



National Fire Fighter Near-Miss Reporting System:

Reports Related to Technical Rescue

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Report Number	Synopsis	Page Number
06-0000196	Water rescue SOP violation places firefighter in water wearing bunker pants.	2
06-0000264	Body recovery turned into training drill.	2
06-0000423	Long work cycles and high heat cause exhaustion.	2-3
07-0001101	Rescuer falls 40 feet during technical rescue training.	3
08-0000456	Lock out/tag out needed in tech rescue.	3-4
08-0000525	Potential confined space hazard ignored.	4
08-0000557	Embankment rescue could have ended tragically.	4-5
08-0000611	Diver experiences extreme conditions.	5-7
09-0000536	Quick action saves FF from drowning.	7-8
09-0000567	Limited training endangers FFs in technical rescue.	8
09-0000601	Trench rescue refresher experiences a toe collapse.	8-9
11-0000229	Water rescue team saves one of their own.	9-10

Report Number: 06-0000196

Synopsis: Water rescue SOP violation places firefighter in water wearing bunker pants.

Event Description: Responded to a call for a van driven into a reservoir while on a shift change with an acting captain, FF#1, 4 years experience, and a driver. I will be FF#2. After preparing for land based water rescue, I was ordered to enter the water and search for the vehicle while wearing bunker pants and fatigues. I am not a member of the water rescue team. Only water rescue team members may enter the water when the technical rescue water rescue program has been put into place at the call.

This order violated a direct SAG/SOP. The training of FF1 was unknown to me. I did not disobey the order and made entry due to work refusal legislation, not questioning the acting captain at the time. When discussed with my shift captain nothing came of the incident formally to my knowledge.

Lessons Learned: SOPs are created to ensure personnel safety.

Acting officers should be familiar with department SAGs/SOPs prior to assuming responsibility.

Acting officers should be shadowed on incidents by more experienced officers.

SOP violations that could result in needlessly endangering members should be brought to an officer's attention immediately.

Report Number: 06-0000264

Synopsis: Body recovery turned into training drill.

Event Description: Department toned out initially for MVC. Supplemental info toned Department out for Building Collapse with entrapment. Upon arrival, found vehicle had bounded over curb, traveling approximately 150 feet, crashing through Realty Office exterior wall. Vehicle resting on floor joists with front wheels through floor. Occupant of vehicle determined to be deceased. Technical Rescue Team called in to shore vehicle up. Number of personnel in basement, underneath car, shoring up vehicle. Unnecessary actions posed threat to personnel as incident was transitioned into recovery mode rather than rescue mode. Once tow truck secured vehicle, vehicle removed from house in matter of minutes. Appears event turned into a drill that could have led to unnecessary death or injury.

Lessons Learned: Do not turn real life situations into drills at the possible expense of firefighter's health and safety. Commanders should have more presence of mind and improve upon their situational awareness.

Retrain Command in Safety and Situational Awareness.

Report Number: 06-0000423

Synopsis: Long work cycles and high heat cause exhaustion.

Event Description: I was dispatched at 0930 hours, for an ATV accident with 1 patient in a dry river bed. Weather reported as sunny, dry, and 110 degrees in river bottom. 2 Firefighters in a 4wd Rescue and 1 Firefighter and a Captain in a 4wd POV responded due to known access problems at this location. A single Ambulance with an additional off duty paramedic in POV responded. Once staged at river bed entrance. We followed a POV into the accident scene approximately 3/4 of a mile from staging area. A POV from Fire Dept. with Captain, 2 Firefighters, a Paramedic, and EMT from ambulance in F.D. P OV, which got stuck approximately 300 yards from scene while single F.F. remained with rescue to establish radio relay. The scene was found to be located on a hillside approximately 200 feet up a 38 degree incline. 2 patients had an ATV roll over backwards on them. An immediate decision to set up a belay system was made as well as put out an additional call for manpower which brought 2

more FF's in a rescue support van and 1 more ambulance with paramedic and EMT. 1FF took over relay and the second helped bring rope rescue equipment and [sports drinks] with rope rescue tech and additional ambulance crew to scene and set up belay. 2 helicopters were launched and landed at base of hill and reported temps at 114 degrees. After a delay in patient packaging due to steepness of the hill, the patients were extricated to base of hill and flown out to level 1 center. With temps being reported as 118 degrees at time of take off by Evac pilot, this process took about 1 hour from time of initial on scene time. While cleaning up scene, two ambulance personnel became fatigued and 1 went unconscious while being helped down the hill (command ordered buddy rule going up or down hill to prevent injury) it took an initial effort of 6 personnel to safely escort the 2 EMTs down the hill and command ordered an additional ambulance to assist the 2 EMTs (1 was flown out due to heat injury and possibly striking head in fall) this took another 45 minutes to get patients to Staging area, treated, and moved to L.Z. at fire station. After Evac, 1 firefighter was treated by ambulance crew for heat exhaustion and put on light duty for remainder of day at station and home after restock and return to service crews were rehabbed for 2 hours and monitored for heat problems (no more occurred).

Lessons Learned: -Call for additional manpower (Mutual aid) and stage for secondary emergencies
-Ensure plenty of liquids are available for manpower on scene not at staging area
-Establish shade for any incident anticipated to last more than 15 minutes in extreme temps for patients and rescuers
-Utilize additional vehicles for shuttles
-use small ice chests to protect I.V. solutions and meds as well as med equipment
-Establish safety sector immediately; don't overburden I.C. with multiple roles (use Mutual Aid)
-Don't over-estimate capabilities and under-estimate weather conditions (time is critical)
-use time checks by dispatch in extreme weather and rotate crews as much as possible
-debrief and be honest!

Report Number: 07-0001101

Synopsis: Rescuer falls 40 feet during technical rescue training.

Event Description: The technical rescue team was conducting a confined space drill utilizing the drill tower. The scenario consisted of a construction worker who had entered a hole and had not been seen for about 4 hours. The team met and developed an incident action plan. They proceeded to implement the plan which consisted of air monitoring, entering the space with an in-line air system, and rigging a lowering system and hauling system. The team had limited personnel, however the incident command system was used including a safety officer. The team had completed their assignments and the first rescuer was lowered into the hole. While the second rescuer was preparing to enter the hole, the first rescuer reached the victim and conducted an assessment. The second rescuer had partially entered the hole. At that time, the tech rescue group leader was communicating to the lowering team to take up slack on the belay line. All of a sudden, the second rescuer let go and fell approximately 40 foot before the safety devices stopped the descent.

Lessons Learned: A lack of communication was the biggest contributing factor. Specific language was not used between the group leader and the lowering team. The rescuer assumed that the lowering team was ready to lower and proceeded without awaiting the order from the group leader. However, a good lesson learned was that the system worked. The safety devices stopped the rescuer, which they were designed to do.

Report Number: 08-0000456

Synopsis: Lock out/tag out needed in tech rescue.

Event Description: My engine was dispatched to an equipment injury on a highway. Enroute I requested a ladder which is our tech rescue team, medic unit, and a battalion chief. On scene we found a construction worker in a 4 X 4 vault in the carpool lane of the highway. It had been run over by a back hoe. The back hoe was still over the vault the patient was in. The back hoe was shut off and stable so I put one firefighter in the vault to evaluate the patient's condition. We extricated the patient safely without incident. Looking back at the scene after, we should have locked out and tagged the controls of the back hoe. This would ensure no one could have touched them while we were working under.

Lessons Learned: Anytime working around equipment use lock-out / tag-out or banner tape to ensure no one gets near equipment controls.

Report Number: 08-0000525

Synopsis: Potential confined space hazard ignored.

Event Description: This incident occurred at an active construction site of a 5 million gallon, double wall, poured in place concrete water tank.

A 38 year old male construction worker was working at an approximate height of 25' from scaffolding inside the inner tank structure, removing plywood forms from the ceiling of the tank. The worker was secured to scaffolding with a fall protection harness secured to the rail of the scaffolding. The harness did not have a shock absorbing lanyard. It was secured via chain to a partial body harness. As the worker attempted to strip a plywood form, he reportedly lost his balance and there was a presumable failure of the lanyard carbineer, causing the worker to fall approximately 25' to a concrete surface. After the fall, the worker was conscious and complained of lower extremity injuries.

The first arriving engine officer did not conduct a size-up and did not recognize that this was a confined space rescue. The first arriving officer then entered the confined space alone and without a working radio and without air monitoring. Technical rescue resources were not assigned to initial dispatch, which resulted in the delay of properly trained personnel and specialty apparatus arriving on the scene. After the arrival of the technical rescue resources, the engine officer was ordered to evacuate the confined space, and did so without injury or incident.

Lessons Learned: It is important to remember that confined space and technical rescue incidents are low-frequency, yet high-risk events. Sixty percent of confined space fatalities are would-be rescuers. Unless specifically trained and equipped, consult with technical rescue resources prior to taking any actions. The first arriving unit should properly size-up the scene, establish command, and request appropriate resources, no matter where they come from. Unless specifically trained or equipped, do not become part of the problem.

Report Number: 08-0000557

Synopsis: Embankment rescue could have ended tragically.

Event Description: We were called on a technical rescue response for a report of two dogs stuck on a cliff. The response consisted of an engine, a rescue company, a truck company, a chief, and a safety officer. The reported location was a rugged area of suburban/wild-land at the mouth of a steep canyon. The first due engine responded from the station approximately one mile away. The rest of the units were coming from substantially farther away and would have a delayed arrival.

Upon arrival, the first due engine company met with reporting person and were escorted up to the area where the dogs were. They were on small ledge approach 75 feet down from a small promontory that served as their access point. The terrain below the access point was a series of steep loose rock and grass slopes ending in small 5-10 drop offs to a ledge. The dogs were on the third ledge down at the end of a ten foot drop off. Below that ledge was an approximately fifty foot drop to a dirt access road.

The two firefighters had grabbed a utility rope bag and a rope rescue pack before heading up. Upon reaching the access point the first firefighter began to scramble down to the dogs. As the dogs were initially agitated and growling, the second firefighter felt that he should proceed down to assist his partner who had now reached the dogs.

About half way down the slope the second firefighter realized the severity of the terrain and asked the bystander to throw down a rope. He threw down a utility rope while holding on to one end. The closest firefighter tied a loop around his waist and tossed the end down to his partner who did the same. They asked the bystander to "belay" them.

The engine officer observed this part of the operation from a vantage point below the access point. He gave a size-up that said they had reached the dogs and it was a simple low angle rescue.

When the rescue company arrived on-scene, the rescue officer was assigned to rescue operations and preceded up to the access point. He updated the size-up to include the fact that the rescue was a high angle rescue and that the first priority was to remove the two firefighters to safety. A lowering system with safety was established and a technical rescue team member was lowered to the stuck firefighter. He was put in a harness and safety and was hauled up. The technical rescue team member proceeded down to the first firefighter and the dogs. He was placed in a harness and hauled up. The dogs were then assisted up to the access point and walked down to animal control officers who checked them over and figured out their ownership. The technical rescue team member came up safely and the operation was broken down.

Lessons Learned: The main lesson learned was that you should not let emotion and adrenalin override judgment. The dogs had been on the cliff for at least several days and were in no immediate danger. There was plenty of time to assess the situation and plan for a proper, safe operation.

The first in officer needed to be more of a presence and control his crew to prevent them from acting hastily.

Awareness- The first firefighters began to scramble down and were already in a dangerous situation before they realized it and asked a bystander for assistance.

Training- Frequent training with the rescue equipment carried on the first in engine would have allowed them to set up a safe lowering system in a timely manner and still achieve their objectives.

Report Number: 08-0000611

Synopsis: Diver experiences extreme conditions.

Event Description: On November 7, 2008 at approximately 0945, I was contacted at home by lieutenant [name deleted] stating that [department name deleted] had an ongoing dive incident and needed divers. He asked if I was available and if I would report directly to the scene to assist in the effort.

Lieutenant [name deleted] briefed me that the incident was a car in the river with a two year old and a thirteen year old still missing. He stated that the incident was now in the recovery mode and that there was a high priority to get the car and the kids out of the river. The incident commander initiated a zone 3 technical rescue response, which netted approximately 65 firefighters with technical rescue experience from throughout [county name deleted].

I responded from home in my private auto and civilian clothes. I arrived on location and made contact with battalion chief/safety officer [name deleted]. I stated to him that I was a diver called in from home and that I was checking in. Battalion chief/safety officer [name deleted] made up a passport for me and checked me into the incident command system.

I met with firefighters [names deleted]. We all suited up with gear that was on [dive unit number deleted]. We all remained at the dive unit waiting for an assignment. Captains [names deleted] arrived on location shortly after this and they both proceeded to the command post. Captain [name deleted] came back to the dive unit and instructed us to proceed to the Rescue Group Supervisor. I do not remember speaking to the Rescue Group Supervisor

personally. My contact was with Captain [name deleted], Lieutenant [name deleted], and firefighter [name deleted]. We were briefed that the car was located by the last diver.

River current conditions prevented the [department name deleted] firefighter from doing a complete recon of the vehicle. It was decided that a diver would be used to hook the car to a tow truck cable to recover the vehicle and presumably, recover the missing children. The plan was for the diver to attach a rope to the vehicle that would act as a means to slide the tow strap and cable to the vehicle. We were briefed that visibility was zero and the current was extremely swift. I inquired about the experience level of the previous divers. The answer was that all the previous divers had minimal experience.

The diving order was me as the primary search diver, firefighter [name deleted] as the safety diver and firefighter [name deleted] as the 90% safety diver. My tender was firefighter [name deleted] who was in the river raft tending my communications lifeline. Firefighter [name deleted] was also in the raft with his tender [name deleted]. Firefighter [name deleted] was sitting on the bank of the river next to me. I was also advised that conditions warranted the use of extra weight to overcome the current. I would normally use a 20 pound weight belt in non moving water. I knew from previous experience in river diving, that I would easily need at least 50 pounds. I donned a 35 pound weight belt and placed 20 to 30 pounds of sand weights into my buoyancy control device for a total of 55 to 65 pounds of weight.

I was also briefed by captain [name deleted] from [department name deleted]. He restated the plan and we discussed safety concerns. He stated that conditions were extreme and warned me to exercise caution. Another firefighter was tending the ½" rope that I was going to attach to the vehicle underwater. I attached the communications lifeline to my chest harness with a snap shackle. This is standard procedure. I entered the river when everyone was in place and firefighter [name deleted] gave me the go ahead. I immediately noticed that the water was moving faster than anything I had ever experienced. I was planning along the surface of the water while the raft was moved into position by a highline rope system. I used my hands and body to plane below the surface. I immediately landed on what felt like a car. I felt the jagged glass shards around the frame of a window, a seat back, and a round object that became dislodged. This object was later reported to be a basketball that surfaced while I was under water.

I located a wheel and felt that this would be the best attachment point for the rope. I attempted to release the rope that I had attached to my communication lifeline with a small carabineer attached to a prussic loop. The rope was so taught that I could not release it from the prussic. I told firefighter [name deleted] to slack the rope. This had no effect on the rope. I suddenly felt an acceleration of force on my body. The force was strong enough to put a strain on my chest harness, which constricted with each exhalation until I was unable to inhale. I told firefighter [name deleted] to pull me up and get me out of there. I simultaneously ditched my 35 pound weight belt and inflated my buoyancy control device. I was suddenly on the surface still unable to breathe until I was brought back to the river bank where the river flow was markedly slower. I ripped my mask off to get a breath of air once I made it to shore.

I was able to get up the river bank on my own. I was met by numerous officers and several other people that I cannot recall. I remember stating that the situation was untenable and that no other diver should be put in the water. I was then sent to rehab where I was monitored and given water and food. I was in rehab when the magnitude of the situation sunk in and I felt physically ill. I heard from others that the recovery operation was suspended and turned over to [sheriff department name deleted]. I was released from duty at approximately 1300.

Lessons Learned: I have had the opportunity to think about this over the past two days and have some observations on how this happened:

- Everyone that I had contact with seemed extremely focused on recovering the bodies even though this was clearly a body recovery which wouldn't normally justify the high risk operations. The fact that children were involved may have had something to do with this. I was also caught up in the emotions of the event.
- I did not recognize that the flow of the river was untenable for divers even though other divers were unsuccessful. I gauged my ability and experience to other divers with less experience. This caused a false sense of security.
- Placing weights in my BCD was a mistake because there is no way to ditch them quickly in an emergency.
- I was told that flow was at approximately 2,600 cubic feet per second and normal flow is between 600 and 1,000 feet per second. This should have been a red flag.
- I am not aware of a threshold flow that would indicate that diving is contraindicated. The team needs to research and implement a means of determining flow and speed to help make decisions in the future.

These things went well:

- Firefighter [name deleted] was observant and decisive when she became aware of my situation and immediately moved the boat back to shore. She tuned into the fact that something was wrong immediately by detecting a sudden change in water velocity and a change in my breathing rate.
- Panic avoidance training that was taught by firefighters [names deleted] instilled important skills that kicked in during the emergency situation. My first thought was to drop my weight belt, make myself buoyant, and call for help. The feeling of panic was still present but I was able to get myself out of a scary situation. The chain of events that could have led to injury was interrupted by this training. I recommend that the dive team enhance and emphasize this part of our training in the future.

I want everyone to learn from my experience so that this never happens again. I have never had a near miss in 19 years on duty and I do not want to have another. I consider myself extremely safety conscious and I always try to maintain a high level of situational awareness when it comes to my job. If this can happen to me, it can happen to anyone.

Report Number: 09-0000536

Synopsis: Quick action saves FF from drowning.

Event Description: A firefighter became unconscious while swimming under water at a local indoor pool at the conclusion of a water rescue training session. Upon completion of the training objectives, there was a few minutes of pool access time remaining and the firefighter proceeded to see how far he could swim under water on a single breath. The employee completed one lap and in the course of his return lap, several other employees noticed that he was not making any progress, and he did not immediately surface. The instructor (who was still in the water) yelled for others to pull him out of the water and immediately swam to the location. The instructor performed a surface dive and retrieved the firefighter at the bottom of the pool at a depth of approximately 10'. The victim was handed off to an officer who was located on the pool deck where he proceeded to pull him out of the water.

Upon extrication from the pool, the firefighter was found to be cyanotic and not breathing. Two rescue breaths were provided and a slow interval carotid pulse was noted while other personnel quickly proceeded to obtain EMS equipment. Personnel observed what appeared to be "hypoxic shaking" immediately after the two breaths were given with the victim's skin color immediately returning to a pink color. The employee then opened his eyes, exhibited some confusion for about 30 seconds, and then regained full consciousness with a normal demeanor. The employee was provided oxygen therapy, other appropriate BLS/ALS care and was assisted to a medic unit and transported to a local hospital for a physician evaluation without incident. The employee was evaluated for a near drowning, observed for approximately three hours and was then released with orders to rest for the next 24-hours. The employee was returned to full duty effective his next scheduled shift.

Lessons Learned: The agency's safety committee reviewed this incident, considered the statements and testimony provided and made the following conclusions and recommendations:

- (1) There is an opportunity to learn and improve as a result of this experience - issues of decision-making, human error, individual actions, situational awareness, and training are all factors associated with this incident;
- (2) Statements reveal there was a "friendly competition" element to see how far one could swim underwater while holding their breath, however participation was optional and there was no clear indication that any peer pressure or challenge to perform beyond one's capability was a factor;
- (3) As a matter of risk management, training activity should adhere to the objectives of the planned course material. Any competitive activity should only incorporate those skills previously covered in the objectives of the training. The extra-curricular activity was beyond the scope of the course, and therefore the incident could have been prevented;
- (4) Discontinue the practice of swimming lengths of the pool underwater during rescue training - such activity would be more appropriate outside of the work environment;
- (5) During high-risk hands on training (IDLH environments, HazMat, technical rescue, water rescue), pre-stage EMS equipment for rapid access;
- (6) Consider having a dedicated EMS unit (non-participants) available on scene during high-risk training;
- (7) Review and improve administrative actions to be taken in instances of serious injuries and LODD; and
- (8) Submit this incident as an entry in the National Fire Fighter Near-Miss Reporting System.

Report Number: 09-0000567

Synopsis: Limited training endangers FFs in technical rescue.

Event Description: I responded to a trench rescue call. There were two persons trapped with their heads showing in an eight foot deep trench. Ground conditions were extremely muddy with water in the trench. A track hoe was straddling the trench near the rescue area. Would-be rescuers were in the trench upon arrival. ICS was good. The decision was made to send firefighters into the trench with inadequate shoring or proper procedures. No one on the scene was trained in trench rescue and the danger was not known or recognized. The victims were rescued alive after two to three hours. The trench had a total collapse in the rescue area hours later. Fire fighters would have been engulfed in wet soil above their heads. Only the timing saved them from injury or death.

Lessons Learned: Do not try to handle emergencies without the proper training and equipment. Wait on a trained team, regardless of public perception or criticism. Educate all members of the department to the awareness level in technical rescue so they will recognize the need to call for specialty teams.

Report Number: 09-0000601

Synopsis: Trench rescue refresher experiences a toe collapse.

Event Description: During our annual trench rescue refresher, we experienced a toe collapse of the trench. The training officer, who is a certified trench rescue technician, had our personnel use [trench] jacks and timber shoring on the first evolution. Fortunately, we were following safe procedures. We kept the firefighter setting the shores between the panels on a ladder no lower than necessary. When the trench collapsed, he was able to self rescue. It was a real eye-opener for all of us.

Prior to starting the evolution, we noticed a slight undercut on that side probably from the backhoe when the contractor dug the trench. The soil composition looked okay and there were no cracks on the surface. We were very fortunate in that we put the full sheet ground pads down on that side. If not we could have had several firefighters fall into the trench when the toe gave way. In the debriefing, the tech leading that group, the other

department technician and I, the department training captain, discussed utilizing the safest method of shoring first before utilizing the more dangerous timber shoring process requiring the entrant to be in the hazard zone to set the shores. We utilized our air shores first throughout the remainder of the training groups followed by the timber shoring techniques after the trench was safely shored.

Lessons Learned: As mentioned before, utilizing the safest method of shoring first.

A more careful study of the trench prior to starting the evolution is necessary.

We need to be willing to postpone the entire training if necessary to ensure the safest possible training environment.

Report Number: 11-0000229

Synopsis: Water rescue team saves one of their own.

Event Description: Crews were dispatched to a reported person “stuck on an island” in the middle of a river. The river at the time of call was flowing approximately 2600 cubic feet/second. A total of 21 fire department personnel responded to this incident; 14 of these responders were certified swift water rescue swimmers. The local county dive team also responded to this incident.

Initial crews were on scene at [time deleted] hrs. They made contact with the reporting person (RP), who was one group of three separate witness reports. The initial RP reported a male with brown hair wearing a white shirt with plaid pants was hanging onto a tree branch near an island in the river. The RP reported they saw the victim “hanging on for dear life, growing weaker and watched him go under water twice”. When they returned from calling 911, the victim was gone. These witnesses remained on scene and when the local county dive team arrived they were interviewed again and made the same statements.

Throughout this incident there were two other witness reports. One of these reports said a male exited the river on river left and was walking eastbound, the other witness report said they heard someone screaming downstream from the last scene point. Both of these witness reports were unconfirmed by crews on scene.

Crews performed a shore-based hasty search with negative results. Although dusk was upon this scene, based on the confirmed witness reports, crews decided to enter the water to search an island just downstream from the last scene point. This plan was communicated to command, which was geographically located with an obstructed view of the scene. Five rescue swimmers entered the water at [time omitted] hours to search the downstream island. Rescue swimmers were instructed to stay river right as river left was considered dangerous to search. Per department policy, downstream safeties were in place along with a secondary downstream containment group. Due to darkness setting in command ordered all swimmers out of the water at approximately [time omitted] hours. Group supervisors acknowledged this order and advised all rescue swimmers to exit the water on river right. Three of the swimmers exited the water river right, however, two of the swimmers did not hear the verbal order due to river noise. With daylight diminishing, the remaining two rescue swimmers did not see the river right exit point and accidentally proceeded to river left.

At [time omitted] hours command received a report of a firefighter caught in a strainer on river left. The firefighter, a 30-year old, who has been a firefighter for five years, was one of the two rescue swimmers who accidentally went river left. Scene personnel were directed to affect the rescue of the firefighter who was caught in the strainer. Crews from both the fire department and the local county dive team were able to throw a “rope lasso” onto the trapped firefighter and safely pull the firefighter from the strainer to shore. Although this “rope lasso” method took multiple attempts, the rescue was made six minutes after notification of a firefighter caught in a strainer.

After the firefighter rescue was completed, a sheriff deputy advised command that he interviewed the confirmed witnesses for a third time and determined the witnesses were providing false information to rescue crews.

Lessons Learned:

- Interagency incidents need a unified command presence with a shared radio frequency.
- Establish a safety officer early into these types of incidents.
- Mayday procedures need to be applied in all firefighter down situations – they are not limited to structure fires.
- Personnel (including rescue swimmers) must be in voice, visual or radio contact.
- Diminishing daylight affects visual communication.
- Do not put rescuers in the water without considering a risk profile of:
 - Known and savable victim(s) verses probable victim(s);
 - Time of day – operations at dusk allow rescue swimmers to enter water during daylight, but does not allow for daylight when the event deteriorates;
 - River conditions – although this river was scouted and swam two-weeks earlier, the strainer involved was new. River conditions and hazards can change daily.
- Need downstream scouting for hazards (strainers, etc.) when rescue swimmers are in the water.
- Assign walking safeties with visual and/or verbal contact with rescue swimmers.
- Assure face-to-face communication is understood and confirmed between shore-based personnel and rescue swimmers.
- Gather contact information of all witnesses crews make contact with while on scene.
- Consider experience level of rescue swimmers.

Things that went right:

- Established downstream safeties and downstream containment group early in this incident.
- Downstream safeties maintained their positions during rescue event.
- Shore-based hasty search was complete and well-coordinated.
- Once the mayday event occurred:
 - Three-whistle blasts worked well regarding mayday notification;
 - The entrapped firefighter's partner physically marked his position before going for help;
 - Crews stayed calm, disciplined and communicated clearly during rescue event;
 - There were resources built into this department's swift water response profile that provide extra personnel and allowed for a rapid rescue of a firefighter;
 - An additional ambulance, for a scene total of two ambulances, was dispatched and staged for rescue personnel.

This was a high-risk/low-frequency incident that this fire department has been training for over the last several years. Two-years ago, a successful rescue was performed by this department at the same location in the river. Crews trained at, scouted, and swam this section of the river two weeks earlier, so they were familiar with this section of the river.

This fire department has a search policy that is risk profile based. For structure fires, this policy requires searching all tenable areas for possible, probable, or known occupants. When operating in the swift water rescue theater, especially during high-water flows, it is important to apply a risk profile that is narrowed to known, visible, and savable lives.

This event pushed this department's swift water rescue procedures to its limits and identified areas of improvement that are currently underway.