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Frederick County, MD Division of Fire/Rescue Services: Annual Work Performance Evaluation

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Abstract

The Frederick County, Maryland Division of Fire and Rescue Services (FCDFRS) implemented a work performance evaluation in October of 2011. The department required all operational personnel to participate in this evaluation process. The problem was that the personnel were not prepared for the physical fitness evaluation because the Division had not developed the criteria for the physical fitness levels. The purpose of this research was to identify the criteria for the Work Performance Evaluation physical fitness levels. It is not uncommon for personnel to regularly participate in station level physical fitness training, however no accepted program is provided. Through descriptive research, the researcher obtained physical fitness requirements criteria for private and public sector organizations, as well as, emergency organizations similar in size to the FCDFRS. The researcher also identified that FCDFRS does not have an established criteria for physical fitness. Personal communication was established with various public safety agencies to verify their physical fitness programs and their established criteria. A survey was distributed to gather information globally. As a result of the research, several recommendations were presented on how to achieve the criteria for physical fitness. Those recommendations included consultation with the IAFF regarding the use of CPAT and the WPE, forming an internal committee to address the need of a formal Health and Wellness program with collaborative assistance from the IAFF/IAFC Joint Health and Wellness Taskforce Group, re-evaluate the current medical standards as accepted by FCDFRS, review the incumbent physical agility test, and to incorporate those recommendations of national standards as a strategy for increasing the presence of physical fitness in FCDFRS. Future readers are encouraged to review and research the criteria for measuring the physical fitness levels in their

organization against NFPA standards, the military physical fitness requirements. This review should include the respective geographical stresses.

Frederick County, MD Division of Fire/Rescue Services: Annual Work Performance Evaluation

The fire and rescue service is a very complex, physically demanding, and prestigious profession. The service is constantly researching methods to increase service delivery, effectively, efficiently, and more important safely. The US News firefighter executive summary reported the fire department profession ranks 14th in the likelihood of dying on the job (Nemko, 2007, para. 4). Each year the United States Fire Service (2012) tragically loses approximately 80 to 100 firefighters in the line of duty. In an effort to improve firefighter safety, fire service leaders have implemented physical fitness into the daily work schedule to include annual work performance or fitness based agility tests. These evaluative tests are designed to measure both individual and departmental fitness levels. Prior to 2011, the Frederick County, Maryland Division of Fire/Rescue Services (FCDFRS) (2011) did not have a tool that measured physical fitness levels. In September 2011, the Division developed and began to use a Work Performance Evaluation tool to measure physical fitness levels.

The problem was that the personnel were not prepared for the physical fitness evaluation because the Division had not developed the criteria for the physical fitness levels. The purpose of this research was to identify the criteria for the Work Performance Evaluation physical fitness levels.

Through descriptive research, the following research questions were answered: (a) What are the criteria used by private organizations to establish physical fitness requirements? (b) What are the criteria used by public sector organizations to establish physical fitness requirements? (c) What are the criteria used by emergency organizations similar in size to FCDFRS for their physical fitness levels? (d) What are the criteria for physical fitness levels in FCDFRS?

Background and Significance

Geographically, Frederick County, Maryland is located approximately 30 miles west of Baltimore, Maryland and southeast of Washington, DC, the nation's capital. According to the latest United States Census Bureau, Frederick County is the largest county in the state of Maryland with 660.22 square miles and a population of 236, 745 (U. S. Department of Commerce [US Census], 2011). Prior to 1988, two entities were responsible for fire, rescue, and EMS services in Frederick City and Frederick County, Maryland. A merger occurred in 1989 combining both services under one umbrella to reduce the impact of service delivery.

The FCDFRS is a combination style department comprised of 375 career firefighters and paramedics approximately 600 active volunteer responders who provide fire, rescue, and EMS services to the citizens and visitors of Frederick County, Maryland. Working collaboratively, personnel staff both fire and EMS (ALS and BLS) units providing fire, rescue, and EMS services. In addition to those services, uniformed personnel staff several support services that provide training and education located at Frederick County Public Safety Training Center, emergency communications, fire investigations and inspections, and community disaster preparedness with the Office of Emergency Management.

Marsh (1997) researched and published the document, *New Medical/Physical Standards for Frederick County Firefighters: Strategic Management Change* (p. 170). The concept of these findings and the applicable National Fire Protection Association (NFPA) (1998) standards are still apart of the annual medical standards. Anchoring a difficult task and culture change, this document proved to provide comprehensive medical evaluations for the FCDFRS personnel.

A tremendous amount of growth in fire department personnel occurred from 1998 to 2010 with the appointment of approximately 200 firefighter/rescuers. On July 3, 2002, a line of

duty death (LODD) occurred during the physical fitness training. As with any fire department line of duty death, a number of independent investigations were completed. FCDFRS formed a Board of Inquiry (2002, p.19) to review the circumstances of the LODD and provide corrective recommendations to prevent future occurrences.

The most significant recommendation was the need to provide department staff specifically for the training academy. Other recommendations for the FCDFRS LODD can be found in Appendix M.

Following those recommended corrective actions, the FCDFRS appointed a health and wellness coordinator and safety officer in January 2004. In addition, a full complement of training academy staff was assigned to the training facility for recruit training and continuing education.

The WPE process was implemented by Chief Thomas Owens and the Frederick County, Maryland Government County Manager Ron Hart to ensure on-going physical readiness for personnel assigned to field operation of FCDFRS. Since, the department had no formal assessment, health and wellness became a priority for ensuring operational readiness of personnel.

Through several cycles of formal meetings, the Health and Wellness Coordinator for FCDFRS was tasked with creating an incumbent physical agility test. Several local fire departments mirroring similar demographics and traits were sought for information regarding physical readiness evaluations.

The Health and Wellness office requested the support of FCDFRS firefighters, line officers, training officers, command staff, and subject matter experts from the field of fitness and firefighting tasks to establish a work performance evaluation. The effort was intended to provide

each member a measure of physical strength, stamina, and aerobic capacity. Subsequently, the work performance evaluation could provide the Health and Wellness office an evaluative tool to improve personal physical fitness, provide individual guidance on exercise routines, and to improve the ability to meet the physical demands of firefighting activities.

The FCDFRS Work performance evaluation included the following components: the incumbent firefighter dons and properly secures a complete set of approved PPE and SCBA. Those SCBA's used for the WPE shall have undergone bench testing and flow testing within the previous 12 months and filled to 4500 psi. The events are placed in sequence that best simulates their use in a fire department operation while allowing a 75-foot walk between events. To ensure the highest level of safety and to prevent firefighter fatigue, no running is allowed between events. This will allow for a 10 to 20 second recovery before each event.

All incumbent personnel are required to have a current medical evaluation prior to testing. The testing components include the following:

1. Hose Drag – utilizing 100 feet of double jacketed 1 ¾" hose, the incumbent shall extend an uncharged houseline to a pre-marked box. Once in the box, you will pull 50 feet of hose to the finish line as indicated by a marking on the hose.

2. Equipment Carry – utilizing a rescue circular saw weighing 29 lbs. and a ventilation fan weighing 37.5 lbs., the incumbent will simulate carrying the tools for use on the emergency scene and returning them to the fire apparatus.

3. Ladder Carry, Raise, and Extension – utilizing (1) 16 foot roof ladder and (2) 24 foot extension ladders, the incumbent will carry the roof ladder 75 feet and place the ladder down. The incumbent will then raise a 24 foot ladder hand over hand until it rests against the wall. The

incumbent will then fully extend the fly section hand over hand with the rope halyard until it hits the stop. Upon completion, the incumbent will walk 75 feet.

4. Forcible Entry – utilizing (1) 10 lb. sledgehammer and the forcible entry machine, the incumbent will strike the device in a target area until the buzzer is activated.

5. High Rise Pack Carry – utilizing a high pack of 100 feet of 1 ¾" hose, the incumbent will carry the pack to a pre-determined location in the tower building, walk around a cone and back down the stairs to the marked box. The pack will then be placed back down.

6. Ventilation – utilizing a 6 lb. sledge hammer and a ventilation prop, the incumbent will position on the prop and strike the measuring device until the buzzer is activated.

7. Rescue – utilizing a 165 lb. mannequin in PPE, the incumbent will drag the mannequin 35 feet around a pre-positioned drum. Making a 180 degree turn and continue an additional 35 feet until the entire mannequin has been dragged past the finish line.

8. Hose Pull – utilizing 100 feet of double jacketed 1 ¾" hose and an automatic nozzle, the incumbent will pull the hose line/nozzle to a pre-determined height and lower back down in a controlled manner hand over hand.

9. Ceiling Breach and Pull – utilizing a 6 foot pike pole, the incumbent will

place the pike pole in a painted area and push up ten times; the hook will then be placed around a painted area and pulled ten times. At the conclusion of this station, the incumbent has successfully completed the WPE course.

Applying the concepts of the applied research paper requirements for the Executive Fire Officer Program – Executive Development, fire department physical fitness criteria can be related to the United States Fire Administration (2010) strategic plan, improve the fire and emergency services' capability for response to and recovery from all hazards and improve the

fire and emergency services' professional status (USFA, 2010). These two links can be paralleled with the foundation set forth by the curriculum of Executive Development and the need to transform fire and emergency services organizations from being reactive to proactive; with an emphasis on leadership development, prevention, and risk reduction (Executive Fire Officer, 2012).

The FCDFRS annual work performance evaluation was implemented to enhance the fitness, medical and behavioral health; fitness and medical rehabilitation; and fitness-wellness data collection of the Frederick County Division of Fire and Rescue Services (2011, p. 2). The development team was instructed to develop a task specific evaluation that would assess the physical output of the incumbent firefighters. Subsequently, the research efforts were minimal and did not include NFPA standards, the International Association of Firefighters (IAFF), the International Association of Fire Chiefs (IAFC), the United States Fire Administration (USFA), the Cooper Institute, and other fire departments participating in regular health/wellness programs.

Literature Review

Through research on the subject of firefighter health and wellness, a number of documents were found supporting the topic in the United States Fire Administration Learning Resource Center, the University of Maryland University College academic library, federal legislation, applicable national standards, and fire departments nationwide with implemented programs.

As with any new program, through legislation, the federal government often has a related impact. The importance of medical and physical standards for the fire service was defined several government agencies. The Civil Rights Act of 1991, the Americans with Disabilities Act

(ADA) of 1991, and the Age Discrimination in Employment Act (ADEA) Amendments of 1996 focus on the need for job-related standards that are based on the essential functions of the position. According to Sharkey and Davis (2008), these legislative directives require the development of a physical task-type test evaluating the essential functions of firefighting:

> Many employers are wary of instituting or enforcing physical standards because of fear of discrimination litigation under the ADA or other state handicap statutes. This fear should be dispelled because the ADA and its regulations clearly recognize the important interest involved in fire and emergency response, thereby allowing employers considerable latitude in setting physical standards so that firefighters can perform their "essential functions," which at times may require extreme physical exertion in fighting a fire or performing a rescue. (p. 179)

The ADA requires that medical and physical standards be job-related and consistent with business necessity, which means developing job-related medical and physical standards. Section 102 (6), (6) of the ADA requires that employers must be able to show that the physical fitness tests are job related and consistent with business necessity. The ADA does not restrict an employer's ability to ask about the employee's ability to perform job-related functions. For incumbents, a critical ADA issue is ensuring continuing fitness-for-duty, which includes return-to-work procedures (www.ada.gov).

Other provisions include, the ADEA Amendments of 1996 (www.eeoc.gov) underscored the importance of measuring physical ability. The ADEA has two critical implications for the fire service:

1. Physical ability is a better predictor than chronological age (of the ability to do firefighting work). Therefore, physical ability should be measured.

> 2. Once, the measurable point is identified where a firefighter can no longer demonstrate the physical ability to continue as a firefighter, that point of performance would apply to any firefighter, regardless of age or length of career. (Rukavina, 1997, p. 22)

Discrimination based on age is not permitted as long as a person is physically able to do the job. The only way to know if a person is physically able to do the job is by measuring the physical ability of incumbents throughout their career.

Additionally, the U.S. Department of Health and Human Services (DHHS) and the National Institute of Occupational Safety and Health (NIOSH) have been charged by Congress with reevaluating the relationship between age and physical ability and firefighting. DHHS is required to develop guidelines and regulations for non-discriminatory and valid job performance tests for firefighters who wish to challenge mandatory retirement standards individually (Rukavina, 1997, p. 22).

In 1992, the Equal Employment Opportunity Commission (EEOC) conducted a study that concluded that age was not a reasonable predictor of employee performance in the fire service: “that accumulated deficits' in firefighter physical ability were only marginally associated with age.” “As attitudes change on the issues of diet, exercise, and smoking, it will be increasingly difficult to argue that the fire service can maintain separate standards of physical fitness for new hires and incumbents.” (www.eeoc.gov)

The 2007 edition of the National Fire Protection Association 1500, Standard on Fire Department Health and Safety Occupation, provided an overview for the establishment of the NFPA 1583, Standard on Health-Related Fitness Programs for Fire Department Members. The following information was published specifically in Chapter 11.2, “the wellness program shall provide health promotion activities that identify physical and mental health risk factors and shall

provide education and counseling for the purpose of preventing health problems and enhancing overall well-being" (National Fire Protection Association [NFPA], 2007, p. 28).

The NFPA has been very proactive in the development of wellness programs for fire department personnel. In 2008, NFPA 1583, Standard on Health-Related Fitness Programs for Fire Department Members was released. The purpose of this standard was to provide minimum requirements for a health-related fitness program for fire department members that enhances the members' ability to perform occupational activities efficiently and safely and reduces the risk of injury, disease, and premature death. The components of the program shall include the following:

1. Assignment of a qualified health and fitness coordinator
2. Periodic fitness assessment for all members
3. Exercise training program that is available to all members
4. Education and counseling regarding health promotion for all members
5. Process for collecting and maintaining health-related fitness data (National Fire Protection Association [NFPA], 2008, p. 4)

The International Association of Fire Firefighters and International Association of Fire Chiefs have also been instrumental in the area of health/wellness for the fire service. A number of fire departments throughout the United States and Canada have developed wellness-fitness programs based on the IAFF and IAFC Joint Labor Management Wellness-Fitness Initiative Research has demonstrated the need for high levels of aerobic fitness, muscular endurance, muscular strength, muscular power and flexibility in order to perform safely and effectively in the fire service. While assessing uniformed personnel's current fitness level is an important part of developing an individualized fitness program, assessment is not, in its self, a fitness program

(International Association of Fire Fighters [IAFF], 2012). Fitness physically, mentally, and emotionally requires an effective wellness program available to recruits, active fire fighters, and retirees. The Fire Service Joint Labor Management Wellness and Fitness Initiative is an exciting challenge as a positive process for the fire service. An overall wellness and fitness system must be holistic, positive, rehabilitating and educational. Key issues of the initiative incorporate the following points:

1. Overcome the historic fire service punitive mentality of physical fitness and wellness issues.
2. Move beyond negative timed, task-based performance testing to progressive wellness improvement.
3. Require a commitment by labor and management to a positive individualized fitness/wellness program; and
4. Develop a holistic wellness approach that includes: medical, fitness, injury/fitness/medical rehabilitation and behavioral health. (International Association of Fire Fighters [IAFF], 2012, para.2)

It is critical that firefighters perform physically at a high level. The service must constantly strive to provide strategies emphasizing efficient service delivery.

With the influx of legislation and national fire department standards, other credible organizations have analyzed the subject of physical fitness in the fire service. The physical stress that firefighters face exacerbates the risk of musculoskeletal injuries and cardiac complications. A high number of job related deaths and injuries per year have led organizations such as the NFPA, IAFF, and IAFC to consider and suggest physical training recommendations for fitness

among firefighters (Rhea, Alvar, & Gray, 2004, p. 348). It's imperative that benchmarks and parameters are set for firefighter fitness to aid the specific tasks as required by the industry.

The Arizona State University Department of Exercise and Wellness performed a study on firefighter fitness with the Phoenix Fire Department. It was noted in the study that very little research has been published that examines the correlation between fire suppression tasks and physical fitness in male firefighters.

> An investigation by specialists in the physical fitness field compared the relationship between fire suppression tasks and physical fitness in male firefighters. Body composition, pull-ups, push-ups, 1.5 mile run, sit-ups, grip strength, and sit and reach tests were administered to identify fitness levels. These examinations identified correlations between limited fitness measures and job performances. Descriptive data provided statistical significance and overall magnitude of the correlations identified in the study demonstrate that, in job tasks performed, fire suppression place demands on muscular strength, muscular endurance, and anaerobic power/endurance. (Rhea, Alvar, & Gray, 2004, pp. 348-349)

The Cooper Institute is highly regarded in providing an analysis of physical fitness for public safety agencies. Since 1976, the Cooper Institute has been dedicated to scientific research in the field of preventive medicine and public health and communicating the results of research to the scientific and medical communities as well as to the general public (Cooper Institute, 2011).

When determining those factors that influence fitness tests, standards, and programs it is imperative to assure the criteria meets valid and defensible practices. The Cooper Institute provides a simple question review for those agencies wishing to implement fitness testing

programs. The following questions are those related to determining the strength of the program: (a) why be concerned with fitness? (b) what constitutes fitness test, standards, and programs? (c) is physical fitness job related? and (d) can it be scientifically valid. In summary, the Cooper Institute recommends that the validity of testing must concur with the specific industry requirements and meet the criteria found in Appendix A.

In relationship to FCDFRS, the Candidate Physical ability test (CPAT) is utilized to determine if applicants are physically able to perform the specifics tasks of the profession. To compound matters, the basis of the Work Performance Evaluation mirrors CPAT. These same issues came to light with the Texas City, Texas Fire Department over concerns of their CPAT license and incumbent testing. The IAFF issued a notice of citation stating,

"In our ongoing effort to ensure that the CPAT is being used properly and only as intended, we have enacted a reporting and investigation program that can be used by anyone who identifies deficiencies in CPAT implementation. Reportable problems could include but are not limited to jurisdictions utilizing the CPAT as an employment requirement without proper licensure, jurisdictions altering CPAT events in a manner inconsistent with the CPAT manual, or jurisdictions utilizing the CPAT for the purpose of testing incumbent firefighters." The use of CPAT for incumbent testing is a violation of the CPAT copyright. The CPAT program is a complete program for the recruiting and testing of physically qualified individuals for employment in the fire service. The individual parts are interdependent and shall not be taken out of context. Furthermore, the CPAT was designed as a valid and reproducible entry-level test for firefighter candidates. Any use of this test with incumbents could potentially invalidate this test for its intended use" (Brinkley, 2010, International Association of Fire Fighters, Mayor

Mathew T. Doyle, May 24, 2010). This information challenges the reason of concern over the established criteria for physical fitness.

Procedures

With the use of descriptive research, sufficient data regarding the criteria for physical fitness, personal communication was established with multiple emergency service representatives (fire, rescue, EMS, and police), electronic mail (Appendix B), and a survey distributed through the National Fire Academy, Trade-Net subscriber database (Appendix C).

On March 26, 2012, Chief Thomas Owens of Frederick County, Maryland Division of Fire and Rescue Services (personal communication, March 26, 2012) was contacted by email for assistance in utilizing the Washington Metropolitan Council of Governments Fire and EMS departments (WMCOG) and Maryland State Metropolitan Fire Chiefs Council (MMFC) electronic mail exchange (Appendix B).

A number of departments from both WMCOG and MMFC provided data. An interview was conducted with Prince Georges County, MD Fire and EMS Department, Lt. Charles "Bill" Bussing (personal communication, March 23, 2012) – Wellness and Fitness Coordinator (Appendix D). The request was made regarding Prince Georges County Fire and EMS Department medical and physical fitness standards.

A personal communication was established with Baltimore County, MD Fire and EMS Department, Jonathan G. Kuruc (personal communication, March 26, 2012) Division Chief (Appendix E). The request through the Maryland State Metropolitan Fire Chiefs Council was for any applicable physical fitness standards.

Through a series of electronic mail exchanges, Baltimore-Washington International (BWI) Airport Fire and Rescue Department, Woodrow W. Cullum (personal communication,

March 21, 2012) Fire Chief was contacted via telephone (Appendix F). The request through the Maryland State Metropolitan Fire Chiefs Council was for any applicable physical fitness standards

Through electronic mail, Joanne Rund (personal communication, August 14, 2012) Battalion Chief of the Howard County Fire and Rescue Services (HCFRS) was contacted (Appendix G). The request through the Maryland State Metropolitan Fire Chiefs Council was for any applicable physical fitness standards. The Loudoun County, Virginia Fire and Rescue Services (LCFR) Deputy Chief Randall Shank (personal communication, August 4, 2012) was contacted by phone regarding their respective standards (Appendix H).

The Wilson North Carolina Fire and Rescue Department was also contacted via electronic mail (Appendix I). Chief Don Oliver (personal communication, August 14, 2012) referred the questions regarding the departments to Division Chief Randy Goodwin (personal communication, August 14, 2012). Those specific questions can be found in Appendix I.

Previous FCDFRS Deputy Director Andrew Marsh (personal communication, July 3, 2012) was contacted regarding his Executive Fire Officer applied research paper. The main purpose of this contact was to gather a better understanding of the incumbent physical agility test developed. The components of the validated physical agility were noted in the results portion of the ARP.

The Maryland State Police was contacted in reference to annual fitness standards for uniformed personnel. Lt. Colonel Robert Turano (personal communication, August 12, 2012) was contacted to obtain the departments' physical fitness standard (Appendix J).

A personal communication was established with Tina Brooks (personal communication, August 15, 2012) Personal Training and Workshops Coordinator -Fitness Branch, Semper Fit

Division. The main purpose this contact was to gain knowledge of the US Military physical fitness standards (Appendix K).

A personal communication was established with FCDFRS Battalion Chief Thomas Coe (personal communication, July 24, 2012) regarding the FCDFRS physical fitness standards.

A personal communication was established with South Pointe Fitness Center owner, Heather O'Neil (personal communication, June 20, 2012) regarding private sector physical fitness and critera (Appendix L).

An external questionnaire was created and distributed utilizing the NFA resource Trade Net. The information that was sought focused on the research questions regarding physical fitness programs and annual work performance and fitness evaluations provided data for the Results Section of the paper. There were 100 responses to the questionnaire. It is not known how many actual questionnaires were received. The questions from the questionnaire can be found in Appendix C. Multiple procedures were used in the study. It is assumed that individuals answering the questionnaire were well versed in their organization's work performance and fitness requirements. A limitation of the study was that the sample size for the Trade Net questionnaire is unknown.

Results

The use of descriptive research guided the four questions. The first research question was (a) What are the criteria used by private organizations to establish physical fitness requirements? Since no real research could be obtained, it was determined that private organizations do not generally establish physical fitness requirements. The research concluded with public and private school physical education requirements only. The information was curriculum based and reflected instruction for only teachers and students. It also resulted in no direct relationship to

the private organizations or to the fire service wellness and fitness initiative. It was also noted that an Executive Order was established by President George Bush in 2007. South Pointe Fitness Center owner, Heather O'Neil (personal communication, June 20, 2012) (Appendix L) provides personal training to club members mirroring the Executive Order to improve individual fitness levels.

The second research question asked: (b) What are the criteria used by public sector organizations to establish physical fitness requirements? It was determined that public sector organizations have established criteria for physical fitness. The research concluded that major sectors that included fire, military, and police had specific programs to enhance the overall physical fitness levels of personnel. Each component of those public sectors listed has annual physical ability/agility evaluations that establish benchmarks to strengthen the rationale of the testing.

The Prince Georges County Fire and EMS Department through Lt. Charles "Bill" Bussing (personal communication, March 23, 2012) (Appendix D), Wellness and Fitness Coordinator advised the Prince Georges County Fire and EMS Department provides annual medical physicals, however no incumbent physical fitness evaluation. In addition, the department has a wellness and fitness bureau to assist personnel, but with the large workforce, it is virtually impossible to manage the expectations of both the annual medical physicals and implement an incumbent physical fitness evaluation.

The Baltimore County, MD Fire and EMS Department through Jonathan G. Kuruc (personal communication, March 26, 2012) (Appendix E), Division Chief requires all personnel to complete an annual medical physical. The department was in the process of developing a fit-

for-duty and or an annual incumbent physical fitness evaluation, but the components had not been established and the process was very preliminary.

The BWI Fire and Rescue Department through Woodrow W. Cullum (personal communication, March 21, 2012) (Appendix F), Fire Chief requires personnel to complete an annual medical physical and a fit-for-duty test. The BWI Fire and Rescue Department maintains compliance with the Maryland Fire Service Health and Safety Consensus Standard as a part of the Maryland Occupational Safety and Health (MOSH) requirement.

Howard County, MD Fire and Rescue Services (HCFRS) through Joanne Rund (personal communication, August 14, 2012) (Appendix G), Battalion Chief of the Howard County Fire and Rescue Services provides a NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments, physicals for entry level candidates. "The department provides an NFPA 1582 level physical annually for incumbent personnel. Annual fitness testing is in the process of being revamped and until it is complete has been suspended. Previously, HCFRS was providing an NFPA 1583, Standard on Health-Related Fitness Programs for Fire Department Members, annual fitness evaluation with a job task segment as listed in 1583 to provide annual validation of all job tasks for each member. Until a policy is rewritten and approved by the Office of Law and Risk Management HCFRS cannot administer incumbent physical agility tests."

The Loudoun County, VA Fire and Rescue Services (LCFR) through Deputy Chief Randall Shank (personal communication, August 4, 2012) (Appendix H) currently requires annual medical physicals and is working toward an incumbent agility test. Those requirements work in accordance with the applicable NFPA standard.

The Wilson, NC Fire and Rescue Services continues to organizational value through the successful health evaluations on their firefighters. Division Chief Randy Goodwin (personal communication, August 14, 2012) (Appendix I) stated, “The department conducts annual wellness physicals. On several occasions these annual physicals have identified some severe health problems in a few of the firefighters and they were retired on disability.” “The policy does reflect both NFPA 1582 and 1583, as well as, meet the full intent of these standards.” The current Standard Operating Procedure – Physical Fitness Standards and Testing dated October 3, 2011 includes guidelines and standards for implementation of a health maintenance program for all uniformed personnel. This program includes daily shift physical training and requirements for an annual physical ability test. The individual program requires all personnel to follow the same exercise outlined in the policy to include 5 minutes of warm-up, aerobic fitness/muscular fitness for 20-50 minutes, and a cool down for at least 5 minutes (Wilson, North Carolina Fire/Rescue Services [WFRS], 2011). The ability test outlined in the policy states personnel shall participate in the Firefighter Combat Challenge. This test requires personnel to wear full PPE and SCBA while performing the following tasks:

1. Ascend to the fourth floor (5 stories) of the fire tower with a hose pack or high rise pack not to exceed 55 pounds;
2. Hoist 2 ½” hose to the same level and not to exceed 45 pounds;
3. Utilizing a Keiser forcible entry simulator and 9 pound dead blow mall, strike the 150 lb. device moving it a distance of 5 feet;
4. Advance a charged 100 foot 1 ½” hose a distance of 75 feet and flow water;
5. A victim rescue consisting of moving a 175 pound rescue manikin a distance of 100 feet. (p. 3)

The parameters set forth for pass/fail are finishing the test components with air remaining in the cylinder at the conclusion of the test.

The Semper Fit Division at Camp Lejeune collaboratively works with the three major branches of the United States Military assigned to the facility. Tina Brooks (personal communication, August 15, 2012) (Appendix I), Personal Training and Workshops Coordinator - Fitness Branch, Semper Fit Division stated, “the three major branches of the United States Military Services have strict physical fitness requirements for uniformed personnel.” “Specifically, each branch of the military services has different variations of testing components.” “Semper Fit develops fitness programs for the US Military Services to assist personnel with semi and annual physical agility tests.” The US Army, Marines, and Navy are required to meet established criteria set forth by Marine Corps Order P6100.12 (Appendix K). (Marine Corps Order P6100.12, 2010)

The United States Army requires all personnel participate in the Army Physical Fitness Test (APFT). With established benchmarks for age of participants, the test evaluates personnel by the following tasks:

- Total number of push-ups in two minutes
- Total number of sit-ups in two minutes
- Two mile run (United States Army [US Army], 2012)

The AFPT must be completed twice in the same calendar year to measure a soldier's major muscle groups' endurance and ability to move the body, as well as the performance of the soldier's cardiorespiratory fitness (United States Army [US Army], 2012).

The United State Marine Corps utilizes a similar test to measure the physical abilities of personnel. Fitness is essential to the day-to-day effectiveness and combat readiness of the

Marine Corps. The Marine Corps considers physical fitness an indispensable aspect of leadership.

The PFT has three events, pull-ups (Flexed-Arm Hang for females), abdominal crunches, and a 3-mile run. All PFT events will be conducted in a single session, not to exceed 2 hours in duration.

- Total number of Pull-ups (male only)
- Flexed-Arm Hang – time based on how long you can hang maintaining elbow flexion (Females only)
- Total number of abdominal crunches in two minutes
- 3 Mile Run (United States Marine Corps [USMC], 2012).

As with the US Army, the benchmarks established for the US Marine PFT is age specific and required semi-annually in a calendar year (United States Marine Corps [USMC], 2012).

The United States Navy as like the other two major branches requires personnel to participate in a physical readiness test (PRT). The PRT has the following testing components:

- 1.5-Mile Run – any combination of running or walking is acceptable to complete the test
- Total number of curl-ups in two minutes
- Total number of push-ups in two minutes (United States Navy [US Navy], 2012)

The PRT is age specific as well and must be completed to the established benchmarks set forth by the US Navy. One addition to the PRT and dependence on rank/position, participants will perform a 500 meter swim. This agility test is required bi-annually in a calendar year (United States Navy [US Navy], 2012).

Public sector organizations such as, police departments also require a form of physical ability and agility tests. As noted in *SWAT Fitness* (Brzycki & Meyers, 2003, p. 18), physical fitness is an integral part of all police tactical operations, as well as, daily life. A police SWAT officer require an extraordinary level of physical fitness (Brzycki & Meyers, 2003, p. 18). As a requirement, the agility test has the purpose of improving longevity, quality of life, mental and physical well-being, and overall health, and injury prevention, short recovery from injuries, work performance, stress release, stamina, motivation, and physical appearance (Brzycki & Meyers, 2003, p. 18).

The Maryland State Police (MSP) through Lt. Colonel Robert Turano (personal communication, August 12, 2012) (Appendix J) stated his department was once was known for their rigorous physical fitness program and annual testing process. This process assured personnel were physically fit to perform the tasks of the profession. The decline in the economy has logistically made the test impossible. In addition, legal ramifications from the labor organizations representing the Maryland State Police Troopers caused trouble upon implementation of the physical agility test. The Maryland State Police worked in association with the Cooper Institute (Appendix A) to establish criteria for physical fitness.

The global annual physical ability evaluation for police officers includes the following tasks:

- One-mile run in 12 minutes or less carrying an assigned unloaded shoulder-fired weapon
- 60-yard run carrying a 45 pound dumbbell
- 30-yard low crawl within 60 seconds
- Climbing exercise within 10 seconds

- Five vertical raises (pull-ups)
- Five vertical pushes (dips)
- Ascend eight flights of stairs carrying a 45 pound dumbbell
- Move a member 20 yards (p. 361)

The third research question was (c) What are the criteria used by emergency organizations similar in size to FCDFRS for their physical fitness levels? It was determined the criteria used by emergency organizations similar in size to FCDFRS do require annual medical physicals; however, no physical ability or agility tests were required. Those departments with functional programs are noted in Appendix B. In addition, the information obtained can be located in the Tables labeled Washington Metropolitan Council of Governments and Maryland Metropolitan Fire Chiefs. A vast majority of the departments have researched the options for implementation of physical agility tests; however have limited options due to budget and staffing issues.

The last research question was (d) What are the criteria for physical fitness levels in FCDFRS? The FCDFRS has no identified criteria for physical fitness procedures (T. Coe, personal communication, July 24, 2012). The Candidate Physical Ability Test (CPAT) (International Association of Fire Fighters [IAFF], 2012) has been the only acceptable measure of personnel fitness. A successful completion of CPAT is a requirement for those desiring employment with FCDFRS. Once appointed to the rank of firefighter recruit, the FCDFRS provides a 21 week academy. During the 21 week academy, a physical fitness program provides a wide variety of fitness based enhancements, but no structured program is established. Likewise, personnel are permitted to participate in daily physical fitness training. To date, no

formal physical fitness program has been developed or adopted by the FCDFRS Health and Wellness staff.

Prior to implementation of the Work Performance Evaluation, the only form of documented results for physical fitness was the incumbent physically agility test developed by previous FCDFRS Deputy Director Andrew Marsh (personal communication, July 3, 2012). This test was developed to create criteria for medical standards and an incumbent physical agility test for FCDFRS. The testing procedures were a result of the NFPA 1500, Standard on Fire Department Occupational Safety and Health Program and 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments recommendations. The medical standards were established; however the incumbent test was never implemented.

The test included the following procedures: with the incumbent use of full PPE gear, gloves, helmet, coats, boots, and self-contained breathing apparatus (SCBA). Personnel shall wear, but not use the SCBA face piece. Each task is performed sequentially and immediately following completion of the previous task. Total elapsed time for the test is 10 minutes.

Ladder extension - Standing at the start line, walk to a 35 foot extension ladder which is lashed to the fire escape at the side of the five story tower building, extend the fly section of the ladder hand over hand, engage the dogs, and retract the ladder without allowing the rope to slip through the hands.

Hose carry - Carry a 75 pound standpipe hose pack to the fourth floor of the tower building and deposit it on the floor.

Hose pull - Pull a section of 2 1/2 inch hose, including brass couplings (52 pounds), aided by a hose roller and a 1/2 inch utility line, to the fourth floor fire escape railing. The task is completed when the couplings are lowered to the ground.

Dummy rescue - Carry or drag a 117 pound dummy from the fourth floor to the exterior of the building. The task is completed when the dummy clears the starting line 40 feet away from the door on the outside of the building.

Chopping - Using an eight-pound sledgehammer, strike a railroad tie for a total of 30 times, generating as much force as possible.

The Physical Agility Test is completed and the elapsed time ends when the chopping task is completed.

Of the 100 responses, from the survey collected through Trade Net (Appendix C), 62.9 % responded that their respective department has a physical fitness program. In response to administering of CPAT, 40.3 % responded yes, however 59.7 % responded with no. It is unknown what form of physical evaluation those departments utilize. It was also noted that 53.2 % of those participating in the survey utilized an annual physical ability test and evaluation, but those tests did not reflect or mirror CPAT.

Discussion

Looking back at the foundations of this topic, it is imperative that firefighter/rescuers maintain an adequate level of physical fitness to endure the rigors of the job expectations. The demands of the profession seemingly increase almost daily, yet the seriousness of physical fitness has only been introduced to the fire service since circa 2000 (NFPA, 2008). The basis of physical education is validated through relevant research found in the literature review.

To encourage physical fitness, an executive order was issued in 2007 by United States President George Bush. The executive order addressed the public health and human services needs of the American people, “the Secretary of Health and Human Services shall develop and coordinate a national program to enhance physical activity and sports participation” (Exec. Order

No. 13346, 2002-2007). This executive order reiterates the value of physical fitness. The South Pointe Fitness Center in Hagerstown, Maryland (O'Neil, 2012) provides a number of opportunities to enhance physical fitness. The basis of the Executive Order (2002-2007) provides a purpose to encourage physical fitness and resulting benefits. Likewise, physical fitness allows for a healthier lifestyle therefore, education is equally important when determining a physical fitness program.

The importance of physical fitness is without question the first steps in ensuring the stakeholders that personnel are dedicated to their profession. According to Perry (2004), firefighters have a tremendous responsibility ensuring all aspects of the profession (apparatus, equipment, and training) are taken care of. These tasks cumulate with the latest trends in the industry, as well as, regulations and standards the personnel must adhere too. The basis of training starts and ends with personal safety. The results in both Appendix B and C validate that physical fitness has a presence in the fire service. The departments reflected in Appendix C have a form of physical fitness yet; have not made the necessary steps in establishing criteria like Wilson, North Carolina Fire and Rescue.

The United States Fire Administration (USFA, 2010) provides annual statistics on firefighter line of duty deaths, where sudden cardiac arrest is the number-one killer. Education is this field enables personnel to adequately adjust not only their personal lifestyles, but also their professional lifestyle. The results of research (Perry, 2004) (Appendix C) echo that physical education is critical to improving the well-being of not just firefighter/rescuers, but also all citizens of the United States. The vision of the fire service should most certainly educate personnel about remaining vigilant of the profession, yet provide the necessary steps to avoid the past traditions. The results in the survey (Appendix C) solidify the fact that physical fitness is

present in the service. Perry (2004) recommends that more concerted effort should be directed at education in the subject of physical fitness. In theory, physical education should be a tangible link connecting exercise, nutritional practices, and other human dynamics (stress, sleep) and the cumulative effects on the human body. A person with a basic physical education should understand how to make activity and nutritional choices that promote a healthful lifestyle. Appendix B and C suggest that the fire service is beginning to incorporate physical fitness into the daily schedule. Also, the United States Military (Appendix K) requires physical fitness and successful completion of an annual agility test.

The education of this vital tool (physical fitness and education) is significant considering the annual firefighter line of duty death and injuries statistics produced by the USFA (2010). Over time, improvements should increase the health and wellness of fire department personnel. According to Perry (2004), the fire service is attempting to address the situation at the local and national levels. Federal grants are being awarded specifically for fitness equipment and other components of health and fitness programs. The results (Appendix C) suggest that physical fitness is necessary and improves personnel health and safety (NFPA, 2008). Both, the BWI Fire Department (Appendix F) and the Wilson, North Carolina Fire Department (Appendix I) have taken the necessary steps to improve health and wellness. The Wilson, North Carolina Fire Department (Appendix I) has even prevented a potential tragedy through a mandatory physical examination. Although, the specifics are unknown, the Wilson, North Carolina Fire Department has had a form of health and wellness within their department for over 20 years (Appendix I).

The basis of the physical education in the fire service must focus on the following components: an overview and statistical review of firefighter injuries, diseases, and causes of premature death proper biomechanics of our job skills; effects of exercise and the imposed

physical demands of emergency responses on human anatomy and physiology; training principles and personal program design, and sleep deprivation and sleep management (Perry, 2004). The FCDFRS work performance evaluation allows personnel to participate in a combination of job duties, however in order to fulfill those requirements, personnel need education on how to achieve their desired physical fitness level. According to Perry (2004) education is the key to success when obtaining physical fitness criteria. The research obtained from the Cooper Institute (2010) and results of Appendix C present the lack of initiative put forth in the subject of physical fitness.

The fire service must continue to stress the importance of this vital program and work collaboratively with those organizations that have begun these initiatives (IAFF, 2010) (IAFC, 2010). Perry (2004) recommended that physical education for firefighters must become an integral part of our educational curriculum, part of the annual training, and part of the academies. Firefighting organizations should come together and take a pioneering role in developing a comprehensive, relevant, education, and training curriculum. A "Physical Education for Firefighters" curriculum would be of benefit for all. The National Fire Protection Association (NFPA 1583, 2008) has begun to address the need for physical fitness in the fire service. How departments accept the challenge is unknown, however the results of Appendix C show improvement.

A cumulative effort has been made by several organizations to include the National Fire Protection Association, International Association of Firefighters, International Association of Fire Chiefs, United States Fire Administration, and the Cooper Institute. Through applicable standards, the NFPA (2008) recommends the wellness program provide health promotion activities that identify physical and mental health risk factors and shall provide education and

counseling for the purpose of preventing health problems and enhancing overall well-being. Perry (2004) recommends that education is the key to assuring personnel move forward with better understanding of the benefits physical fitness provides. The United States Military (Appendix K) has significantly benefited from having established criteria in physical fitness.

In relationship, the fire service should most certainly educate personnel about remaining vigilant of the profession, yet provide the necessary steps to move forward. The results of Appendix B show that some departments are attempting to implement a form of physical fitness and agility. The results of Appendix C provide a good review of the nationwide trend in physical fitness. To summarize Perry (2004), physical education should be a tangible link connecting exercise, nutritional practices, and other human dynamics (ex. Sleep/stress) and the cumulative effects on the human body. A person with a basic physical education should understand how to make activity and nutritional choices that promote a healthful lifestyle. The abundance of health and fitness clubs nationwide provides methods to improve lifestyles, such as South Pointe Fitness Center (Appendix L).

Likewise, the Fire Service Joint Labor Management Wellness/Fitness Initiative (IAFF, 2010) (IAFC, 2010) is an exciting challenge in what is seen as a positive process for the fire service. An overall wellness/fitness system must be holistic, positive, rehabilitating and educational. In addition to the fire department standards and organizations, the Cooper Institute (Appendix A) has been instrumental in education and test development to improve the overall well-being of personnel. The Cooper Institute provides three simple questions (Appendix A) review for those agencies wishing to implement fitness testing programs. Given these specific questions, physical education is not adequately being covered for individuals prior to joining the fire service, and it is not part of a collegiate firefighter curriculum. Results show that fire service

organizations must come together and take an innovative role in developing a comprehensive, relevant, education, and training curriculum (Appendix C).

The research and statistics (USFA, 2010) suggest that improvement of this subject will drastically change the well-being of firefighters in the future. There are organizations (Appendix A) and fire departments (Appendix I) that have made initiatives in changing the traditional past to encompass this new agenda of service delivery. It's hard to argue the fact that physical education (Perry, 2004) is now a vital tool to the profession and will significantly reduce injuries and death. Nationally, at least one department has been subject to implementing a job simulation physical ability test that is similar to the CPAT test (Brinkley, 2010). Without official ruling, it is unknown if the WPE would be considered in the same category, but at the very least an incumbent wellness/fitness initiative should remain in place (Appendix B).

Recommendations

The research has verified, the FCDFRS should be commended for implementing an annual Work Performance Evaluation for incumbents. This proactive approach should improve service delivery over time. However, it is recommended that FCDFRS consider reviewing the evaluation process.

The WPE mirrors many of the specific tasks of CPAT and raised questions about the process of validation. Nationally, at least one department (Texas City, 2010) has been subject to implementing a job simulation physical ability test that is similar to the CPAT test. Without official ruling, it is unknown if the WPE would be considered in the same category, but at the very least the incumbent wellness and fitness initiative should remain in place.

The research gathered regarding the City of Texas City Fire Department represents the need for further research by FCDFRS. Additionally, clarification from the International Association of Fire Fighters regarding the FCDFRS WPE should be sought.

Based on the research surrounding the FCDFRS Work Performance Evaluation, the following recommendations should be considered:

- Identify the intended future use of CPAT for those desiring occupation within FCDFRS.
- Obtain consultation from the IAFF regarding the use of CPAT and the WPE.
- An internal committee should be formed to address the need of a formal Health and Wellness program with collaborative assistance from the IAFF/IAFC Joint Health and Wellness Taskforce Group.
- Re-evaluate the current medical standards as accepted by FCDFRS (Marsh, 1997) and review the incumbent physical agility test.
- Develop a policy that defines fitness criteria and programs to assist incumbents.
- Provide annual testing that sets benchmarks for improvement.
- If WPE is identified as the physical ability test, the raw data should be extracted and validated by the standards as set forth by organizations such as, the Cooper Institute (2010).
- If WPE remains, parameters should be set that incorporates age into the completion time.
- If WPE remains, the use of SCBA (while on air) should be removed. This feature inhibits the natural aerobic condition of personnel; therefore the test should be validated in accordance with the recommendations of the Joint Taskforce (2012).

- A full validation should be completed prior to testing of incumbents in the current calendar cycle.

Future readers are encouraged to review and research the criteria for measuring the physical fitness levels in their organization against NFPA standards and the military physical fitness requirements. This review should include the respective geographical stresses. .

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Appendix A

Cooper Institute requirements in determining the validity of testing components:

- It must relate to personnel and the functions of the job,
- It relates to the ability of personnel to perform essential functions of the job.
- It relates to minimizing the risk of excessive force situations.
- It relates to minimizing the known health risks associated with the public safety job.
- It relates to meeting many legal requirements to avoid litigation and have a defensible position if challenged in court.
- Current legislation requires that fitness tests, standards, and programs must be job related and scientifically valid.
- Job relatedness – a fitness component must be an underlying factor for performing essential and/or critical physical functions of the job. It must demonstrate construct validity.
- A fitness component must predict who can and who cannot perform the essential and/or critical physical functions of the job. It must demonstrate criterion validity.
- Scientific validity of fitness tests/standards/programs must have evidence that they are accepted within the field of exercise science as being valid and as meeting the “standard of ordinary care” of the American College of Sports Medicine (ACSM).
- The fitness tests are accepted as valid measures of the fitness areas (construct validity).
- The fitness tests must be accurate and reliable measures of the fitness area tested.
- The fitness standards predict who can and who cannot perform the essential and/or critical physical functions of the job (criterion validity).

- The fitness programs are defined and implemented according to ASCM guidelines for safe exercise training.
- Results of several public safety studies consistently show 20/30 strenuous/critical physical tasks that are job related. These tasks are necessary to perform essential functions of the job.

Appendix B

The following request was sent via the Maryland Metro Fire Chiefs and the Washington Metropolitan Council of Governments:

My name is Eric Jacobs and currently serve as a Fire/Rescue Lieutenant for the Frederick County, MD Division of Fire/Rescue Services. I have just completed the first segment of Executive Fire Officer at the National Fire Academy.

Currently, I'm doing research on annual physical fitness evaluations/standards set forth by you respective departments. If you have divisions/bureau within your department that specifically addresses physical fitness; please forward this email with my contact information or a reply of whom to speak with regarding the topic. Thank you in advance for assistance on this matter.

Table 1 WMCOG

Washington Metropolitan Council of Govt. Fire/EMS Departments	Information Results
Frederick County, MD Fire/Rescue	Annual Medical and Physical Agility Test
Montgomery County, MD Fire/Rescue	Annual Medical only
Prince Georges County, MD Fire/EMS	Annual Medical only
Alexandria, VA Fire/EMS Department	Annual Medical only
Arlington County, VA Fire/Rescue Department	No report
Fairfax City, VA Fire/Rescue Department	Annual Medical and Physical Agility Test
Fairfax County, VA Fire/Rescue Dept.	No report
Loudoun County, VA Fire/Rescue Services	Annual medical only
Prince William County, VA Fire/EMS	No report

Table 2 MMFC

Maryland State Metro Fire Chiefs	Information Results
Howard County, MD Fire/Rescue Dept.	Annual medical only
Anne Arundel County, MD Fire/Rescue Dept.	No report
Baltimore City, MD Fire Department	No report
Baltimore County, MD Fire/EMS Dept.	Annual medical only
Baltimore-Washington Airport (BWI) Fire Department	Annual medical and fit-for-duty evaluation

Appendix C

The following survey was sent via the National Fire Academy through Trade-Net. The list below was those questions requested for a response.

Survey Questions	Results/Responses
Does your department currently have a physical fitness program?	Yes – 62.9%/No – 37.1%
Does your department currently administer the International Association of Firefighters Candidate Physical Ability Test (CPAT)?	Yes – 40.3%/No – 59.7%
Does your department currently have an annual incumbent physical ability test/evaluation and do the evaluations mirror each other?	Yes – 53.2%/No – 46.8%
Do the evaluations mirror each other?	Yes – 13.6%/No – 88.4%
If you had to rate your physical fitness level, what would it be? (1) Minimal level/(10) Maximum level	1 – 3.2% 3 – 3.2% 4 – 4.8% 5 – 21.0% 6 – 16.1% 7 – 25.8% 8 – 24.2% 9 – 1.6% 2 & 10 – No response
Has your physical fitness level changed from date of hire?	Yes – 59%/No – 41%
Does your department have a division/bureau assigned to health/wellness and physical fitness, if so do they use the applicable NFPA 1582/1583 standard?	Yes – 32.3%/No – 67.7%

If answered yes to question 7, does your department have Peer Fitness Coordinators assigned to the division/bureau associated with health/wellness/physical fitness? Yes – 44.4%/No – 55.6%

Do you feel annual incumbent physical evaluations/test should be administered and punitive?

Yes – 41.0%No – 59.0%

What department are you currently employed and years of service?

North Naples Fire, Florida

Perkins Township Fire Department

Durango Fire & Rescue Authority

Las Cruces, NM Fire Department

Springdale, Arizona Fire Department

City of Norwich, CT Fire Department

Hales Corners, Wisconsin Fire Department

Hillsborough, Florida Fire/Rescue

Davenport, Iowa Fire Department

Utah Test and Training Range Fire Department

Asheville Fire Department

Salvage, MN Fire Department

Colorado Springs, CO Fire Department

Boring Fire District

Hanford, CA Fire Department

Miamisburg, Ohio Fire Department

Bremerton, WA Fire Department

Sacramento, CA Fire Department

Fargo, ND Fire Department

Prospect Heights, Illinois Fire Department

Frederick County, MD DFRS

Burlington Township, NJ Fire Department

Boise Fire Department

Santa Cruz Fire Department

Appendix D

An email was forwarded by Chief Marc Bashoor to Lt. Charles “Bill” Bussing requesting information found in Appendix B. The response was an annual medical physical is required that adheres to NFPA 1582; however no incumbent physical agility test administered. As noted in the results section of this document, an annual incumbent physical agility is not conducive.

March 21, 2012

I am available today until 15:00 hours...feel free to call my cell or office number.

Lt. Charles "Bill" Bussing

Wellness and Fitness Coordinator

Risk Management Office

Prince George's County Fire/EMS Department

6820 Webster Street #120

Landover Hills, MD 20784

Office (301) 583-1951

Cell (240)-695-4250

Appendix E

March 26, 2012

Eric,

My name is Jon Kuruc. I am a Division Chief in the Baltimore County Fire Dept. If you would like to contact me regarding your firefighter fitness EFO project, my e-mail address is jkuruc@baltimorecountymd.gov and my cell number is 443-829-8121.

Jonathan G. Kuruc

Division Chief

Emergency Operations

Baltimore County Fire Department

700 E. Joppa Road

Towson, MD 21286

(443) 829-8121 CELL

As noted in Appendix B, Table 1 and the results section of this document – Baltimore County, MD Fire and EMS Department currently provides an annual medical physical and a preliminary work fitness test for incumbents. Just like Prince Georges County Fire and EMS, a number of variables prevent an incumbent test being implemented.

Appendix F

March 23, 2012

A request was transmitted through the Baltimore Metropolitan Chiefs Organization. The Chief of BWI Fire and Rescue Department responded with the following Maryland Fire Service Health and Safety Consensus Standard - Maryland Occupational Safety and Health (MOSH) document. This is a requirement for all personnel assigned to the department.

Woodrow W. Cullum, CFPS,CFI

Director/Fire Chief

BWI Airport Fire & Rescue Department

410-859-7478

06 Medical Standards

A. Periodic Medical Evaluation of Emergency Responders.

(1) Medical Evaluation Program.

(a) Each AHJ shall establish a medical evaluation program for emergency responders under the supervision of a physician having board certification in occupational medicine, internal medicine, emergency medicine, or family practice, with training in occupational medicine desired.

(b) The supervising physician must have familiarity with the roles and occupational requirements of firefighters and EMS personnel and must have access to and knowledge of the appropriate occupational health and safety standards for firefighters and EMS personnel.

(c) Prior to beginning service as a volunteer or career member, active responders shall receive a baseline medical evaluation and shall be evaluated annually thereafter.

(d) Each annual medical evaluation shall consist of:

(i) vital signs and

(ii) a written and oral screening for medical history, health risk factors and occupational exposures.

(e) Physical examinations shall be conducted:

(i) initially,

(ii) every 3 years until age 30,

(iii) every 2 years between age 31 and 40, and

(iv) every year after the age of 40.

(f) The physical exam shall include diagnostic testing appropriate for the responder's medical history, health risk factors and occupational exposure.

(g) This standard reflects the minimal medical evaluation for emergency responders. Nothing in this standard shall preclude the AHJ from providing a more comprehensive evaluation.

(2) Physical Examination: Each physical examination shall include:

(a) vital signs, and

(b) an evaluation of the head, eyes (including fundus), ears, nose, and throat, lungs, heart, abdomen (including a digital rectal exam), external genitals, spine, extremities, and nervous system.

(3) Diagnostic Testing. Specific diagnostic tests shall be conducted as provided in this Consensus Standard.

(a) For every physical examination:

(i) Visual acuity,

(ii) Audiometry,

(iii) Stool for occult hemoglobin,

(iv) Lipid profile, including total cholesterol, LDL, HDL, and triglycerides. (baseline and every five years thereafter or as otherwise clinically indicated),

(v) Urinalysis, including a dip stick screen and full urinalysis if indicated, and

(vi) EKG.

(b) For an individual actively engaged in firefighting or required to use SCBA, at each physical:

(i) Spirometry,

(ii) Blood work to include CBC with differential and platelets and a chemical profile that includes electrolytes (sodium, potassium, chloride and CO2), glucose, BUN, creatinine, AST (SGOT), alkaline phosphatase, totals bilirubin, total protein, albumin and calcium, and

(iii) Chest X-ray (baseline and every 7 years thereafter)

(c) For an individual actively in contact with patient care or exposed to bloodborne pathogens (as clinically appropriate):

(i) Annual PPD, and

(ii) Annual hepatitis C titer.

(d) For an individual whose job requires strenuous exertion, such as firefighting, rescue, or EMS operations:

(i) If there are CVD risk factors, an exercise stress test beginning at age 35 and repeated every other year; or

(ii) If there are not CVD risk factors, an exercise stress test beginning at age 40 and repeated every three years.

(e) All emergency responders are encouraged to receive other appropriate health screening from their private physicians including clinically appropriate screening for cervical, breast, colon, and prostate cancer.

B. Immunizations. Consistent with CDC guidelines, the AHJ shall provide the following immunizations to emergency responders:

(1) diphtheria/tetanus;

(2) If the responder is in contact with patients:

(a) measles/mumps/rubella,

(b) hepatitis B,

(c) varicella, and

(d) influenza.

(3) The AHJ shall also provide other such immunizations as appropriate when recommended by the CDC for emergency responders.

C. Wellness/Fitness Program.

The AHJ shall provide a wellness / fitness program to emergency responders. Components of such a program shall include:

(1) Access to fitness equipment and facilities

(a) Access to exercise specialists

(b) Injury/fitness/medical rehabilitation

(c) Behavioral health services (e.g., smoking cessation, nutrition, critical incident stress management)

(2) The AHJ shall annually evaluate the fitness level of all emergency responders. Such an evaluation includes:

(a) Aerobic capacity (maximal or sub-maximal),

(b) Muscular strength,

(c) Muscular endurance, and

(d) Flexibility

D. Medical Data. The AHJ shall collect health and wellness data annually and maintain a database of such information

E. Medical Record Confidentiality.

(1) All medical, fitness and health records shall be confidential and are to be handled in accordance with 29 C.F.R. 1910.1020 - Access to Employee Exposure and Medical Records.

(2) The AHJ may maintain a record of physical examination, but may release such information to a third party only with the written consent of the responder.

F. Fitness for duty.

(1) The physician conducting the medical evaluation on behalf of the AHJ shall:

(a) Provide the results of the evaluation to the emergency responder; and

(b) Upon the request of the AHJ, and with the written request of the responder, provide a copy of the results of the evaluation to the AHJ

(c) Report to the AHJ whether the emergency responder is:

(i) Fit for duty,

(ii) Fit for duty with restrictions, with functional restrictions listed,

(iii) Temporarily unfit for duty, pending remediation or further evaluation), or

(iv) Permanently unfit for duty.

(2) Emergency responders that are deemed to be "fit for duty with restrictions" or "temporarily unfit for duty" shall be referred to the wellness/fitness program for rehabilitation. (Appendix III)

G. Exposure monitoring. The AHJ shall establish a system to record an emergency responder's:

(1) Exposure to hazardous materials or toxic substances,

(2) Exposures to potentially infectious or contagious blood or body fluids,

(3) Significant injury or illness, or

(4) Medication that might impair ability to work

H. Exposure Management. The AHJ shall have in place a system for monitoring and managing the evaluation and treatment of occupationally-related injuries and exposures, including to Blood borne Pathogens, hazardous materials and smoke inhalation.

Appendix G

Chief Rund:

First, thank you for taking time out of your schedule to field my phone call. As requested, I'm currently seeking information on Howard County, MD Fire/Rescue and what requirements are in place for annual medical physicals and incumbent physical fitness testing. If either are in place, does Howard County use the applicable NFPA standards (1582/1583)? Any and all help is greatly appreciated.

Thanks,

Eric Jacobs

Eric Jacobs, Fire/Rescue Lieutenant

Frederick County Division of Fire and Rescue Services

Fire/Rescue Station # 1 - B

310 Baughmans Lane

Frederick, Maryland 21702

Business: (301) 600-1720

Cell: (240) 674-4920

Good Morning Eric,

Howard County currently provides NFPA 1582 physicals for entry level candidates. We also provide an NFPA 1582 level physical annually for incumbent members career and volunteer. Annual fitness testing is in the process of being revamped and until it is complete has been suspended. We were providing an NFPA 1583 annual fitness evaluation with a job task segment

as listed in 1583 to provide annual validation of all job tasks for each member. Until our policy is rewritten and approved by our office of law and Risk Management we will not currently do this. If you need anything further, feel free to let me know and I will do my best to accommodate you, have a great day

Joanne Rund

Battalion Chief

Howard County Fire & Rescue

6751 Columbia Gateway Dr Suite 401

Columbia MD 21046

410-313-0574(Work)

410-802-6425 (Cell)

Appendix H

On August 4, 2012, Deputy Chief Randall Shank was contacted regarding the medical physical standards and incumbent physical agility testing.

LCFR currently provides a NFPA 1582 compliant medical physical, however no incumbent physical agility test. The incumbent physical agility test is preliminary and discussion only.

Appendix I

August 14, 2012

Chief Oliver:

I'm currently writing the procedures phase of my EFO paper on the topic of physical fitness. Through Trade-Net, I received an electronic copy of your departments' physical fitness program. The information did not have a returnable email address. With your experience and as a former EFO student, I'm sure your aware that the information collected cannot be utilized as collected data unless some communication is exchanged. Your policy seemed to have several revisions, which allows me to believe the physical fitness program has been in place for a number of years. Is there any way you could share your respective views on the topic, as well as, provide me with the NFPA standards (1582/1583) if applicable? If you have a division or bureau under your leadership that directly supervises this program, could you forward this information in attempt of obtaining the data. Thank you in advance for cooperation on this matter.

Regards,

Eric Jacobs

Fire/Rescue Lieutenant

Frederick, MD Division of Fire/Rescue Services

Eric,

I have forwarded this request to the appropriate members of our department. Look for a response in the near future.

Our present Physical Fitness program has been in place for almost 20 years. WF/RS had a PT program before the present one was developed. We have a standing SOP Committee that reviews all policies on an ongoing basis. They have reviewed an modified this policy many times over the past. I hope we will be able to provide some assistance for your project.



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Good Evening Chief:

Chief Oliver stated you may have information on the departments' physical agility test and fitness requirements in its entirety. If possible, could you share your thoughts on the who, what, and how??

Thanks,

Eric Jacobs

Hey Eric,

Our PT program as Chief Oliver mentioned has been around for decades. We continue to see its value through the successful health evaluations on our firefighters. We also conduct

annual wellness physicals. These on several occasions have identified some severe health problems in a few of our FF's and they retired on disability and were able to continue a quality lifestyle many years after retirement whereas if they had stayed on the job, we probably would have experienced a LOD. Our policy does parallel with NFPA 1582 and 1583 and we believe it does meet the full intent of these standards. Feel free to call or write back with any specific questions you might have and we will be glad to assist you.

Good luck with your project!

Randy Godwin

Deputy Chief

Wilson Fire/Rescue Services

252 399 2883

We use a version of the Combat Challenge for our entrance physical exam. The candidates wear an SCBA but they are not on air due to the fact many of them have never seen one. We time their completion but there is not a fixed time limit for passing or failing. All of our FF candidates have to participate in this process. If a candidate successfully goes through the physical challenge, they go through an interview process. If they are placed on an eligibility list and offered a job, they then go through a medical exam that consist of the normal, blood work, drug test, flexibility, chest x-ray, and treadmill. This is all monitored by a Physician contracted through the local hospital. Once on board as an employee, the FF goes through the same medical exam on an annual basis.

Let me know if you need additional information.

Randy Godwin

Deputy Chief

Wilson Fire/Rescue Services

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Wilson, NC Fire/Services Physical Fitness Standards and Testing Operating Procedure

1.0 Purpose

The purpose of this policy is to establish guidelines and standards for the implementation of a health maintenance program for all uniformed employees of the Wilson Fire/Rescue Services.

1.1 Wilson Fire/Rescue Services uniformed personnel shall be given at least one (1) hour per shift, for exercising to maintain and/or improve their physical condition. Each individual shall participate in an exercise program tailored to their needs based on their current fitness level. Wilson Fire/Rescue Services personnel will follow a well-balanced exercise program that includes the following major components: (1) warm-up 5 minutes (2) aerobic fitness and/or muscular fitness 20-50 minutes (3) cool-down at least 5 minutes. By following these components, each individual should maintain or improve their cardio-respiratory endurance, muscular endurance, flexibility, and body composition.

1.2 The physical ability test shall be reviewed by the committee after each testing cycle as needed. The committee shall consist of the Fire Chief and volunteers from the membership of the Wilson Fire and Rescue Services. Representatives from Human Resources and Risk Services including city medical staff may serve on this committee when needed.

2.0 Policy

It shall be the policy of the Wilson Fire/Rescue Services that all uniformed employees be physically ready to perform those duties that may be required of them as public safety officers.

2.1 Uniformed personnel will test while on duty.

2.2 It shall be the responsibility of the Shift Commander or his/her designee to select an on duty day.

2.3 Testing dates shall be defined as those dates that the physical ability test will be administered. These dates shall be scheduled and posted at least thirty (30) days prior to testing.

2.4 The Firefighter Combat Challenge will be administered at the Wilson Fire Training Center.

3.0 Definitions

3.1 Testing dates shall be defined as those dates that the physical ability test will be administered.

3.2 The physical ability test shall be defined as the Firefighter Combat Challenge.

3.3 City Medical Staff shall mean the staff of the Safety and Health Division, contractual nursing staff, and/or contractual physician hired by Human Resources and Risk Services.

4.0 Procedure/Rule

4.1 Medical Examinations

All uniformed employees of the Wilson Fire/Rescue Services shall be required to take an annual medical examination. Components of the medical examination shall be determined by the City Medical Staff.

4.2 Applicants

Applicants for the Wilson Fire/Rescue Services shall be required to undergo a medical examination prior to employment. In addition, applicants may undergo physical ability testing

during the application process. Candidates must meet departmental minimal standards prior to employment. Components of the test will be made available to applicants at the time of application.

4.3 Physical Ability Test

All uniformed employees of the Wilson Fire/Rescue Services shall participate in the annual mandatory physical ability testing during the fall of each year. In order to be excused, an employee must provide a medical waiver to his/her immediate supervisor prior to the testing date. This form is to be completed by the employee's personal physician and returned prior to the test date. A copy of the form shall be forwarded to Human Resources and Risk Services for review and inclusion in the employee's medical file. The employee shall be placed on light duty status until released by his or her personal physician. Once released by his or her personal physician, the City Medical Staff shall review all the relevant documentation provided by the employee's personal physician and shall then make a determination about the employee's light duty status. Such determination shall be to either (a) return the employee to full duty, (b) extend the period of light duty, or (c) postpone determination pending examination of the employee by a contractual physician of the City Medical Staff

4.3.1 Components of the Firefighter Combat Challenge physical ability test shall be related to essential job functions. Those components are as follows:

A stair climb to the fourth floor (5 stories) of the fire tower with a hose pack or high rise pack not to exceed 55 pounds;

A hose hoist with one section of 2 1/2" hose not to exceed 45 pounds;

A Keiser forcible entry simulator using a 9 pound "dead blow" mall and moving the 150 pound weight a distance of 5 feet; (cont.)

Advancing a charged 100 foot 1 1/2" hose line a distance of 75 feet and flow water;

A victim rescue consisting of moving a 175 pound rescue manikin a distance of 100 feet;

4.3.2 The Firefighter Combat Challenge shall be a pass/fail test.

Pass- Finishing of test with air remaining in the SCBA bottle.

Fail- Any removal of mask, regulator or empty SCBA bottle will result in failure. Also the inability to finish the entire course will result in failure.

4.3.3 The Firefighter Combat Challenge will award personnel as referenced in the awards policy.

4.3.4 Uniformed employees of the Wilson Fire/Rescue Services who cannot be tested because of pre-existing, correctable medical conditions are ineligible for consideration for promotion until cleared for testing by City Medical Staff, and will be placed in categories identified in section 4.4 of this policy.

4.3 Physical Ability Testing (continued)

4.3.5 Uniformed employees of the Wilson Fire/Rescue Services who fail to meet departmental minimal standards for reasons other than medical conditions shall be placed on light duty and shall not be permitted to engage in emergency operations. The employee will be placed in an on-duty rehabilitation program administered by the department or city medical staff for a period not to exceed 90 days. At any time during the 90-day rehabilitation period the employee may retest.

4.3.6 Failure to demonstrate satisfactory improvement or to successfully complete the physical ability test after the 90 day rehabilitation period shall cause the employee's performance to be reviewed by the Chief, who will determine if it is in the best interest of the City to continue the employee's rehabilitation assignment, place the employee on leave without pay, and/or initiate disciplinary action in accordance with the City's disciplinary procedure 1-1.

4.4 Physical Categories

Employees under the care of a physician for a medical condition that limits the employee's participation in the physical ability testing process shall provide the appropriate information to the city medical staff for review. The employee shall be placed on light duty as described in 4.3 above. The city medical staff shall place the employee in one of the following categories most appropriate for the employee's condition.

Category I

Problems that, by judgment of the city medical staff, are chronically or acutely life threatening, or which prevents the employee from performing essential job functions, but can be corrected by medical treatment. Employees who are classified in this category shall be limited to light duty and not permitted to engage in emergency operations. When the city medical staff identifies an employee who is in this category, they will defer testing, if necessary, and notify the Chief immediately by telephone and follow-up with a letter identifying the employee, why the employee was not tested, and the medical recommendations. When the Chief is notified that an employee is placed into Category II, the Chief will review the information and determine if it is in the best interest of the city to place the employee in a light duty assignment, require the employee to utilize their sick leave, (if available), or place the employee on leave without pay in accordance with city policy. The employee may remain on light duty, sick leave, or leave without pay until the employee has met the rehabilitation recommendations made by the city medical staff and the employee's personal physician. Once released by his or her personal physician, the City Medical Staff shall review all the relevant documentation provided by the employee's personal physician and shall then make a determination about the employee's light

duty status. Such determination shall be to either (a) return the employee to full duty, (b) extend the period of light duty, or (c) postpone determination pending examination of the employee by a contractual physician of the City Medical Staff. If the employee fails to make satisfactory progress as determined by the city medical staff and the employee's personal physician, and if the employee is in Category I for up to 6 months, the employee will be placed in Category II.

Category II

Problems that, by judgment of the City Medical Staff, are chronically or acutely life threatening, and cannot be corrected by medical treatment, and which do not allow the employee to perform essential job functions. When an employee is placed in Category II, the city medical staff will defer testing and notify the Chief immediately by telephone, and follow up with a letter identifying the employee, why the employee was not tested, what problem was identified, and the medical recommendations. When an employee is placed in Category II, the employee may be assigned to light duty, sick leave, or leave without pay not to exceed 90 days until it is determined what course of action will be taken. Courses of action may include:

(A) File application for another position within the city that would meet the limitations of the medical condition diagnosed, with no salary decrease to the employee.

(B) Show evidence to the satisfaction of the Chief and city medical staff that the employee's condition mayor may not be permanent, and establish a date for returning to work, or for review of the employee's condition.

(C) Medical disability retirement.

Appendix J

August 12, 2012

Interview with Lt. Colonel Robert Turano – Maryland State Police

Question – What does the Maryland State Police use for physical fitness criteria?

Question – How or whom developed the physical agility test?

Ouestion – Is the physical agility test still required to maintain operational status?

All answers to the questions can be found in the results section of this document.

Appendix K

The following information was obtained through a contact with Tina Brooks of Semper Fit.

CHAPTER 1

PHYSICAL CONDITIONING PROGRAM (PCP)

1100. SCOPE.

Every Marine must be physically fit, regardless of age, grade, or duty assignment. Fitness is essential to the day-to-day effectiveness and combat readiness of the Marine Corps. Furthermore, physical fitness is an indispensable aspect of leadership. The habits of self-discipline required to gain and maintain a high level of physical fitness are inherent to the Marine Corps way of life and must be a part of the character of every Marine. Marines who are not physically fit can be a detriment to the readiness and combat efficiency of their unit. Accordingly, every Marine will engage in an effective PCP on a continuing and progressive basis.

1101. RESPONSIBILITY.

In order to maintain continuity of standards, the procedures in this Manual will be used for developing and administering the Cos conditioning, testing, and remedial programs, and to clarify Body Composition Program (BCP) policies (formerly known as the Weight Control Program). It is the responsibility of COs to provide a fair evaluation of Marines' physical fitness and body composition through the procedures outlined in this Manual. When necessary, an appropriately Credentialed Health Care Provider (ACHCP), which will be referred to throughout this Manual as a Medical Officer, or "MO", will be required to conduct a thorough physical evaluation; an ACHCP is defined in the Glossary, appendix A of this Manual. This

evaluation will include at a minimum, a Body Composition Evaluation and a determination of whether or not the weight and body fat gain is due to an underlying cause or associated disease.

1102. OBJECTIVES

1. Overall Program Focus. The Unit's PCP should focus on combat conditioning, health, fitness, and unit cohesion rather than preparation exclusively for the semi-annual Physical Fitness Test (PFT). The Program should reflect the following objectives:

a. To contribute to the health and well-being of every Marine through regular exercise, fitness testing, and health education.

b. To develop Marines who are physically capable of performing their duties in garrison and in combat.

c. To develop in Marines a reserve level of physical fitness and endurance that will enhance their chances of success in a combat situation.

d. To provide a medium for developing the individual Marine's self-confidence and desire to excel, thereby enhancing the unit's overall discipline, morale, esprit de corps, and combat readiness.

2. CO's Focus. COs should strive to achieve the primary objective of combat readiness by emphasizing combat conditioning at the unit level. The CO should ensure this objective is reflected in the training plans and schedules, affording the individual Marine an opportunity to achieve a competent level of combat fitness.

1103 MCPFTBCP

3. Command Physical Training (PT) Representative's Focus. The CO will assign in

writing a Marine SNCO (normally from the Operations and Training Section), as the Command PT Representative. This Marine will be the commander's senior representative in the administration of Marine Corps policy related to physical conditioning, testing and remedial programs. Of particular emphasis, this Marine will be responsible for:

a. Conduct of the PFT. Responsible to the CO for selection and training of PFT monitors and for all matters related to the PFT (safety, course selection, recording, etc.).

b. Body Composition Evaluations. To ensure accuracy in body composition evaluations, the only personnel authorized to conduct these measurements are the Command PT Representative and his/her designate.

1103. PHYSICAL CONDITIONING.

The definition of physical fitness is subjective to those defining it. The Marine Corps considers physical fitness to be the ability of a Marine to meet the physical demands of any combat or duty situation without undue fatigue. To achieve this state of physical fitness, physical conditioning should incorporate the components and principles listed below.

1. Components of Physical Conditioning. To capitalize on those components that can benefit conditioning efforts, the following categories of exercises should be included in both individual and unit PCPs:

a. Strength. Muscular strength refers to the ability of the muscular system to move the body through resistance. Many associate strength training with progressive resistive exercises using weights and machines. However, the ability of a Marine to effectively handle their own body weight should be a prerequisite

before integrating strength training with machines into their program. This can be accomplished through the Daily 16 Program described in paragraph 1103.3a, and applying the principles listed in paragraph 1103.2. Strength training can be broadly separated into two categories, general and specific.

(1) General Strength Training. This type of training strengthens the muscular system by focusing on a full body workout for strength and size. In this type of training, the major muscle groups are exercised without a specific task or functional goal in mind. This type of strength training contributes to overall health.

(2) Specific Strength Training. This type of strength training is task specific. For example, Marines desiring to climb a rope better would do rope climb training wearing body armor, and focus their strength training on muscles involved in rope climbing. A company of Marines expecting to operate in hilly terrain would focus their strength training primarily on lower body strength.

b. Endurance. Two types of endurance conditioning are needed for a Marine to meet the physical demands of combat, aerobic and anaerobic.

(1) Aerobic Endurance. Aerobic activity, meaning “in the presence of oxygen,” is categorized by physical demands that are sub-maximal (not an “all out” effort) and involve activity that is continuous in nature (lasting more than 3-5 minutes). Two examples are road marching and long distance running.

(2) Anaerobic Endurance. Anaerobic activity, meaning “without oxygen,” is categorized by physical demands that are high intensity and of shorter (less than 2-3 minutes) duration. Examples are rope climbing, most forms of weight lifting, and running short, quick distances.

c. Mobility. Mobility conditioning is geared towards improving quality of movement. Quality of movement depends on the following:

(1) Posture

(2) Balance and stability

(3) Agility

(4) Coordination

(5) Power

(6) Speed

(7) Flexibility

2. Principles of Physical Conditioning. There are several different principles to consider when developing an effective PCP:

a. Progression. Conditioning programs must incorporate a systematic means to increase training load.

b. Regularity. To realize a conditioning effect, training programs must conduct physical conditioning sessions at least 3-5 times per week.

c. Overload. Only when the various systems of the body are overloaded will they become able to handle greater load.

d. Variety. Varying a program from time to time maintains interest and prevents staleness.

e. Recovery. Essential for allowing the systems overloaded during conditioning to adapt and become stronger.

f. Balance. Balanced conditioning programs ensure all the components of physical fitness conditioning (strength, endurance, and mobility) are properly

addressed.

g. Specificity. Conditioning that is specific in nature yields specific gains. For example, stationary bike riding is of little value in improving running.

3. Specific PCPs. Units that strive to augment their PCP should use innovative combinations of the types of exercise defined below:

a. Daily 16 Program. The Daily 16 Program is a comprehensive series of warmup, conditioning, and cool-down exercises replacing the former Daily 7 Program. This all-encompassing program can be incorporated into any unit aerobic or anaerobic conditioning session, or can be used as a conditioning session in of itself. Appendix B contains the Daily 16 Program in detail.

(1) Warmup Exercises. The Daily 16 warm-up exercises facilitate gradual distribution of blood flow to the muscles, preparing both the cardiovascular and musculoskeletal systems for the exercise session, by effectively targeting both the upper and lower body. The increased blood flow to the muscles produces a warming effect, increasing the elasticity of the muscles and connective tissue, which is believed to reduce injury.

(2) Conditioning Exercises. The Daily 16 conditioning exercises provide a total body workout through the proper execution of traditional calisthenics. Conditioning exercises can be used as a workout session in and of itself, or to augment the main fitness event (e.g., squad ability run or obstacle course).

(3) Cool-down Exercises. The Daily 16 cool-down exercises (which are basically the same as the warm-up exercises) allow the body to gradually return to

the pre-exercise state.

b. Occupational Conditioning. This conditioning is comprised of general physical conditioning exercises that will develop and maintain strength, endurance, and the physical skills necessary to sustain a Marine during combat. Good examples of occupational conditioning that prepares Marines to successfully handle the demands of their particular MOS/billet are Physical Readiness Training (PRT), progressive load-bearing marches, martial arts training, dry net training, Military Operation in Urban Terrain (MOUT) training, combat water survival training, obstacle course, and confidence course.

c. Competitive Conditioning. Competitive conditioning activities consist of teams or individuals competing against an opponent to win. This includes a combination of sports and military skills designed to foster the unit's combat readiness, competitive spirit, and esprit de corps. Some good examples are speedmarches reaction courses, orienteering, water-can re-supply relays, and stretcher or fireman carry relays.

d. Remedial Physical Conditioning Program (RPCP). All Marines who fail the PFT, demonstrate poor physical performance in MOS-related skills, or who are assigned to the BCP will be assigned to a RPCP. Remedial physical conditioning is a process by which Marines are conditioned in a progressive manner to meet prescribed standards. The goal is to provide challenging conditioning sessions, using the spectrum of aerobic conditioning, resistance conditioning, and other related exercises that will afford the Marines an opportunity to rebuild themselves after a weight and body fat increase, injury/illness, pregnancy, or a period that

lacked a structured fitness program. The philosophy of remedial conditioning is not punitive in nature, but is intended to encourage improvement in overall fitness or to supplement a BCP. Comprehensive guidance for the development of a command directed RPCP is contained in paragraph 2400 and appendix C of this Manual.

e. Alternate Aerobic Conditioning. In cases of lower limb injury or related medical conditions that prevent running or hiking, Marines may opt to perform other low impact activities to supplement the requirement for cardiovascular conditioning. Swimming, deep water running, cycling, cross-country skiing, stair stepping, and rowing are excellent examples of low impact, endurance exercises that provide good augmentation or substitution for running or hiking regimens. For example, the advantages of swimming include the use of all major muscle groups during exercise, reducing lower body stress due to partial body weight being supported by the water, and the absence of impact on bones and joints. Additionally, the body's position in the water increases the efficiency of the circulation back to the heart during exercise. Although these types of aerobic conditioning alternatives may not improve overall running ability (e.g., speed and endurance), it can enhance a current running or hiking regimen, while minimizing related injuries.

1104. MARINE CORPS PCP REQUIREMENTS

1. Individual Requirements. The PCP requires every Marine to:

a. Participate in a minimum of 3 hours of physical fitness conditioning per week; 5 hours is encouraged if the unit's operation tempo can accommodate such a program.

b. Be tested semi-annually - PFT. (Reserves tested annually.)

c. Obtain a minimum 3rd Class score on all semi-annual PFTs.

MCPFTBCP 1105

1105. CO's ACTIONS. The PCP must provide opportunities for development through supervised individual or group effort, and sustained by common sense leadership at all unit levels. In order to develop and maintain the desired level of fitness, COs will:

1. Schedule a minimum of 3 hours per week of mandatory individual or group physical conditioning sessions. COs are encouraged to use normal working hours to satisfy this training requirement. It is recommended that each conditioning session be a minimum of 60 minutes in duration.

2. Establish, implement, and maintain the PCP requirements as stated in this Manual.

3. Ensure all Marines participate in exercises or activities commensurate with their medical qualifications and limitations.

4. Ensure proper administration and tracking for all Marines in a light and limited duty status (e.g., Morning Reports).

5. Ensure the unit’s PCP is not constructed and implemented solely to prepare for a PFT, but that it emphasizes physical conditioning for combat. This distinction should be reflected in the unit training schedules.

6. Conduct a semi-annual PFT for all Marines per the instructions contained in chapter 2 of this Manual.

7. Place and track all Marines who fail the PFT on a RPCP per the guidance set forth in paragraph 2400 and appendix C.

8. Immediately process Marines for a BCP assignment when identified as not in adherence with weight and body fat standards and do not meet Physical Performance Evaluation criteria.

9. Place and track all Marines assigned to a BCP on a RPCP for the duration of their 6-month BCP assignment.

10. Employ Semper Fit resources to assist in the execution of the PCP, RPCP, and BCP. Semper Fit Fitness Centers staffed by qualified professionals, and the Semper Fit website (www.usmc-mccs.org) provide expert guidance in the areas listed below. The fitness centers, available at most major Marine Corps installations, can provide the following services:

a. Fitness assessments and exercise prescriptions*;

b. Exercise orientation;

c. Group exercise opportunities;

d. Instructional skill development; and

e. Health promotion programs.

*Note: Personal fitness assessments conducted by Semper Fit personnel (e.g., body fat testing), while valuable, will not be considered official for BCP testing.

11. Ensure timely and accurate reporting of PFT results and BCP assignments on fitness reports per reference (d), and that correct Unit Diary and SRB entries are made, as appropriate, per references (e) and (f).

12. Ensure the Command retains all completed PFT/BCP files for one year.

2000. GENERAL INFORMATION

1. Purpose. While units are responsible for testing their Marines for combat fitness and readiness as it pertains to their unit's mission, the PFT provides an instrument that measures the collective level of physical fitness Marine Corps wide. It is a measurement of general fitness vice combat readiness and unit/MOS capability. The PFT consists of three events: male Marines will perform dead-hang pull-ups, abdominal crunches, and a 3.0 mile run; and female Marines will complete the flexed-arm hang, abdominal crunches, and a 3.0 mile run. These events are designed to test the strength and stamina of the upper body, midsection, and lower body, as well as the efficiency of the cardiovascular system.

2. Personnel to be Tested. Units will administer the PFT semi-annually (calendar year) for score to all active duty Marines, regardless of age, gender, grade, or duty assignment.

a. PFT Not Required. The condition when a Marine will not be required to conduct a semi-annual PFT:

(1) Personnel on duty in a combat zone; the semi-annual PFT may be waived until their return from the combat zone.

(2) Pregnant Marines medically waived from taking a PFT.

(3) Marines in a light duty or limited duty status, restricting them from participating in the PFT or Partial PFT (PPFT). (Appropriate documentation by a Medical Officer (MO), that assigns light duty or directs a Medical Evaluation Board (MEB) action, is mandatory.)

(4) Marines awaiting separation based on a Physical Evaluation Board (PEB). Reference paragraph 2302 for further details.

b. PFT Requirement for End of Active Service (EAS)/Retirement

(1) Marines are required to take the PFT during the semi-annual period preceding their EAS or retirement date, unless directed by their CO. This date is not the date that terminal leave begins.

For example, a Marine whose EAS or retirement date is September, but is commencing terminal leave in June, will be required to take the semi-annual PFT for the January-June period. This Marine is not required to take the semiannual PFT for the July-December period.

(2) Retirement/EAS Final Physical Examination. Completion of the required final physical examination, regardless of when it is completed, does not exempt a Marine from taking the PFT. A Marine, who elects to complete their final physical examination 7-12 months prior to EAS or retirement, will still be required to take the semi-annual PFT for that period.

For example, a Marine who completes the final physical in March, but does not EAS or retire until October, will still be required to take the semi-annual PFT for the January-June period.

c. Selected Marine Corps Reserve (SMCR). Reserve Marines are required to conduct an annual PFT for score. Reserve Marines on Active Duty Special Work (ADSW) orders for 30 days or more, can conduct their annual PFT with that unit. All scores are good for 2 years (for cutting score purposes only), if training does not permit testing.

CHAPTER 2

PHYSICAL FITNESS TEST (PFT)

SECTION 1: TESTING PROCEDURES

2100. CONDUCT OF THE PFT

1. Uniform. The authorized uniform for the semi-annual PFT is the USMC established green-on-green T-shirt and shorts, socks, and running shoes. The green-on-green sweat suit may be used in winter climates. Gloves may be worn. Substitutions of the aforementioned uniform are at the discretion of the CO.

2. Sequence of Events. The sequence of PFT events will be left to the discretion of the CO. All PFT events will be conducted in a single session, not to exceed 2 hours in duration. Movement of Marines from one event to the next should allow adequate time to recover, stretch, and drink water.

3. Restriction of Events. The command will not impose restrictions on the performance of any event other than those specifically stated in this Manual. For example, a command will not mandate that Marines must use the overhand grip when executing pull-ups or flexed-arm hang.

4. Monitoring. The Command Physical Training (PT) Representative will monitor the PFT and maintain the PFT and Body Composition Worksheets. Marines will be kept advised of their progress as they are performing each event. The Command PT Representative or designate will call out each repetition for the pull-ups, and time-passed (in intervals) for the flexed-arm hang and abdominal crunch. The Command PT Representative (and additional monitors) will be posted along the 3.0 mile run course. Marines will receive their split time at the halfway mark and

finishing time.

5. Logistics. Minimal special-type equipment is required to conduct a PFT.

a. Pull-Up Bar Requirements

(1) Diameter of the bar may range between 1-1¾ inches; athletic tape on the bar is authorized.

(2) The bar must be high enough to allow the tallest Marine's legs to hang straight without touching the ground, when arms are fully extended.

(3) Bench or stool may be used for shorter Marines to initially grasp the bar.

b. 3.0 mile Run Course. The run course must be measured for accuracy and set over reasonably level ground. Course selection criteria must include consideration of the following:

(1) Safety. Operational Risk Management (ORM) measures must be taken to ensure the course does not expose participants to undue risk.

(2) Performance. When possible, the course should be an "out and back" or wide loop course. The run course should not include numerous sharp turns, etc. that would force a participant to slow down excessively to remain on the course.

(3) Location. An indoor or outdoor track is permissible for the conduct of the run event. A determination as to whether the track is a yard or meter track must be made and the track measured to ensure accurate distance, prior to conducting the PFT. Run courses should not require a Marine to do more than 12 laps to cover 3.0 miles, (e.g., a course should not be shorter than 440-yard per lap). Running this event on a treadmill is not authorized.

c. Support Equipment & Personnel (Monitors)

(1) A timepiece (digital or stopwatch) that accurately measures time to the second is required for the flexed-arm hang, abdominal crunch, and 3.0 mile run.

(2) Safety equipment and personnel will be required as prescribed per local SOP.

(3) Adequate supervisory personnel to monitor each event and act as timekeepers.

d. PFT and Body Composition Worksheets. Appendix F contains the worksheet for recording PFT and body composition data. The following information will be recorded on the worksheet and be maintained by the Command PT Representative:

(1) The Marine's name, SSN, rank, age, gender, height, weight, percent body fat (if required), age 46 and Over Risk Factor Screening (if required), Physical Performance Evaluation qualifier (if required), event time(s)/total number of repetitions, event score, total score, and age-based PFT classification.

(2) Points for each event will be awarded according to the PFT Scoring Table located in appendix G.

(3) Minimum acceptable performance requirements by event (time and repetitions), and age group are listed in table 2-1 in this chapter.

(4) Minimum PFT classification scores are listed in table 2-2 in this chapter.

2101. EXECUTION OF THE PFT

1. Individual performance on each PFT event will be executed as follows:

a. Pull-up. The goal of the pull-up event is for the Marine to execute as

many accurate and complete pull-ups before dropping off the bar. The procedures are:

(1) This is not a timed event.

(2) Sweatshirts will be removed during the conduct of the pull-up event in order to observe the lockout of the elbows with each repetition.

(3) Assistance to the bar with a step up, being lifted up, or jumping up is authorized. Any assistance up to the bar will not be used to continue into the first pull-up.

(4) The bar must be grasped with both palms facing either forward or to the rear.

(5) The correct starting position begins when the Marine's arms are fully extended beneath the bar, feet are free from touching the ground or any bar mounting assist, and the body is motionless.

(6) The Marine's legs may be positioned in a straight or bent position, but may not be raised above the waist.

(7) One repetition consists of raising the body with the arms until the chin is above the bar, and then lowering the body until the arms are fully extended; repeat the exercise. At no time during the execution of this event can a Marine rest his chin on the bar.

(8) The intent is to execute a vertical "dead hang" pull-up. A certain amount of inherent body movement will occur as the pull-up is executed. However, the intent is to avoid a pendulum-like motion that enhances the ability to execute the pull-up. Whipping, kicking, kipping of the body or legs, or any leg movement

used to assist in the vertical progression of the pull-up is not authorized. If observed, the repetition will not count for score.

(9) A repetition will be counted when an accurate and complete pull-up is performed.

b. Flexed-Arm Hang. The goal of the flexed-arm hang event is for a Marine to hang (maintain elbow flexion) for as long as possible. The procedures are:

(1) This is a timed event.

(2) Sweatshirts will be removed during the conduct of the flexed-arm hang event in order to observe when the Marine has completely locked-out her elbows.

(3) Assistance to the bar with a step up, being lifted up, or jumping up to the start position is authorized.

(4) The bar must be grasped with both palms facing either forward or to the rear.

(5) The correct starting position begins when the Marine’s arms are flexed at the elbow, the chin is held above the bar and not touching it, and the body is motionless. At no time during the execution of this event can a Marine rest her chin on the bar.

(6) Marines are authorized to drop down below the bar, however, some degree of elbow flexion must be maintained with both arms. Once a Marine's arms are fully extended or the Marine drops off the bar, the clock will stop.

c. Abdominal Crunch. The goal of the abdominal crunch event is for a Marine to execute as many proper and complete crunches within the prescribed time limit. The procedures are:

(1) 2-minute time limit.

(2) On a flat surface, Marines will lie flat on their back with shoulder blades touching the deck, knees will be bent, and both feet will be flat on the deck.

(3) The arms will be folded across the chest or rib cage with no gap existing between the arms and chest/rib cage. Both arms must remain in constant contact with chest/rib cage throughout the exercise. A single repetition consists of raising the upper body from the starting position until both forearms or elbows simultaneously touch the thighs, and then returning to the starting position with the shoulder blades touching the deck.

(4) The buttocks will remain in constant contact with the deck throughout the event. No arching of the lower back or lifting the buttocks is permitted.

(5) An assistant may be used to hold a Marine's legs or feet, at or below the knees in whatever manner that is most comfortable for the Marine. Kneeling or sitting on the Marine’s feet is permitted.

(6) A repetition will be counted when an accurate and complete abdominal crunch is performed.

d. 3.0 Mile Run. The goal is for a Marine to complete the measured course as quickly as possible. The procedures are:

(1) This is a timed event.

(2) On the command to start, the two Marines monitoring the event will start their watches simultaneously when the last Marine passes the starting point. The Command PT Representative will remain at the start/finish and the other monitor

will take the safety vehicle (with communication capabilities) to the halfway point. Monitors will call out the split or finishing time as appropriate, as each Marine passes.

2. The PFT scoring table is contained in appendix G.

2200. PFT STANDARDS

1. PFT Performance Requirements. To successfully pass the PFT, Marines must complete the minimum acceptable performance requirements in each event and achieve an overall combined score for their age group as shown in table 2-1. Marines must be made aware that the minimum performance (points) in each event alone, will not total the points required for a passing score. Additional points must be earned in at least one event in order to achieve a 3rd Class PFT or better, per age group. Failure to meet the minimum requirements in any event constitutes a failure of the entire test, regardless of the total number of points earned for all three events. Marines on light or limited duty will complete the two events that they are medically qualified to participate in, and will receive credit for a PPFT.

Table 2-1.--Minimum Acceptable Performance Requirements for PFT/PPFT Events.

2. Individual event scores for both males and females can be viewed in appendix G.

3. PFT Classification Scores. Table 2-2 shows the minimum score required, per age group, to earn each PFT classification score. Marines should be encouraged to continually strive to perform their best and not merely accept minimum performance.

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4. PFT scores will be entered into the MCTFS and on FitRpts per paragraph 2203 in

this chapter.

2201. ALTITUDE

3.0 MILE RUN. Marines permanently assigned or on TAD to locations at or above 4500 feet above sea level will have adjusted run times. The altitude 3.0 mile run point values are contained in appendix H. Commands are directed to provide newly joined Marines a 30-day acclimation period prior to conducting a semi-annual PFT. Marines scheduled to report to a command at altitude in June or December will complete their PFTs prior to reporting.

> CH 1 2202. PARTIAL PHYSICAL FITNESS TEST (PPFT). Marines who are medically excused from performing a particular event of the PFT as certified by a MO (e.g., light or TLD), are required to perform a PPFT. The PPFT for score requires that Marines complete two of the three PFT events. For the event not conducted, the event score from the previous semi-annual PFT will be used. Event times/repetitions will be awarded points the same way the PFT awards points; reference appendix G to view the scoring table. As with a PFT, failure to meet the minimum requirements in either event constitutes a test failure. Reference table 2-1 to view the minimum acceptable performance requirements for each event.

1. Reporting

a. The PFT and Body Composition Worksheet will indicate the event not taken and whether a light duty, TLD, or PLD status was the reason for the PPFT.

>CH 1 b. Report PPFT performance (pass/fail) for Sgt and above in accordance with reference (e).

c. LCpls and Cpls requiring a composite score will use the score (points) received from the last semi-annual PFT for the event missed.

d. PPFT scores will be entered on the Unit Diary and FitRpt per paragraph 2203.

2. Post-Light or Limited Duty PFT. Marines have the option to either keep the PPFT score taken for the current semi-annual period or to conduct a PFT (e.g., for promotion purposes) after being returned to full duty. The Marine will be given a minimum of 30 days and no more than 90 days to complete the PFT. This score will replace the PPFT taken during the waiver period. This is the only time a retest score will be used to replace a previous entry (partial) reported in MCTFS; this is not considered a remedial score.

3. Consecutive PPFTs. Marines who take PPFTs for two consecutive semi-annual periods, for the same injury or illness, will be referred to a MO and processed for a medical board. A MEB, PEB, or both will be conducted in order to determine the Marine's fitness for duty, per reference (i).

2203. ADMINISTRATIVE PROCEDURES

1. PFT/PPFT Recording

a. Unit Diary. Only when the command declares that the PFT scheduled is for the semi-annual requirement, will scores be reported by a Unit Diary entry and entered in the MCTFS, per reference (e). Only one PFT score will be reported on the Unit Diary per semi-annual period. No retest or remedial PFT scores will be recorded on the Unit Diary. PFTs taken for inventory purposes, such as a Marine reporting into a new unit or school, or taken for screening checklist purposes, will not be reported on the Unit Diary. In addition, PFT scores conducted for unit

PT or for Remedial Physical Conditioning Program (RPCP) testing may not be used (or replace a score for) the semi-annual requirement.

b. FitRpt. All PFT score reporting will be done per reference (d), paragraph 4003.8b.

(1) Semi-annual PFT scores will be recorded in section A, “Administrative Information,” under “Special Information” in block 8b.

(2) Mandatory comments will be made in section I, “Directed & Additional Comments,” for the following circumstances:

(a) Superior Performance. Score of 285 and above.

(b) Not Medically Qualified (NMED). Limited duty status. Refer to paragraph 2300.3 for further details.

(c) PPFT. Sgts and above that have been granted a medical excuse by a MO, and who complete and pass a PPFT will have PART entered in block 8b, section A of their FitRpt. A brief explanation of the necessity for the PPFT, (e.g., TLD or PLD must be included in section I. A failed PPFT will be reported the same as for the PFT.

(d) PFT/PPFT Failure. A PFT/PPFT failure requires that Sgts and above receive an adverse FitRpt at the end of the next reporting period. In the case where a Marine does not have a reporting period until after the next semi-annual PFT, the previous PFT failure must be recorded on that FitRpt report, regardless of the performance on the more recent one.

(e) Required but Did Not Take (RDNT). A RDNT requires Sgts and above receive an adverse FitRpt. RDNT will be recorded in block 8b, section A and an

explanation must be included in section I of the FitRpt.

(3) Height and weight measurements (and percent body fat, when necessary) will be transcribed from the PFT and Body Composition Worksheet for that reporting period.

c. Proficiency/Conduct (PRO/CON) Marks. Any Marine ranked Cpl or below, will receive commensurate PRO/CON marks for superior performance, PFT failure, or RDNT per reference (g), para 4005.

d. Page 11 SRB/OQR Entries. Page 11 entries are not required for Marines who fail a PFT/PPFT or for when a PFT/PPFT is RDNT.

2. PFT/PPFT Failures

a. Promotion/Reenlistment/Special Schools. Marines may be denied promotion, reenlistment, and/or special schools until they pass a PFT and fulfill all RPCP requirements. See paragraphs 1204 and 6009.2.e of reference (j).

b. Administrative Separation. Marines may be subject to administrative separation, per chapter 6 of reference (h), paragraphs 6105 and 6206, for the following circumstances:

(1) Unsatisfactory Performance. Repetitive PFT failures, due to lack of physical conditioning, displays poor self-discipline in a Marine's responsibility to maintain fitness standards.

(2) Medical Condition. Repetitive PPFT failures due to a medical condition.

3. Summary of Administrative Actions. Table 2-3 lists the administrative actions required for Marines who fail the PFT/PPFT.

Appendix L

A personal communication was established with Heather O'Neil of South Pointe Fitness Center regarding private sector physical fitness and criteria. Ms. O'Neil provided the Executive Order by President George Bush for the basis of their criteria in establishing program development.

Appendix M

Recommendations for Frederick County DFRS Line of Duty Death

1. The Department should put out properly trained, qualified, and certified personnel in instructional roles.

2. The Department should train all instructors to be vigilant and constantly observe the students under their care for any signs or symptoms of impairment. Immediately, upon noticing any problem, the instructor should stop the evolution and take the necessary steps to ensure that the individual receives proper care.

3. The Department should constantly remind instructors and supervisors to be on the lookout for problems exhibited by the students. The normal routine of the Department is to respond to locations where a reported incident, fire or EMS, is in progress. The culture of the Department should change so that while operations at an incident or an evolution at training are underway, supervisors are alert for unfolding problems among members of the Department. This is effectively telling members to watch for incidents within an incident.

4. A safety officer should observe all evolutions including physical training at all times.

5. The Department should modify its organizational chart to accurately reflect the day-to-day duties, responsibilities and chain of command.

6. The chain of command policy should ensure the supervisory personnel are reporting to only one supervisor in the chain of command. This will eliminate any existing real or perceived confusion.

7. Department officials should review the mission and work program of Department staff to ensure that staff undertake only the core tasks. This will require prioritizing the existing tasks and adding staff positions.

8. A supervisory officer should always be at the PSTC when fire/rescue recruit training is underway.

9. The Department should assure that there is sufficient, permanent staff to fulfill training and safety responsibilities during recruit school. (Murray, 2002, p.19)