

**Incident Investigation of a  
Firefighter Death  
Following a Physical Training Exercise  
Jacksonville Fire Rescue Training Academy  
May 19, 2005**



**Prepared by the  
Bureau of Fire Standards and Training  
Florida Division of State Fire Marshal  
BFST Safety Investigative Report 05-04  
Issued August 31, 2006**

Incident Investigation  
Firefighter Fatality during Physical Training  
at the Jacksonville Fire and Rescue Department Training Academy  
May 19, 2005  
Prepared by the  
Florida Division of State Fire Marshal  
Bureau of Fire Standards and Training

## **Summary of Incident**

On May 19, 2005, a 22-year-old firefighter trainee collapsed during a running exercise conducted at the end of the day as part of the training program for a “recruit” training class. The route was approximately three miles in length and completed in the afternoon after rappelling training and cardiovascular exercises. This was the longest run that the recruits had completed, however they had run a mile and a half on previous days. Participants in the class were already Florida certified firefighters, but the fire department refers to the new hires as recruits. The decedent’s class and a new recruit class were completing the run that day. The class’ slowest runners were placed in front to set the pace for the remainder of the class.

After completing the rappelling activities for the day, an instructor led the students in approximately one half hour of cardiovascular activities, and then three other instructors took the students on the run.

During the run, a few of the students heard the decedent advise that his vision was blurred, and reported that he barely missed running into a pole approximately 100 yards before collapsing. Prior to collapsing he told surrounding students he was sorry and couldn’t go any farther. He stumbled off the path and fell into the bushes. Two students assisted him up (some interviewees stated that instructors told the students to get him up and keep him going, while others reported that the instructors made no such comments)<sup>1</sup>. The decedent proceeded a short distance, collapsed and could not be helped back up. At this time he was still sweating profusely and mumbling incoherent words.

One instructor and a few students remained with him, while the rest of the students were directed to complete the run. One of the instructors ran to the training center, got a pickup truck, and went back to pick up the decedent.

Once the pickup truck returned to the training center with the decedent, personnel on site administered Advanced Life Support (ALS) including cooling, IV’s, and cardiac

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<sup>1</sup> The students interviewed were still in their probationary status. Fire department personnel interviewed noted that the students may be hesitant to tell the truth as they could be dismissed at any time during their probationary period without cause. Students stated that they did not believe they could disagree with instructors. City of Jacksonville Fire and Rescue Department Standard Administrative Procedures, Title: Disciplinary Action page 1 upholds this and refers to any justifiable discipline. Article VI 134.005 states that members are not to criticize instructions from superior officers.

monitoring. He was transported to the hospital by ambulance and subsequently died several days later. According to the death certificate, the decedent died from multisystem failure due to heat stroke<sup>2</sup>; however an autopsy was not performed.

The “recruit class” training segment appears to be designed to provide training in several specific areas prior to shift assignment. Based upon interviews conducted, it appears that the class is conducted with a “boot camp” mentality with the emphasis being as much on control as on learning. However, it does not appear that any specific actions or lack of actions contributed to this tragedy. The decedent had an overwhelming desire to become a firefighter with this department and the concern for losing his job if he did not complete the run may have pushed him beyond the limits of his physical endurance capability.

### **Summary of Findings to Reduce Risk of Similar Incident**

1. Students must be taught to identify their limits and be able to stop activities when they have reached their maximum physical ability.
2. Students should be properly hydrated before, during and after physical conditioning training.
3. Instructors should have training to identify signs and symptoms of participants who are having difficulty and be aggressive in stopping participants from continuance when such signs and symptoms appear.
4. Physical conditioning training should be progressive. Students should begin at low levels and increase activity and distance over time.
5. Instructors must be aware of high heat indexes and should monitor them regularly. Monitoring should be conducted several times during the day by means of monitoring equipment or at minimum by maintaining contact with local weather authorities.
6. Physical conditioning training should be conducted in the morning hours when the temperature is cooler rather than in the heat of the day.
7. A method to identify students with pre-existing heat conditions should be identified to monitor those students closer during training.
8. Physical conditioning training should be continued throughout the career of members and the policy of such be enforced throughout the department if it is considered a critical element of recruit class training and conditioning.

### **Purpose/Background of Investigation**

Under *Section 663.808, Florida Statutes*, the Division of State Fire Marshal (DFSM) is charged with the responsibility to “Investigate and prescribe by rule what safety devices, safeguards, or other means of protection must be adopted for the prevention of accidents in every firefighter employee place of employment or at any fire scene; determine what suitable devices, safeguards, or other means of protection for the prevention of occupational diseases must be adopted or followed in any or all such firefighter places of employment or at any fire scene; and adopt reasonable rules for the prevention of accidents, the safety, protection, and security of firefighter employees engaged in interior

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<sup>2</sup> Florida Certificate of Death; Office of Vital Statistics; C1512136.

firefighting, and the prevention of occupational diseases.” The Bureau of Fire Standards and Training (BFST) of the Division has the responsibility to investigate the incident for the aforementioned reasons and to determine if there was violation of Florida law or administrative rule within its authority. Other agencies and entities have investigated this incident for different purposes.

The National Institute of Occupational Safety and Health (NIOSH) investigated this incident for the purposes of preventing similar incidents. The Jacksonville Fire and Rescue Department (JFRD) also conducted an internal investigation.

This report is a result of interviews conducted and documents collected by BFST, NIOSH, and the JFRD.

### **Event Preceding the Incident**

This incident occurred during the 11 week long Recruit Orientation program for the Jacksonville Fire and Rescue Department. All recruits were certified by the State as Florida Firefighter II<sup>3</sup>, and as either an EMT or Paramedic prior to employment.

Firefighter (FF.) Recruit Karl “Klif” Kramer, the son of a current JFRD Captain was a member of this orientation class held at the training facility operated by JFRD and Florida Community College at Jacksonville.

Per other classmates, he had told them that he had received a letter from the city pension board advising him that he needed to get his cholesterol down in thirty days.

Prior to the day in question, it was reported that several incidents had occurred that had created a negative atmosphere in the class and may have caused some animosity towards the decedent by some members of the staff.

Interviews revealed that on the first day of the new firefighter orientation class, the graduating class decided to “initiate” the new class. A student from that class entered the classroom in the role of a lieutenant to “instruct” the class, with the actual instructor present in the classroom. The “acting instructor” had the students put wrong gear on, put their hoods on backwards, and walk through the hallways. In interviews, numerous students advised they felt humiliated, and stated that they knew the gear was being used incorrectly, but they did not dare to disobey a lieutenant. This was video taped and shown to new classes. One of the class students, possibly Kramer, went and removed the tape so it would not be shown. Instructors had told the students that if the tape did not reappear, all students would be counseled. Several witnesses stated this created a negative atmosphere for the class. A counseling letter refers to Kramer’s involvement in the removal of the tape.

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<sup>3</sup> Chapter 633, Florida Statutes (2005), requires career Firefighters to be state certified as Firefighter II.

Kramer had been counseled orally for horseplay and given two letters of counseling<sup>4</sup>, and the class felt that he was “on the bubble”.<sup>5</sup> Statements made during the interviews suggested that Kramer knew that he was close to losing his job, and he felt that he needed to perform during this run. Information obtained from classmates indicate that District Chief McCormick (assigned to the Training Bureau) had come into the classroom and had informed them that it was his job to take their jobs, and their (the students) job to keep their job. During interviews, several class participants also noted that the Chief had stated that he had fired other captains’ sons and he could do it again. These students stated that the only captains’ son in class was Kramer, and that he knew the statement was aimed towards him. The District Chief denied having made either of these statements.

Interviews indicated there was disagreement among the instructors as to the appropriate level of physical exertion in training and with physical conditioning training (PT). Multiple interviews indicated that those instructors that felt PT that was too strenuous had been removed from teaching at the training center.

Per the students interviewed, the two weeks dedicated to ropes and special operations training were extremely strenuous since the instructors conducted physical training in the afternoons and Chief McCormick was viewed as being the most demanding regarding physical conditioning. Statements also indicated that physical training had previously been conducted in the mornings.

Interviews indicated that throughout the program Kramer had to stop every time during the running portion of PT, and had never completed a run without stopping.

According to the fire department’s Advanced Recruit Training Guidelines<sup>6</sup>, when classroom work is being done, PT includes 5 to 10 minutes of warm-up, then walking or running beginning with 2 laps around the 1/3 mile oval; with another lap added each week. However, when physical activity level is “exhaustive” during the day, the PT is to include 5 to 10 minutes warm-up exercise and agility exercises for no more than 30 minutes. The term “exhaustive” is not defined. Also, under that policy, any recruit who cannot keep up with the pace of the class is to be referred to the Health and Fitness Officer for additional training. There is no documentation of Kramer having been referred per this policy.<sup>7</sup>

## **The Training Session**

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<sup>4</sup> Definitions of “Oral Counseling” and a “Letter of Counseling” can be found in the document “City of Jacksonville Fire and Rescue Department; Standard Administrative Procedures; Disciplinary Action” Reviewed 11/03, page 2 of 6. Neither is considered to be discipline.

<sup>5</sup> “On the bubble” was a term used by the students. This meant that FF Kramer was in jeopardy of being removed from the academy and not being employed by Jacksonville Fire and Rescue.

<sup>6</sup> Jacksonville Fire and Rescue Department, Training Division, Advanced Recruit Training Guidelines Objectives, 8-01-04, Section VII.

<sup>7</sup> Jacksonville Fire and Rescue Department, Training Division, Advanced Recruit Training Guidelines Objectives, 8-01-04, Section VII.

The class began their day around 8:00 am. There was no (PT) conducted that morning, and students went into lecture/practical activities of rappelling. The activities included rappelling down the tower two to three times, and working in groups on anchoring systems and general ropes. Around 4:00 p.m the District Chief led the students in cardiovascular exercises, and then three instructors took the group on the run. All students stated that it was a mild day as far as temperature.<sup>8</sup>

Students were allowed to break for hydration or restroom stops throughout the day as needed. The group was allowed to carry water bottles with them, which they filled prior to the run. There was no opportunity to refill the bottles during the run, and no hydration stations were established.

Statements from interviews also indicate that while PT is routine and stressed during initial orientation, this emphasis does not continue after assignment on shift. The run conducted the day in question began by running the outer loop around some small buildings and extrication vehicles on the sides. The course then took the students in front of the administrative buildings and out the entrance to the stop sign. At the stop sign, the class would turn right and go past the law enforcement compound and out onto the paved road. They would continue down the paved road until they reached the power lines and then proceed on a sand/dirt road until it cut through to a development. After that the students would travel on paved roads coming back to the entrance of the fire training center and end at the center itself. The course is approximated to be 2.75 to 3 miles in length.

Statements obtained during interviews of class members indicate that this had been the longest run that the students had participated in. During the run, the slowest participant in the class set the pace. In this case Kramer was leading the class as he was considered the one student that had the most difficulty with the run and was the slowest. Normally the students would either walk or slow the pace to stay behind the lead runner. On the Tuesday prior to the event, the group had been told to “circle the wagons”, which meant the group had to run circles around any individual if they stopped or slowed down until they could resume the run. During the run Kramer had to slow down, and the remainder of the group had to keep circling him until he could pick up the pace. On May 19, there was an informal competition set up between Kramer’s class and the new class that had just begun. The instructors informed the class that they needed to use the “circle the wagons” for anyone that slowed or had to stop. During the run, Kramer apologized numerous times to his classmates, as he did not want them to have to run extra due to him. The instructors accompanying the students were Lt. Sean Hatchett, Lt. Michael Allen, and Engineer (Driver) Jesse Brown.

Interviews revealed that during the run in question, Kramer had slowed several times and said that was all he had and he was hot, but kept going with encouragement of his

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<sup>8</sup> Per the National Weather Service’s “Preliminary Local Climatological Data” for Craig Field (nearby airport) the high temperature was 83<sup>0</sup> on that date.

classmates. As the runners approached the Alden Road Exceptional Center, Kramer began stumbling, and then said he couldn't see well, and couldn't go on. As he approached a telephone pole, students indicated that he almost ran into it. One classmate went to Kramer to ask him if he was okay. Kramer pushed him away and ran another 5 steps then veered 90 degrees off the path and collapsed. Per student interviews, Kramer went to one of the lieutenants after he began stumbling and said he was sorry but had no strength left in his legs prior to going off the path. According to statements, instructors and students went to Kramer's assistance. Two individuals (conflicting as to whether these were students or instructors) got under Kramer's arms to assist him. They headed for the gate that enters the training center compound when he collapsed again and did not get back up. Information obtained from statements shows that one instructor, possibly Lt. Hatchett, continued running with the other students; Lt. Allen ran back to the training center and returned with a pickup truck, while Eng. Brown remained with Kramer.

Statements indicate that Kramer was perspiring profusely and pale at this point; however he was mumbling and speaking incoherently. His water bottle was completely empty at this point. Kramer was transported to the administrative offices in the pickup truck and cooling activities were begun. Upon arrival at the building, he was stripped of excess clothing, two IV's were initiated, and he was given oxygen prior to the arrival of the transporting ambulance.

Running attire was shorts and short sleeved shirts and clothing had no known effect on the outcome. Upon arrival at the hospital, Kramer's core temperature was 108.6 degrees.

Some of the interviewees indicated they had been told that Kramer had previous heat related episodes, possibly during high school when he was playing football. Interviews indicated that Kramer had recently changed his eating behaviors in an attempt to lose weight and control his cholesterol including eating more vegetables and drinking water rather than sodas. None of his classmates reportedly knew of any medications or diet aids that he may have been taking.

## **Findings**

The following conclusions were found to be significant:

1. The cause of death was heat stroke resulting in total body system failure.
2. The learning environment allowed threats, harassment, and intimidation.
3. Physical conditioning training did not follow a progressive pattern. Physical training was based upon the instructor's desires as to the type, duration, and time.
4. Physical conditioning training was conducted after physical class activities (ropes) were conducted that day.
5. Kramer's previous heat related injury was not known to the instructors and underlying causes may have made him more susceptible to a heat related incident.
6. The heat index was not monitored prior to, during, or after the PT.
7. No source of hydration was made available to students during the run.

8. Students were driven to improve their physical endurance, however concern for maintaining their employment may have overshadowed concern for their own safety.
9. Instructors and classmates failed to identify the signs of a heat related injury.
10. Instructors did not keep Kramer down after he collapsed. He was helped up to keep him going.
11. There was a delay in the delivery of advanced medical care as there was no access to close transportation. Instructors had to run to the training facility and get a personal vehicle to move Kramer.
12. No investigation immediately followed the incident. Students and witnesses were not interviewed until weeks after the incident.

### **Remediation Plan**

Pursuant to *Chapter 633, Florida Statutes*, the Division of State Fire Marshal hereby directs JFRD to comply with the following:

1. Hydration must be made accessible and the need for hydration stressed throughout physical training.
2. Radio communications, emergency medical care equipment and an immediate form of transportation should be provided when training in a remote area to facilitate faster access to care.
3. Instructors performing physical training should be trained on identification of heat stress.
4. A physical fitness plan should be developed to include progressive increases in difficulty, and instructors should be trained how to use the program and follow it.
5. The departmental SOP on physical fitness should be enforced or revised. The value of arduous physical training diminishes if it is not supplemented or continued after recruit training ends.
6. Students observed with heat injury events or problems should be identified so as not to be singled out, but so that they can be monitored more closely.
7. Students and instructors need to be fully apprised of the signs and symptoms of heat related injuries. Care should be taken to not underestimate the stress caused by heat during exhaustive training and fire operations.
8. A detailed policy of instructor conduct, mutual respect, non - harassment or intimidation shall be adopted and enforced.
9. Physical training should be conducted in the cooler times of the day.
10. The policy to be followed when an employee is injured should be reviewed and revised to include the taking of statements of any and all involved participants immediately after an incident and must comply with requirements of Florida Administrative Code Rule 69A-62.

The Bureau met with Fire Chief/Director Richard Barrett prior to release of this report on July 17. Following a granted request to delay release of this report, Chief Barrett provided a report on August 22 that showed what actions had been taken by JFRD to reduce the chance of reoccurrence. A written remediation plan generally is

required to be submitted to the Bureau for approval within 30 days of receipt of the investigative report, however the report received does comply with the remediation plan in this report.

Specifically, Chief Barrett wrote:

“The Department (JFRD) has recognized the need for several immediate changes as a result of the incident. Additional changes are being reviewed for future implementation for both the Training Academy, and for the Department as a whole. Copies of some of these changes are included with this document for review.

1. All 1200 uniformed members have received training in:
  - a. Working in Extreme Temperatures
  - b. EMS Environmental Emergency Basic
  - c. EMS Environmental Emergency Advanced
2. Heat Stress Prevention Administrative Guideline has been developed and implemented.
3. Recruit Physical Training Administrative Guideline has been developed and implemented.
4. Policy of Code of Conduct for the Training Center has been developed and implemented by the Regional Training Center.
5. Hours of reporting to work and physical training have been modified during summer months because of extreme afternoon heat.
6. Hydration stations are used during outside activities.
7. Off-campus physical training has been suspended.
8. The Department is meeting with doctors and medical facilities regarding pre-employment physicals and pre-existing medical conditions of future applicants of the Jacksonville Fire and Rescue Department.”

**Bureau of Fire Standards & Training Recommendations for all Fire Service Agencies to Reduce the chance of Recurrence**

1. A detailed plan to monitor heat index at various times during physical training should be developed and complied with during training evolutions.
2. The Safety Section of the Bureau will research existing heat index policies and provide guidelines for training exercises.

3. Students should build progressively in strength and duration using techniques that will not cause injury or harm
4. During physical training:
  - It is necessary to have hydration available at all times.
  - Students must be monitored at all times for signs of stress or physical fatigue acknowledging that each student has different levels of physical fitness.
  - Students must have the authorization and be encouraged to stop physical training if they are exceeding their physical limitations.
5. If benchmark tasks are required for program completion, students should be advised of such at the beginning of the program. Students should not be placed in a position of mental duress by the appearance that their job depends upon completion of physical tasks that are not specific to job duties.
6. Training exercises shall be stopped immediately if instructors assess that conditions could cause injury.
5. Instructors shall monitor and supervise all personnel closely during physical fitness training.
  - Physical conditioning training should be conducted in the morning hours when the temperature is cooler rather than in the heat of the day.
  - A method to identify students with pre-existing heat conditions should be identified to monitor those students closer during training.

## **Conclusion**

The training environment must be the safest, most controlled environment in any profession.

Some students felt their employment was in jeopardy if they did not perform the physical training to the specifications of the instructor, even if those tasks were not specifically related to fireground or other job related functions.

While conditions were not extreme that day, the physical limitations of students varied based on their size, physical condition, and previous evolutions. Kramer had not been able to complete shorter runs, but felt compelled to complete the run that day or face termination.

## **Report Preparation**

This report was prepared in accordance with *Sections 633.801 – 633.821, Florida Statutes*, by the Division of the State Fire Marshal, Bureau of Fire Standards and Training. The following personnel contributed to this report.

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