of a suspicious nature in accordance with authority having jurisdiction.

4-1.2 The fire fighter shall demonstrate shutting off the gas services to a building.

4-1.3 The fire fighter shall demonstrate shutting off electrical service to a building.

4-2

Forcible Entry

★ 4-2.1 The fire fighter shall identify materials and construction features of doors, windows, roofs, floors, and vertical barriers found in the area of the authority having jurisdiction; and shall also identify dangers associated with each in an emergency situation.

4-2.2 The fire fighter shall demonstrate the method and procedure of forcible entry through any door, window, ceiling, roof, floor, or vertical barrier specified by the authority having jurisdiction.

4-3

Protective Breathing Apparatus

★ 4-3.1 The fire fighter shall demonstrate the correct procedure for daily inspection and maintenance of the breathing apparatus used by the authority having jurisdiction.

4-3.2 The fire fighter, given each type of breathing apparatus used by the authority having jurisdiction, shall demonstrate the correct procedure for recharging.

★ 4-3.3 The fire fighter shall demonstrate the correct use of emergency procedures including breathing apparatus to assist other fire fighters, conservation of air and restrictive use of by-pass valves.

4-4 First Aid

4-4.1 The fire fighter shall identify four sources from which information might be gathered pertaining to the nature of an accident || victim's injuries.

4-4.2 The fire fighter, given specified situations, shall identify what injuries might be suspected from observation of the || injury-producing mechanisms, in addition to those injuries that are obvious.

★ 4-4.3 The fire fighter, given a victim, shall conduct a secondary survey for other than life-threatening injuries.

4-4.4 The fire fighter shall identify the symptoms of internal bleeding.

4-4.5 The fire fighter shall demonstrate caring for a person with known or suspected internal bleeding.

4-4.6 The fire fighter shall list the classes of thermal burns according to severity, and shall also explain the physical || characteristics of each class.

4-4.7 The fire fighter, given a specified situation, shall demonstrate the emergency care procedure indicated, and shall also || explain the significance of each step.

4-4.8 The fire fighter shall identify the emergency care for chemical burns, including chemical burns of the eyes.

4-4.9 The fire fighter shall identify the types of fractures and describe the differences.

4-4.10 The fire fighter shall identify three general symptoms of fractures.

4-4.11 The fire fighter, given an identified fracture, shall demonstrate the emergency care necessary to transport the victim.

4-4.12 The fire fighter shall demonstrate and explain the anatomical || process of breathing.

4-4.13 The fire fighter shall demonstrate the heart-lung-brain relationship as it affects life and shall explain what occurs when an airway obstruction is not corrected.

4-4.14 The fire fighter shall demonstrate cardiopulmonary resuscitation employing the two person technique. ||

4-4.15 The fire fighter shall identify symptoms of traumatic shock. |

4-4.16 The fire fighter shall demonstrate how to treat traumatic shock. |

4-5

Ropes

4-5.1 The fire fighter, when given a simulated fire fighting or rescue task, shall select the appropriate size, strength, and length rope for the task.

4-5.2 The fire fighter shall select and tie a rope between two objects at least 15 feet apart, using an approved hitch or knot, that will support the weight of a fire fighter on the rope.

4-5.3 The fire fighter shall demonstrate the use of rope, using approved knots and hitches, to tie ladders, hose, and other equipment, as to secure them to immovable objects.

4-6

Salvage

4-6.1 The fire fighter, given salvage equipment and operating as an individual and as a member of a team, shall demonstrate the construction and use of a water chute.

4-6.2 The fire fighter, given salvage equipment and operating as an individual and as a member of a team, shall demonstrate the construction and use of a water catch-all.

4-6.3 The fire fighter, given salvage equipment but excluding salvage covers, shall demonstrate the removal of debris, and removal and routing of water from a structure.

4-6.4 The fire fighter, given the necessary equipment, shall demonstrate the covering or closing of openings made during fire fighting operations.

4-7 Fire Hose, Nozzles, and Appliances

4-7.1 The fire fighter, given an approved fire department pumper, shall identify, select, and demonstrate the use of, any nozzle carried on that pumper. ||

4-7.2 The fire fighter, given the necessary equipment, shall demonstrate all hand hose lays specified by the authority having jurisdiction.

4-7.3 The fire fighter shall demonstrate inspection and maintenance of fire hose, couplings, and nozzles; and recommend replacement or repair as needed.

4-7.4 The fire fighter shall demonstrate all hydrant/pumper connections as required by the authority having jurisdiction.

4-8 Fire Streams

4-8.1 The fire fighter, given fire situations, for each situation shall:

- A Identify the phase of burning
- B Select the proper nozzle and hose size

4-8.2 The fire fighter shall identify characteristics of given types of fire streams. ||

4-8.3 The fire fighter, given five fire ground situations, shall select and identify the proper adaptors or appliances.

★4-8.4 The fire fighter shall identify several precautions to be followed while advancing hose lines to a fire.

4-8.5 The fire fighter shall identify three conditions that result in pressure losses in a hose line.

4-8.6 The fire fighter shall identify four special stream nozzles and demonstrate at least two uses or applications for each.

4-8.7 The fire fighter shall identify and explain foam-making appliances used, and shall produce a foam stream from all types of foam-making appliances used by the authority having jurisdiction. |

4-8.8 The fire fighter shall identify three observable results that are obtained when the proper application of a fire stream is accomplished.

4-8.9 The fire fighter, given the necessary resources, shall identify, select, and assemble those items required to develop at least three types of fire streams.

4-9 Ladders

4-9.1 The fire fighter shall identify the materials used in ladder construction.

4-9.2 The fire fighter shall identify the load safety features of all ground and aerial ladders used by the authority having jurisdiction.

4-9.3 The fire fighter shall demonstrate inspection, care, and maintenance procedures for all different types of ground and aerial ladders used by the authority having jurisdiction.

4-10

Ventilation

4-10.1 The fire fighter shall demonstrate the use of all different types of power saws and jack hammers used by the authority having jurisdiction.

4-10.2 The fire fighter shall identify the different types of roofs, demonstrate the methods used to ventilate each type, and identify the necessary precautions.

4-10.3 The fire fighter shall demonstrate how to determine the size of an opening for ventilation, how to locate these openings, and identify and explain the precautions to be taken during ventilation.

4-10.4 The fire fighter shall demonstrate the removal of skylights, scuttle covers, and other covers on roof tops.

4-10.5 The fire fighter shall demonstrate all different types of equipment for forced ventilation used by the authority having jurisdiction.

4-10.6 The fire fighter shall demonstrate ventilation using water fog.

4-11

Inspection

4-11.1 The fire fighter shall prepare diagrams or sketches to record the locations of items of concern during pre-fire planning operations.

4-11.2 The fire fighter shall collect and record, in writing, information required for the purpose of preparing a report on a building inspection or survey.

4-11.3 The fire fighter shall demonstrate school exit drill procedures as specified by the authority having jurisdiction.

★ 4-11.4 The fire fighter shall demonstrate life safety programs for the home.

4-11.5 The fire fighter shall identify common fire hazards and make recommendations for their correction.

4-12 Rescue

4-12.1 The fire fighter shall demonstrate the procedure to remove debris, rubble and other materials found at a cave-in.

4-12.2 The fire fighter shall demonstrate the use of the following rescue tools:

- A Shoring blocks
- B Trench jacks
- C Block and tackle
- D Hydraulic jacks
- E Screw Jacks

4-12.3 The fire fighter shall demonstrate how to prepare a victim for emergency transportation by using standard available equipment, or by improvising a method.

4-12.4 The fire fighter shall identify some dangers of search and rescue missions in tunnels, caves, construction sites and other hazardous areas as specified by the authority having jurisdiction.

4-12.5 The fire fighter, given equipment used by the authority having jurisdiction and operating as a member of a team, shall demonstrate the extrication of a victim from a vehicle accident.

4-12.6 The fire fighter, given the proper rope, shall tie the proper knot on a person and lower that person from a third floor level.

★ 4-12.7 The fire fighter shall demonstrate the use of breathing aid equipment used by the authority having jurisdiction, and explain the precautions of care and maintenance of each unit.

4-13 Water Supplies

★ 4-13.1 The fire fighter shall demonstrate knowledge of the water distribution system, and other water supplies in the local community.

4-13.2 The fire fighter shall identify the following parts of a water distribution system:

- A Distributors
- B Primary feeders
- C Secondary feeders

4-13.3 The fire fighter shall identify the following types of fire hydrants:

- A Dry-barrel fire hydrant
- B Wet-barrel fire hydrant

4-13.4 The fire fighter shall identify the following:

- A Normal operating pressure of a water distribution system.
- B Residual pressure of a water distribution system.
- C The flow pressure from an opening that is flowing water.

★ 4-13.5 The fire fighter shall identify the following types of water main valves:

- A Indicating
- B Non-indicating
- C Post Indicator
- D Outside Screw and Yoke

4-13.6 The fire fighter shall determine fire hydrant usability
by inspecting for:

- A Obstructions to use of hydrant
- B Direction of hydrant outlets to suitability of use
- C Mechanical above ground damage
- D Condition of paint or rust and corrosion
- E The full flow by fully opening and closing the hydrant
- F Ability to drain

4-14

Sprinklers

4-14.1 The fire fighter shall identify the MAIN DRAIN valve on an automatic sprinkler system.

4-14.2 The fire fighter shall open and close a MAIN DRAIN valve on an automatic sprinkler system.

4-14.3 The fire fighter shall identify the MAIN CONTROL valve on an automatic sprinkler system.

4-14.4 The fire fighter shall operate a MAIN CONTROL valve on an automatic sprinkler system from "open" to "closed" and then back to "open".

4-14.5 The fire fighter shall demonstrate knowledge of the valve of automatic sprinklers in providing safety to life of occupants in a structure.

4-14.6 The fire fighter shall identify and explain the dangers of premature closure of sprinkler main control valve, and of using fire hydrants to supply fire hose streams when the same water system is supplying the automatic sprinkler system.

4-14.7 The fire fighter shall identify the difference between an automatic sprinkler system that affords complete coverage and a partial sprinkler system.

4-14.8 The fire fighter shall identify at least three sources of water for supply to an automatic sprinkler system.

4-14.9 The fire fighter shall identify the following:

- A Wet sprinkler system
- B Dry sprinkler system
- C Deluge sprinkler system

★ 4-14.10 The fire fighter, when given the tools and sprinkler head, shall properly remove one head from the system and replace it with a head of the same type.

4-15 Fire Alarm and Communications

4-15.1 The fire fighter shall identify and demonstrate knowledge of areas assigned for first alarm response.

4-15.2 The fire fighter shall demonstrate proper use, as specified by the authority having jurisdiction, of radio equipment, both mobile and portable.

4-15.3 The fire fighter shall demonstrate arrival and situation reports over fire department radios in the manner specified by the authority having jurisdiction.

4-15.4 The fire fighter shall demonstrate any supervisory alarm equipment provided in the fire station and the prescribed action to be taken upon receipt of designated signals.

4-15.5 The fire fighter shall identify and explain fire location indicators provided to direct fire fighters to specific locations in protected public or private properties.

4-16 Portable Extinguishers

4-16.1 The fire fighter shall demonstrate a knowledge of the chemistry of fire.

4-16.2 The fire fighter shall identify the classification of types of fire as they relate to the use of portable extinguishers.

★ 4-16.3 The fire fighter, given a group of differing extinguishers, shall demonstrate the appropriate extinguishers for the various classes of fire.

4-16.4 The fire fighter shall identify the portable extinguisher rating system.

4-17 Overhaul

4-17.1 The fire fighter shall demonstrate the fire department procedure for overhaul of a building and its contents.

4-18

Fire Behavior

4-18.1 The fire fighter shall demonstrate the knowledge of
fire suppression agents.

CHAPTER 5

FIRE FIGHTER III

5-1 General

5-1.1 The fire fighter shall demonstrate writing a basic fire incident report.

5-1.2 The fire fighter shall demonstrate the principal types of building construction as defined in the local building code.

5-1.3 The fire fighter shall demonstrate the general fire behavior expected with each type of building construction, including the spread of fire, and the safety of the building, occupants, and fire fighters.

5-1.4 The fire fighter shall demonstrate assuming command of a fire ground operation in the absence of a fire officer.

5-2 Protective Breathing Apparatus

5-2.1 The fire fighter shall demonstrate the operational functions of all types of protective breathing apparatus used by the authority having jurisdiction.

5-2.2 The fire fighter shall demonstrate the principles of operation of the following types of protective breathing apparatus approved for fire fighting use:

- A Open-circuit demand using compressed air
- B Open-circuit pressure-demand using compressed air
- C Closed-circuit using compressed or liquid oxygen
- D Closed-circuit that chemically generates oxygen

5-3 Fire Hose, Nozzles, and Appliances

- ★ 5-3.1 The fire fighter shall demonstrate conducting an annual service test for fire hose.

5-4 Fire Streams

- 5-4.1 The fire fighter shall construct a diagram to identify three types of fog nozzles, identifying the major parts and tracing water flow through them.
- 5-4.2 The fire fighter, given a selection of nozzles and tips, shall identify their type, design, operation, nozzle pressure, and flow in GPM for proper operation of each.

5-5

Ladders

- ★ 5-5.1 The fire fighter shall demonstrate a nationally accepted annual service test for ground ladders.

5-6

Inspection

5-6.1 The fire fighter shall demonstrate, in writing, inspection reports as required by the authority having jurisdiction.

5-6.2 The fire fighter shall demonstrate that fire extinguishers in an inspected premises are of required types and ratings, conform to fire prevention code requirements where applicable, and have been inspected and serviced within the required period.

5-6.3 The fire fighter shall identify the action to be taken under designated procedures whenever fire hazards, or suspected fire hazards, are encountered during inspections.

5-6.4 The fire fighter shall demonstrate, in writing, the procedure for effective participation in the pre-fire planning of operation practiced by the authority having jurisdiction, including the information to be obtained during fire company inspections to facilitate such plans.

5-6.5 The fire fighter shall identify the duties and responsibilities of fire company inspectors assigned to a fire prevention detail in places of public assembly.

- ★ 5-6.6 The fire fighter, given details of different occupancies, shall identify the fire exit facilities for each occupancy as required by the authority having jurisdiction.

5-6.7 The fire fighter shall demonstrate the use and operation of various roof vents, both manual and automatic.

5-6.8 The fire fighter shall demonstrate the inspection of standpipe systems for fire protection, including visual inspection of hose (where provided), nozzles, hose outlet threads and fire department connections.

5-6.9 The fire fighter shall demonstrate a private water system for fire protection, including fire pumps, yard hydrants, hose houses, gravity and pressure types of water storage tanks, reservoirs, and draft sources.

5-6.10 The fire fighter shall identify smoke, flame, and heat ||
detection alarm systems.

5-6.11 The fire fighter shall identify local and state fire codes concerning subjects to be noted in fire company inspections.

5-6.12 The fire fighter shall identify the areas of responsibility of other municipal and state inspection agencies, other than fire department, that exists in the city, county, and state.

5-6.13 The fire fighter shall identify the fire hazards commonly found in manufacturing, commercial, residential, and public assembly occupancies.

5-6.14 The fire fighter shall identify common deficiencies in electrical services, and electrical appliances.

5-6.15 The fire fighter shall identify standard types of chimneys and flues, including recognizing deficiencies in such equipment likely to cause fires.

5-6.16 The fire fighter shall demonstrate knowledge of spread of fire through air conditioning and utility ducts, and identify and explain the functions of automatic and manual controls of these systems.

5-6.17 The fire fighter shall identify and explain local code requirements covering the proper storage and use of flammable liquids and gases.

5-6.18 The fire fighter shall identify and explain storage codes and practices contributing to fire safety in buildings, including: proper piling, aisles, clearances, access to fire equipment and exits.

5-6.19 The fire fighter shall identify and explain recommendations of proper outside storage and how it affects fire fighting, including: aisles, roadways, access to hydrants, access to buildings, exposure hazards, and dangers for fire fighting personnel.

5-6.20 The fire fighter shall identify water and smoke damage potential to goods, to office and manufacturing machinery, and to other valuable objects.

5-7

Rescue

5-7.1 The fire fighter shall demonstrate assuming command of a rescue operation in the absence of a fire officer. ||

5-8

Water Supplies

5-8.1 The fire fighter shall identify and explain the four fundamental components of a modern water distribution system. ||

5-8.2 The fire fighter, given a pitot tube and gauge, shall demonstrate its use and properly read and record several various flow pressures.

5-8.3 The fire fighter, given a chart, table, size of openings, and velocity pressures, shall determine the quantity of water flowing from the openings.

5-8.4 The fire fighter, given a chart and table, shall identify and explain the approximate discharge capacities of various water pipe sizes.

5-8.5 A fire fighter shall identify the pipe sizes used in water distribution systems for residential, business, and industrial districts.

5-8.6 A fire fighter shall identify at least two causes of increased resistance or friction loss with water flowing in water mains.

5-9

Sprinklers

5-9.1 The fire fighter, given an alarm valve of an automatic sprinkler system, shall demonstrate the operation of the valve.

5-9.2 A fire fighter, given twelve various sprinkler heads, shall identify all of them correctly at to:

- A Temperature rating
- B Pendant or upright
- C Special types

5-9.3 A fire fighter shall identify the alarm test valve on an automatic sprinkler system.

5-9.4 The fire fighter, given an automatic sprinkler system, shall operate the alarm test valve in such a manner as to actually test the system.

5-9.5 The fire fighter, given a velocity drain valve or ball drip valve on the fire department connection of an automatic sprinkler system, shall demonstrate the valve is operating and the pipe drained.

5-9.6 The fire fighter, given a check valve on the fire department connection to an automatic sprinkler system, shall demonstrate the direction of flow of water through the valve.

5-9.7 The fire fighter shall read and record the indicated pressures on all gauges provided on a standard wet automatic sprinkler system and name each gauge.

5-9.8 The fire fighter shall read and record the indicated pressures on all gauges provided on a standard dry pipe automatic sprinkler system and name each gauge.

5-9.9 The fire fighter shall identify and explain the reliability of automatic sprinkler systems, and shall identify eight reasons for unsatisfactory performance.

5-9.10 The fire fighter, by inspection of an automatic sprinkler system in a building, shall identify and explain if obstructions to sprinkler heads are present and what is the required clearance for the sprinkler head from obstructions.

5-10 Fire Alarm and Communications

5-10.1 The fire fighter shall demonstrate the rewinding, resetting, or both, of any fire alarm boxes or devices on the public fire alarm system as specified by the authority having jurisdiction.

5-10.2 The fire fighter shall demonstrate the ordering of multiple alarms and other calls for assistance from the fire ground when authorized to do so.

5-10.3 The fire fighter shall identify the types of supervisory alarm systems in the area of the authority having jurisdiction.

5-11 Safety

✱5-11.1 The fire fighter shall identify and explain the symbols used to designate hazardous materials and areas, and identify precautions that fire fighters are expected to observe and follow in such areas.

5-12

Overhaul

5-12.1 The fire fighter shall demonstrate methods and procedures used to detect and extinguish hidden fires.

APPENDICES

APPENDIX A

This appendix is not a part of this NFPA Standard, but is included for information purposes only.

A2-1 The specialized and hazardous nature of fire fighting requires that applicants demonstrate the ability to perform, or at least demonstrate the ability to acquire certain skills, knowledge and attitudes.

A2-1.1 EDUCATION - Applicants shall have graduated from high school or have obtained an equivalency certificate.

From the beginning of a fire department career an individual must be able to acquire and correctly associate significant quantities of information covering a wide variety of subject areas. Initially, training will be concentrated on development of manual skills and knowledge of the physical sciences. Continuing education will include humanities and administration, particularly if the fire fighter is to progress in the career ladder.

Although a considerable quantity of the knowledge will be obtained through in-service training, certain required levels of educational achievement can only be obtained through community colleges or similar programs at institutions of higher learning. Completion of high school (or an equivalency certificate) is considered a reasonable and identifiable benchmark whereby an applicant demonstrates through past performance the self-discipline and ability to acquire new knowledge necessary to fulfill the immediate and long-range training and education needs of a fire department career.

A2-1.2 AGE - Minimum entrance age of 18 years.

Two factors indicate the need to establish a minimum age of 18 for new applicants. First, it provides an opportunity to complete minimum educational requirements. (see A2-1.1)

In addition, the nature of a fire fighter's job requires a high degree of motivation and maturity due to the team work and close cooperation demanded to insure efficiency and safety. It is recognized that evaluating motivation and maturity may not be a completely objective process; nevertheless, an applicant's behavior pattern should be sufficiently well established by age 18 to permit a reasonable assessment of interest and emotional stability necessary to carry out the duties of a fire fighter.

A2-1.3 MEDICAL AND PHYSICAL REQUIREMENTS - applicants shall be required to successfully pass a rigorous medical examination and physical fitness test.

The nature of the tasks which a fire fighter will be called upon to perform requires an unusually high degree of physical fitness, agility and dexterity. Fire fighters experience an exceptionally high rate of service-connected injuries and deaths which is indicated by the studies revealing that fire fighting is a most hazardous occupation.

A2-1.4 BACKGROUND INVESTIGATION - applicants' background including personal, work and criminal history should be evaluated.

A fire fighter will be called upon to perform a variety of duties that require a high degree of public trust and confidence. These duties include inspection of property (public and private), enforcement of codes and ordinances, personalized care of the sick or injured and protecting valuable property. These and other duties demand a degree of integrity and honesty that may not be required in other public service positions.

A2-3 It is recommended that a qualified physical education specialist or a medical authority be consulted for guidance regarding the administration of the physical fitness requirements.

The authority having jurisdiction should seek medical advice to allow sufficient rest time between tests.

A2-3.1 Physical fitness can be defined as an individual's cardiovascular efficiency, or the ability to move oxygen through muscles and elimination of various by-products in the process. It is dependent on an ability to:

Rapidly breath large amounts of air.

Forcefully deliver large volumes of blood.

Effectively deliver oxygen to all parts of the body.

This ability is called "aerobic capacity" and, because it measures the conditions of the lungs, heart and vascular system, is the best known index to a person's overall physical fitness.

The aerobic capacity can be obtained with a field test requiring a stop watch and a measured place to run. The candidate for fire fighter must run at least one-half (1.5) miles in a time

period of twelve (12) minutes or less.

The hazard of the field test method of measuring a person's "aerobic capacity" is the inability to constantly measure the heart rate and blood pressure. This requires a physician's approval prior to the test.

The following precautions should be adhered to:

The candidate should not take a fitness test prior to beginning an exercise program if the candidate is over 30 years of age. Be sure the candidate has had the medical examination before taking a fitness test. If over 30, it is safer to postpone the test until completion of a six-week physical fitness training program. If the above two are complied with, yet the candidate experiences extreme fatigue, shortness of breath, light-headedness or nausea during the physical fitness test, STOP the test immediately, and contact a medical doctor. DO NOT try to repeat the test until the candidate's fitness level has been gradually improved through regular exercise as outlined by a medical doctor.

A2-3.2 Bent-knee sit-ups. The candidate's feet are approximately 12 to 18 inches apart and as close to the buttocks as possible. A scroer holds the feet, and the performer has fingers laced securely behind the neck and remains so throughout the test. A successful bent-knee sit-up is completed when the elbows touch the knees and then the shoulders return to the mat. One should hold the candidate's feet to the floor.

A2-3.3 The chin-ups will simulate the fire fighter's ability to lift or pull equipment such as hoses, ropes and other tools on the fire ground.

A2-3.4 The push-ups will simulate the fire fighter's need to push on the fire ground as may be required in the use of pike poles, battering rams and other equipment.

A2-3.5 The beam walk will demonstrate the individual's ability to maintain vertical balance of the body when the footing may not be sound.

A2-3.6 The duties of emergency situations require a degree of strength and stamina and this test is designed to determine if candidate possesses this ability.

A2-3.7 The candidate should be able to perform this objective without any sign of pain. Should any candidates encounter any pain during this objective, they should be subjected to a further study with careful examination from a physician reviewing the person's medical history relating to back problems.

A3-1.1 The intent of the objective is for fire fighters to know the chain of command within their fire department and know the type of governing body that controls their fire department.

A3-2.1 The intent of the objective is for fire fighters to actually use under realistic operational conditions any forcible entry tool within their department and thoroughly understand the dangers involved in the use of any of these tools.

A3-3.2 In training a fire fighter in this objective, the authority having jurisdiction may wish to substitute something for smoke that would have the same effect in demonstrating the value of protective breathing apparatus.

A3-3.4 The fire fighter should wear all protective clothing (while performing this objective) that would be required at a fire ground situation. The breathing apparatus should include all types that would be available at the fire ground as used by the department. In some mutual aid calls a fire fighter may have need to use the equipment of another department and should, if possible, be familiar with the operational characteristics of the breathing apparatus used in the mutual aid response area.

A3-4.1 The fire fighter should examine the victim from head to toe, indicating the areas that were most susceptible in injury and what type of symptoms he would be looking for in his primary survey.

A3-4.2 The fire fighter would describe the process of breathing and what happens to a diaphragm and ribcage during the process.

A3-4.4 This objective should be carried out in a rhythmic method for at least five minutes on a training manikin.

A3-4.5 This objective should be done for five minutes on an infant manikin with the monitoring of rhythm.

A3-4.7 The cardiopulmonary resuscitation should be done on a training manikin.

A3-7.1 A fire department pumper should meet National Fire Protection Association Standard 19.

A3-8.2 If it is possible, in the area of jurisdiction for a training exercise, a department could burn a structure of some type to accomplish the Class A fire. However, realizing environmental laws and certain restrictions in areas, the size of fires recommended in this objective may have to be modified to meet local restrictions.

A3-9.4 The types of ladders include straight wall, extension, and aerial.

A3-9.6 The intent of the objective is for the fire fighter to be able to demonstrate a method of bringing an injured person down a ladder, using another fire fighter as the victim.

A3-10.3 The intent is for the fire fighter to actually breach windows, door glass and other obstructions such as shutters, screen, shades, curtains and blinds. If it is impossible to find a building for this demonstration, a simulated facility should be provided.

A3-12.3 Life belts may not be available in the area and this objective should be at the discretion of the authority having jurisdiction.

A4-2.1 The intent of the objective, relating to the dangers associated with the emergency situation, is for the fire fighters to recognize the indicators that a building is ready to collapse.

A4-3.1 Refer to manufacturer's literature, or American National Standard Z88.5 - 1973 - Section 8.

A4-3.3 The intent of this objective is to assure that the fire fighter understands and is familiar with the manner of assisting another fire fighter who may, due to equipment breakdown or other emergencies, be without air.

A4-4.3 The intent of this objective is for the fire fighter to examine the victim in order to determine injuries that may not be obvious on the primary search. An example would be fluid from the ears, depressions of the skull or spasm or tenderness in the abdomen.

A4-8.4 There should be at least eight different situations that the fire fighter should avoid while advancing hose lines to a fire. Such hazards could include: fences, sharp objects that damage the hose, anything that might bind or catch or cramp the hose while the lines are being advanced.

A4-11.4 The intent of this objective is for the fire fighter to explain "OPERATION EDITH" (Exit Drill In The Home) giving its goals and objectives and describe the type of participation that is carried on in the local area.

A4-12.7 Breathing aid equipment includes equipment such as resuscitators, inhalators, bag masks, aspirators, and airways.

A4-13.1 The intent of the objective is for fire fighters to be able to use a map showing the distribution of the water supply throughout the city. They should know the primary source of water, the amount of water storage that creates pressure to the system, and be familiar with the minimum standards of sizes of water mains the jurisdiction's codes might require.

A4-13.5 In many publications this term is referred to as the Open Stem and Yoke.

A4-14.10 Some jurisdictions may require that a licensed plumber be present when any work of this nature is being done. This is only recommended as a training exercise and not to indicate that the fire fighter should be responsible for maintenance of any private company or corporation's system.

A4-16.3 The intent of this objective is for the fire fighter to make a discriminating selection from several different types of extinguishers and to know why a Type A extinguisher may not be effective on a Type B fire or Type B extinguisher may not be too effective on a Type A fire.

A5-3.1 National Fire Protection Association Standard 198 is recommended.

A5-5.1 The National Fire Protection Association Standard 193 is recommended.

A5-6.6 The intent is for the fire fighter to be able to recognize the exit facilities needed to meet National Fire Protection Association Life Safety Code 101, or other codes that may be adopted by the authority having jurisdiction, and apply to any type of public assembly occupancies. This might be demonstrated with an actual walking tour through a public assembly occupancy in the jurisdiction of the department.

A5-11.1 The systems should include those used by the Department of Transportation, the National Fire Protection Association's 704M, The International Association of Fire Chiefs, and the Atomic Energy Commission. There may be others that relate to a particular area. The fire fighter should know there is a Chemtrec National Hazardous Material Center manned 24 hours daily and the emergency telephone number is (800-424-9300).

APPENDIX B

This appendix is not a part of this NFPA Standard, but is included for information purposes only.

B-1 BIBLIOGRAPHY

B-1.1 This list is NOT to be considered a study guide for qualification purposes. These materials were used to assist the Committee in compiling this Standard.

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Bantam Books Inc., 666 5th Avenue, New York, NY 10019

Brady, R. J. Company, Bowie, MD 20715

Dun-Donnelly Publishing Corp., 666 5th Avenue, New York, NY 10019

International Association of Fire Fighters, (IAFF) 1750 New York
Avenue NW, Washington, DC 20006

International Fire Service Training Association (IFSTA), Fire
Protection Publications, Oklahoma State University, Stillwater,
OK 74074

National Fire Protection Association (NFPA), 470 Atlantic Avenue,
Boston, MA 02210

B-1.3 There are many other suitable fire service training publications that may be used to prepare individuals to meet preformance objectives. Fire fighters may wish to consult their training personnel for additional sources.