

Physical Agility Test Equipment Project Justification

The Department's Physical Ability Test (PAT) is a mandatory, annual requirement for all members who engage in firefighting. The PAT is composed of eight activities intended to assess important physical abilities necessary for effective job performance as a firefighter, and all eight components of the PAT are timed in a series. The test has a cutoff time; failure to complete the course in nine minutes or less results in a failure of the annual PAT requirement.

Currently, PAT task five incorporates a forcible entry simulation striking device known as a Kaiser Machine, which is usually borrowed from the Kill Devil Hills Fire Department. Firefighters use a sledge hammer to strike a sled target; this activity simulates forcible entry scenarios on the fire ground - penetrating a roof with an ax.

Unfortunately, the horizontal striking activity measured by the Kaiser Machine does not represent a task likely to be encountered by firefighters working on the fire ground. Most horizontal striking used by firefighters to breach a roof/flat surface has been replaced by firefighters operating powered units like ventilation saws. A vertically-mounted forcible entry device, which we are requesting, more adequately replicates the physical motion of using an ax or sledge hammer swung in a vertical motion to breach a wall, door or window, as opposed to the horizontal force represented by the Kaiser Machine.

This tool can also be used daily as a component of a regular fitness program to improve firefighter upper body strength and develop the skills necessary to achieve effectiveness in this task. Nags Head Police personnel could also incorporate this forcible entry tool in emergency response team (ERT) training activities to improve forcible entry effectiveness.

The forcible entry tool will be permanently installed (by design requirements) at Fire Station 16, thus no cost sharing is anticipated nor sought with other local fire departments.

No referenced document is available that specifically requires the acquisition of a forcible entry simulator as an essential component of an annual firefighter PAT and exercise program. However, the NFPA 1500, "Standard on Fire Department Occupational Safety, Health and Wellness" does reference that firefighters must be, among other criteria, sufficiently trained in their assigned job function and assessed at least annually in these skills. These standards indicate that by enhancing the annual PAT/regular training activities to reflect actual assigned firefighting activities, the effectiveness, efficiency, health and wellness of fire staff is improved.

Standards accessed from NFPA 1500

- 5.3.1 The fire department shall adopt or develop training and education curriculums that meet the minimum requirements outlined in professional qualification standards covering a member's assigned function.
- 5.3.2 The fire department shall provide training, education, and professional development programs as required to support the minimum qualifications and certifications expected of its members.
- 5.3.3 Members shall practice assigned skill sets on a regular basis but not less than annually.

- 5.5.1 The fire department shall develop a recurring proficiency cycle with the goal of preventing skill degradation and potential for injury and death of members.
- 5.5.2 The fire department shall develop and maintain a system to monitor and measure training progress and activities of its members.
- 5.5.3* The fire department shall provide an annual skills check to verify minimum professional qualifications of its members.
- 11.2.3 Members who engage in emergency operations shall be annually qualified as meeting the physical performance requirements established by the fire department.

If this CIP request is not approved, Nags Head Fire Department will continue to implement the PAT program as it is today, and continue to search for a funding stream to acquire this vertically mounted forcible entry simulator in future budget or grant processes.

Pictures of a sample forcible entry tool, calibration unit and stand are attached.

Physical Agility Test Equipment

Sample Forcible Entry Machine



Sample Calibration Unit



Sample Stand Frame

