

INVESTIGATION NARRATIVE

REPORTING DISTRICT:	Buffalo	
INVESTIGATION TYPE	ESTABLISHMENT NAME AND SITE ADDRESS	
COMPLAINT	Buffalo City Police Department Headquarters Broderick Park Buffalo, NY 14213	
ACCIDENT		
PROGRAMMED		
MONITORING		
FOLLOWUP	DATES OF INVESTIGATION:	INSPECTION NUMBER
X FATALITY	10/18/17, 11/8/17, 11/29/17, 11/30/17, 12/5/17, 12/6/17, 12/14/17, 2/20/18, 3/15/18, 3/22/18, 3/28/18, 3/29/18, 4/10/18, 4/17/18, 4/18/18, 6/13/18, 6/19/18	1272015 / UPA# 1275537

On 10/18/17, a partial safety and health inspection was conducted at the Buffalo City Police Department Headquarters, 74 Franklin Street, Buffalo, NY 14202 by Senior Safety & Health Inspector Jennifer Puerner. The inspector left a voicemail for Lieutenant Rinaldo on 10/13/17 at 3:45 pm to explain that PESH was aware of an incident involving the Buffalo City Police Department Underwater Rescue and Recovery Team (URRT) and asked him to call when additional information was available.

The inspection was conducted in response to a fatality that occurred in the Niagara River west of Broderick Park, 1170 Niagara Street, Buffalo, NY 14213. The incident occurred on 10/13/17 at approximately 12:49 pm, and the employee's body was recovered on 10/17/17 at approximately 1:25 pm. The fatality was reported to the New York State Department of Labor Public Employee Safety and Health Bureau on 10/18/17. Due to the high-profile nature and media coverage of the incident, reporting of the fatality was managed through previously established contact with employer representatives of the Buffalo City Police Department.

Initial Incident Description

On 10/13/17, at approximately 12:45 pm, an employee from the Buffalo City Police Department Underwater Rescue and Recovery Team (URRT) was participating in a training exercise in the Niagara River west of Broderick Park in the City of Buffalo. The employee's tether, which connected the diver to the dive tender on shore, became snagged in the river. Attempts to free the tether and rescue the employee were unsuccessful and eventually the tether "parted." The employee did not surface and went missing. Multiple agencies performed an extensive five-day search and the body of the employee was recovered at approximately 1:25 pm on 10/17/17.

Victim Information:

Name: Craig E. Lehner
Date of Birth: 11/10/82
Age: 34
Date of Employment: 1/18/08 (9 years, 9 months)
Joined the URRT: April 2017 (6 months)

Job Title: Police Officer
Injuries Sustained: Drowning
Status: Deceased

Inspection Activity and Interviews

On 10/18/17, Inspector Puerner presented credentials to Michael Mordino, Buffalo Police Department Homicide Detective, and informed him that the inspector was present to conduct a safety inspection in response to the fatality.

Employees at this location are represented by the Buffalo Police Benevolent Association. The employee representative contacted by the inspector prior to the start of the opening conference was:

Kevin Kennedy, Buffalo Police Benevolent Association, President

An opening conference was conducted on 10/18/17. At this time, the PESH Act and scope of the inspection were explained to the participants. Present during the opening conference were:

Jennifer Puerner, PESH, Senior Safety & Health Inspector
Jeffrey Rinaldo, Buffalo Police Department, Lieutenant
Michael Mordino, Buffalo Police Department, Detective- Homicide Squad
Mark Makowski, Buffalo Police Department, Captain- Planning and Analysis
Dennis Richards, Buffalo Police Department, Chief- Detective Division / Investigative Services
Kevin Kennedy, Buffalo Police Benevolent Association, President

The following materials were reviewed with the attendees during the opening conference and provided in paper form.

- SH 909 – PESH Act pamphlet
- 12 NYCRR – Parts 801, 802, 803, 804, 805, and 820
- SH 907 – Employer Rights and Responsibilities pamphlet
- SH 906 – Employee Rights and Responsibilities pamphlet
- SH 904 – Closing Conference pamphlet
- SH 900, 900.1, and 900.2 – Injury and Illness Recordkeeping forms
- SH 905 – Consultation Service pamphlet
- SH 208 – PESH poster
- SH 918 – Penalty Information for Public Employers
- SH 976 – Hazard Communication pamphlet
- 2706 – Right to Know poster
- P20- Workplace Violence Prevention Pamphlet

A walkaround inspection was conducted on 10/18/17. The walkaround inspection covered areas including, but not limited to: Buffalo City Police Department Evidence Collection Lab. The inspector observed the equipment that was recovered on the day of the incident (10/13/17) and with Officer Lehner (10/17/17). Photographs were taken of the equipment. Participating in the walkaround portion of the inspection was:

Jennifer Puerner, PESH, Senior Safety & Health Inspector
Tim Salamone, Buffalo Police Department, Detective- Homicide Squad
The authorized employee representative declined taking part in the walkaround inspection.

On 10/19/17, a letter was mailed to Officer Lehner's next of kin.

From 11/2/17 to 1/8/18 Inspector Puerner was on extended leave and the case file and investigation was transferred to Safety and Health Inspector Ryan Cox. On 11/8/17, Inspector Cox met with Captain Jeff Rinaldo, explaining that he would be the primary contact for the investigation until further notice.

A second walkaround inspection was conducted on 11/29/17. This walkaround inspection covered areas including, but not limited to: Buffalo City Police Department Headquarters. A thorough inspection of Officer Lehner's equipment was conducted. The Buffalo Police Department provided photographs to the inspectors. Photographs were taken of the equipment. Participating in the walkaround inspection were:

- Ryan Cox, PESH, Safety & Health Inspector
- Bret Schmidt, PESH, Supervising Safety & Health Inspector
- Tim Salamone, Buffalo Police Department, Detective- Homicide Squad
- Michael Mordino, Buffalo Police Department, Detective- Homicide Squad
- Kevin Kennedy, Buffalo Police Benevolent Association, President (emailed prior to this walkaround inspection and declined to participate)
- Mark Goodspeed, Buffalo Police Benevolent Association, Health & Safety Officer (emailed prior to this walkaround inspection and declined to participate)

A site visit was conducted at Broderick Park on 12/5/17 by Safety and Health Inspector Ryan Cox. Photographs and measurements were taken of the dive site.

A site visit was conducted at Wilkenson Pointe Park, the Union Ship Canal, and Broderick Park on 4/10/18 by Senior Safety and Health Inspection Jennifer Puerner and Safety and Health Inspector Ryan Cox. Photographs were taken of the sites.

The inspectors used the following equipment during the inspection:

- Canon Powershot SD1200IS Digital Camera / iPhone 6 Camera
- Stanley 25-foot Tape Measure
- Keson Measuring Wheel RR318N

The inspectors requested and received the following documents:

- Injury and Illness Records for the URRT (2014 – 2016)
- URRT Safe Practices Manual
- URRT Standard Operating Guidelines (SOGs)
- Public Safety Diver Death Investigation conducted by the New York State Police
- Air Quality Certificates for air used to fill the SCUBA cylinders
- Hydrostatic Testing Records for all SCUBA cylinders used by the URRT
- URRT Dive Logs (10/14/16 – 10/17/17)
- Advanced Open Water SCUBA Certification for Officer Lehner
- Police Training Records for Officer Lehner (1/18/08 - 10/13/17)
- Injury and Illness Records for Officer Lehner from 10/13/17
- URRT Roster
- URRT Monthly Training Records (9/20/13 – 10/13/17)
- United States Coast Guard Report for the incident on 10/13/17
- Depositions from URRT members present for training on 10/13/17
- Accident Report from the incident on 10/13/17
- Letter from Medical Examiner with Cause of Death

The inspectors requested the following documents, but they were not available:

- URRT Dive Logs (January 2013 – 10/13/16) The URRT only keeps their dive logs for the past year (as stated in the URRT's Safe Practices Manual and as required by 29 CFR 1910.440 (b)(3)(iv)), so these logs had already been discarded.
- Officer Lehner's personal dive log book to assess his dive experience. This was not provided to the Buffalo Police Department; therefore, it could not be provided to the inspectors.
- Open Water SCUBA Certification for Officer Lehner. This was not provided to the Buffalo Police Department; therefore, it could not be provided to the inspectors.

Additional information was provided to the inspectors in CD form. The CD's are titled:

- D06 Broderick Park (South End), 10/13/17 1235-1340 PO Lehner Search
BPD/VSC – rd *(recorded and provided by Buffalo Police Department)*
- U.S. COAST GUARD, Office of FOIA and Data Administration Division, COMDT
(CG-INV-3), 18-F044, 2018-CGFO-00481, Incident Management # 1102403,
Incident Date: 10/13/2017 *(provided by the U.S. Coast Guard)*
- Rope Under Rock Still Pics, 11/29/17 *(recorded by Canadian Niagara
Regional Police on 10/17/17 at 12:34 pm, provided by Buffalo Police Department)*
- Rope Under Rock, 11/29/17 *(recorded by Canadian Niagara Regional Police
on 10/17/17 at 12:34 pm, provided by Buffalo Police Department)*

The following parties were interviewed or consulted as part of this investigation:

- Michael Mordino, Buffalo Police Department, Homicide Detective, 11/29/17
- Tim Salamone, Buffalo Police Department, Homicide Detective, 11/29/17
- Lance Wisner, United States Coast Guard, Command Post Chief, 11/30/17
- Eric Mazuric, United States Coast Guard, Operations Officer, 11/30/17
- Jason Erickson, United States Coast Guard, Command Center Chief (sector),
11/30/17
- Namon Dimitroff, United States Coast Guard, Command Center Chief of Incident
Management Sector, 11/30/17
- Leo McGrath, Buffalo Police Department, Detective/URRT Commander,
12/6/17, 2/20/18, 3/15/18
- Tom Barden, New York State Police, Technical Sergeant Division Diving Officer,
12/14/17, 3/28/18
- Mike Sieverman, Public Safety Dive Training (which issues NAUI certifications),
Owner/NAUI Public Safety Dive Instructor, 3/22/18, 4/18/18
- Walt "Butch" Hendrick, Lifeguard Systems, President, 3/29/18
- Andrea Zaferes, Lifeguard Systems, Vice President, 3/29/18
- Sean Harrison, Emergency Response Diving International, Vice President of
International Training, 4/18/18
- Justin Fox, Dive Rescue International, President/CEO, 4/17/18
- Mark Phillips, PS Diver Magazine, 6/13/18
- Stephen Butler, Director OSHA Office of Maritime Enforcement, 6/19/18
- Mark Lerner, OSHA Solicitor, 6/19/18

URRT member interviews were not immediately conducted following the opening conference because the members of the URRT were placed on a mandatory one-week bereavement leave. The Buffalo Police Department collected depositions from the URRT members that were present during the training exercise on 10/13/17. These depositions were collected from 11/3/17 to 11/20/17. The inspectors used these depositions in lieu of conducting initial interviews with the members of the URRT. Additional photos were provided to the inspectors from the Buffalo Police Department on 3/15/18. The documents, interviews, depositions, and photographs collected during the investigation were used in evaluating compliance with OSHA/PESH standards.

Incident Details

On 10/13/17, the URRT was performing a dive training exercise in the Niagara River, west of Broderick Park in the City of Buffalo. Broderick Park is located on the southern tip of Unity Island between the Niagara River and the Black Rock Canal. The URRT members entered the Niagara River at the south end of Broderick Park near the entrance to the break wall path. A float with a diver down flag was placed on the rocks, where the divers entered the water, to warn boaters of divers in the area. The divers exited the Niagara River at the eddy near the north end of Broderick Park using the built-in ladder. The dive distance was approximately 758 feet from entry to exit point and the dive depth was approximately 25 feet.

According to the URRT Commander, Detective Leo McGrath, the objective of the training was to ensure members stay familiar with the swift water of the Niagara River to respond effectively to water rescue calls in that area. Detective McGrath stated that training at this location has been conducted for at least the last 13 years that he has been on the team.

At the beginning of the training on 10/13/17, the air temperature was 68 degrees Fahrenheit with a South wind of approximately 9 miles per hour. According to Detective McGrath, the water was 66 degrees Fahrenheit, moving approximately between 10 to 15 knots, and the visibility at the bottom of the river was 3 to 4 feet. These conditions were described to be average for the location by Detective McGrath as well as members of the URRT that had experience diving at this location. Before the training began, the entry and exit points were observed for easy entry and exit. The area that the dive tenders worked was surveyed for tripping hazards, and the dive tenders were protected from the swift water via a metal railing and the use of personal flotation devices.

Officer Lehner was the fourth diver to enter the water during the training. According to the dive log, he began his dive with approximately 3,000 PSI of air in his cylinder. The other members of the URRT were located throughout Broderick Park fulfilling other roles supporting the dive and waiting in queue for subsequent dives. Officer Lehner was connected to a 300-foot-long tether, using a full thread screw locking carabiner attached to his harness.

A video from the security camera located at the south end of Broderick Park (Buffalo Police Surveillance Camera DO6) was provided to the inspectors. The video was recorded from 12:35 pm to 1:40 pm on 10/13/17. Under normal operation, the camera pans the Broderick Park area, changing the angle approximately every 10 seconds. The Buffalo Police Department took remote control of the camera's positioning at 1:08 pm. Prior to the remote operation of the camera (12:35 pm - 1:08 pm), the camera captured the diver's entry point at the south end of Broderick Park near the break wall path, the diver staging area, the dive team/first responder staging area, and the dive tenders holding the tether. There was no footage of the divers in the Niagara River before 1:08 pm since the camera is designed for park surveillance and not for

monitoring river traffic. The first two rescue diver's entries were not captured on video due to the initial automated panning of the camera.

Based on the video, information submitted in signed depositions by the URRT members, and employee interviews; a timeline of the incident was developed as follows:

- 11:00 am: Training started
- 11:15 am: Pre-dive safety briefing
- 12:15 pm: Three other divers successfully completed their training dives (Officer Lehner acted as a backup diver during these dives)
- 12:45 pm: Officer Lehner enters the water
- 12:49 pm: Officer Lehner's tether went slack
- Between 12:49 pm - 1:14 pm: Two URRT divers (the backup divers) connect a contingency line to Officer Lehner's tether at separate times in a rescue attempt. Members attempted unsuccessfully to send a pony bottle (backup air) down Officer Lehner's tether.
- Between 12:49 pm - 1:27 pm: Between the URRT dive attempts, dive tenders attempted to manipulate the tether at different angles from shore to free Officer Lehner's tether.
- 12:53 pm: United States Coast Guard was called
- 12:59 pm: EMS & fire support arrives on scene
- 1:08 pm: Manual control of surveillance camera remotely taken by Buffalo Police Department
- 1:14 pm: Third URRT diver enters water, and begins to follow Officer Lehner's tether using a contingency line
- 1:15 pm: Third diver submerges in the water, attempting to reach Officer Lehner
- 1:16 pm: Third URRT diver forced to surface due to current conditions and the inability to reach the appropriate depths
- 1:25 pm: A small inflatable rescue boat was seen in the distance
- 1:27 pm: U.S. Coast Guard arrives with a 45-foot RB-M (Response Boat Medium)
- 1:29 pm: U.S. Coast Guard takes control of Officer Lehner's tether and begins their attempt to free him.
- 1:34 pm: Buffalo Police Department boat seen in water
- 1:34 pm: Officer Lehner's tether breaks free and the dive tender's end of the tether is retrieved by the Coast Guard
- 4:15 pm: Officer Lehner's left dive glove was recovered near the dive exit location
- 10/13/17 – 10/17/17: Multiple agencies attempted several dive search/rescue attempts
- 10/17/17 12:34 pm: Canadian Niagara Regional Police take underwater video footage of the incident location
- 10/17/17 1:25 pm: Officer Lehner's body was recovered approximately 160 feet offshore in the Niagara River, approximately 2,000 to 3,000 feet north of the International Railway Bridge.

Three rescue dive attempts were made by the URRT backup divers before the arrival of the Coast Guard. These efforts consisted of three separate dives by URRT members, attaching a contingency line (red rope) to Officer Lehner's tether (yellow rope) and attempting to follow Officer Lehner's tether to reach his location. All three rescue divers were individually tethered during their dives. In all three instances, the current was too strong for the divers to reach and

render assistance to Officer Lehner. All three divers were forced to cut their contingency lines that fastened them to Officer Lehner's tether and surface. URRT members also threaded an emergency air cylinder to the tether line in an attempt to send it to Officer Lehner. The current did not allow the cylinder to sink and it was later recovered floating near the pier after Officer Lehner's tether had parted.

The United States Coast Guard arrived at the incident location with a 45-foot RB-M (Response Boat Medium). Upon taking control of the tether from the URRT, the boat maneuvered, attempting to dislodge the tether from different angles. The Coast Guard was not able to detach the tether from an apparent obstruction and the tether eventually parted. The Coast Guard was able to recover approximately 225 feet of the 300-foot-long tether after the tether broke. Evidence provided, in the form of underwater video recorded by the Canadian Niagara Regional Police, showed that the tether became caught on a large boulder. An estimated 73 feet of Officer Lehner's tether was left underwater after it detached during the Coast Guard's attempt to free it. Upon recovery, it was found that approximately 19 inches of the tether was still attached to the locked carabiner on Officer Lehner's harness.

The Coast Guard remained on scene in a support capacity during the search/recovery operations. Coast Guard personnel performed tasks including, but not limited to: water traffic control, imaging efforts to survey the terrain of the Niagara River, and setting up a safety zone. The URRT continued to maintain dive logs throughout the recovery phase of this operation. The inspectors observed the Broderick Park surveillance camera video taken from 12:35 pm until 1:40 pm on 10/13/17. All of the employees with exposure to the water were wearing personal floatation devices or were protected from the swift water via a metal railing.

Officer Lehner's body was recovered on 10/17/17 at approximately 1:25 pm at coordinates N42.94626 W078.91364. This location is approximately 160 feet offshore in the Niagara River, approximately 2,000 to 3,000 feet north of the International Railway Bridge, between the International Railway Bridge and Strawberry Island. This is approximately 2.23 miles from the entry point at Broderick Park.

In consideration of the information provided through employee interviews, written depositions, and submitted photographic/video evidence, it is believed that Officer Lehner's tether became tangled around a large underwater boulder and he was unable to free himself. The length of tether, still attached to Officer Lehner's safety harness at the time of recovery, had apparent cut marks in three locations: at 4 3/8 inches, 13 inches, and 18 1/2 inches from the point of attachment to the carabiner. Officials commented that the cut marks were likely the result of Officer Lehner's attempt to free himself. Upon recovery of Officer Lehner, his Titanium EMT shears were noted as missing from his harness.

URRT Equipment

All members of URRT dive with the full complement of the equipment listed below. At the time of the incident, Officer Lehner was wearing the following gear and equipment:

- Henderson 7 mm thermoprene two-piece wetsuit
- Hood
- Neo Sport Hi top zipper boots 7 mm (SB70Z)
- Water Proof G1 5 mm five finger gloves (left glove recovered on 10/13/17)
- Aqua Lung Rocket II full-foot dive fins
- Nylon web weight belt with 40 pounds of weight
- Scuba Pro white tip knife (32.002.000) (fastened to harness, designed to pull down)

- PMI Classic nylon life safety rescue rope, 300 feet long, ½ inch thick, 9,700-pound load limit (used as tether)
- The “SCUBA pack” consists of: Aqua Lung Legend Glacia regulator (includes first stage regulator attached to the top of air cylinder, and mouthpiece/second stage regulator) Aqua Lung PRO QD M buoyancy compensator device, with 34 pounds of lift and a weight capacity of 30 pounds (394033) Catalina 80 cubic foot aluminum dive cylinder (DOT-3AL 3000) (Serial # AS0401233) Team Lifeguard Systems harness (BH100) (attaches to buoyancy compensator device) OMEGA screw-lock carabiner (OPL6) (attaches to harness and tether)
- Oceanic ION 05-5106-27 diver’s mask (item was not recovered)
- Titanium EMT shears (fastened to harness, designed to pull down -the item was not recovered)

The harness is worn under the buoyancy compensator and wraps around the diver’s waist, back, and shoulders. The diver’s screw lock carabiner is attached to a woven loop on the harness located at the diver’s chest. The tether attaches to the carabiner. The mouthpiece/second stage regulator provides the diver with on demand air. The URRT SCUBA cylinders are filled by the Buffalo City Fire Department, which retains the air quality certificates. The fire department maintains air compressors at the fire department headquarters, as well as a mobile compressor on an air truck. The air provided by these compressors meets the criteria outlined in 29 CFR 1910.430(b)(3) for respirable air supplied to a diver, and as referenced in the URRT’s SOG. Air quality certificates were provided to the inspectors.

All of the equipment issued to Officer Lehner was new at the time of his appointment to the URRT, and was not yet subject to any test, calibration, or maintenance per 29 CFR 1910.430(a)(2). Upon recovery, the URRT determined that Officer Lehner’s buoyancy compensator device did not appear to have been inflated during the incident. The buoyancy compensator is a device worn by a diver containing a bladder that is inflated or deflated by the diver to manage their buoyancy while immersed in liquid. There was 1,700 PSI of air remaining in the cylinder upon Officer Lehner’s recovery. The valve on the cylinder was noted to be in the “fully on” position and it was taped in place, upon recovery, to preserve evidence. The inspector observed the operation of the gate latch on the tether line carabiner and it appeared to be in proper working order. Opening the carabiner involved unscrewing the full-thread screw lock to allow the gate to open. The thread locking carabiner was chosen by the URRT for line tending over a quick-release type shackle to reduce the risk of accidental detachment in hazardous environments. The depth gauge read 35 feet, which indicates the maximum depth the instrument recorded from 10/13/17 to 10/17/17.

A post-incident equipment inspection was performed on 11/13/17 by Technical Sergeant Tom Barden, the Division Diving Officer of the New York State Police. Sergeant Barden arrived on scene during the rescue/recovery operations. Sergeant Barden has been the Program Manager of the New York State Dive Team for 7 years, and oversees the New York State Police dive program consisting of 65 divers, on 8 teams throughout the state. The following notes are part of Sergeant Barden’s assessment of Officer Lehner’s equipment:

- The first stage regulator was observed to be attached correctly to the cylinder.
- The cylinder was tested for flow and equipment function.
- The second stage regulator worked properly when purged.
- The mouthpiece was attached properly and was secured to the second stage regulator.
- Little to no air was found in the bladder of the buoyancy compensator device.

- The power inflator was hooked up properly to the first stage regulator.
- The power inflator was in working order when the inflation button was depressed.
- All of the exhaust valves on the buoyancy compensator device were in working order.
- Officer Lehner's wet suit, boots, gloves, and hood all appeared to be in "new" condition.
- All of Officer Lehner's equipment appeared to be in working order and properly worn.

During an interview, Detective McGrath, stated that diving with diver-carried reserve breathing air at the incident location in the Niagara River makes it harder for divers to maintain control of their posture when swimming downstream, which could lead to diving complications. Because of this, the URRT did not dive with diver-carried reserve breathing air at the incident location. On 10/13/17, none of the URRT divers had diver-carried reserve breathing air.

In accordance with 29 CFR 1910.424 (c)(4)(i) and (ii), a diver-carried reserve breathing gas supply shall be provided for each diver consisting of:

- (i) A manual reserve (J valve); or (ii) An independent reserve cylinder with a separate regulator or connected to the underwater breathing apparatus.

URRT divers were not equipped with either option on 10/13/17.

Violation noted

The URRT uses a tether for line-tending during all training, rescue, and recovery operations. Tender/Diver tether line signals are used as a method of two-way communication. The communication is based on the number of pulls on the tether from either the diver or dive tender. The tether line signals are outlined in the SOGs and include signals for the following: I'm on the bottom; I need more line; I found something; I'm in trouble; stop/are you ok?; change direction; and come up. This is an industry accepted practice recognized by OSHA under Subpart T - Commercial Diving Operations 29 CFR 1910.424. Portions of Subpart T - Commercial Diving Operations were incorporated into the URRT's Safe Practices Manual and SOGs by direct reference to specific paragraphs.

Line-tending procedures were inadequate at the incident location due to the strength of the current and the angle of the tether when divers were tended from shore. A taut line is required for proper line signals. Slack lines, which would likely occur in current conditions while tending from shore, do not effectively transfer signals between diver and dive tender. The standard practice for the URRT during training was for multiple members to tend a tether during a single dive. During Officer Lehner's dive, three members of the URRT had passed the tether between each other. This practice inhibits the dive tender's ability to maintain a constant awareness of what the primary diver is doing. Dive tenders must be able to "read" or feel slight movements in the diver's tether line to distinguish between normal movements and problems such as entanglement.

Tending from a boat or platform allows the tether to be placed at a minimal angle to the water current during the dive. Minimizing the angle in the tether can reduce the sweeping of the tether across the dive area, reducing the likelihood of entanglement. Diving and tending from a boat or platform in currents decreases the hazards and provides immediate water access during an emergency. A minimal angle of the tether to the current can also improve the backup diver's ability to reach the primary diver by traveling directly downstream. The URRT has a Buffalo Police Department boat available for trainings and rescue/recovery operations. When shoreline access to the water was not available or practical, the URRT has used the boat for divers and tenders to work from. The URRT boat was not deployed during the training exercise on 10/13/17.

The employer did not properly assess all safety and health aspects of the training dive on 10/13/17 in accordance with 29 CFR 1910.421 (d):

- Surface and underwater conditions and hazards; [1910.421(d)(2)]
The assessment did not adequately address all hazards including, but not limited to swift current and entanglement.
- Breathing gas supply (including reserves); [1910.421(d)(3)]
Divers were not equipped with reserve air when required.
- Diving equipment and systems; [1910.421(d)(5)]
The application of line-tending from shore, under swift current conditions with potential entanglement hazards, was deficient.
- Emergency procedures. [1910.421(d)(9)]
Emergency procedures were inadequate.

Violations noted

Operations and Procedures

The URRT was formed in April, 1959 to be able to respond to drownings and water related incidents along the City of Buffalo waterfronts. According to the Buffalo Police Department Manual of Procedure, the URRT is a group of specially trained and equipped officers who, in addition to their regular assignments, shall respond to all water related incidents in which underwater recovery is necessary. The URRT provides water related rescue/recovery and performs dive operations in all types of water, including, but not limited to: rivers, ponds, lakes, canals and creeks. The types of duties performed by the URRT include, but are not limited to: human and animal rescue and recovery, weapons and evidence recovery, underwater crime scene investigations, vehicle and boat recoveries, swift water and river rescue, ice rescue, ice diving recovery, and flood evacuation.

The URRT has been conducting response dives in the Niagara River since its inception in 1959 and has an operational need for URRT members to become familiar with that environment as part of their training. From 2013 to 2017, the URRT has responded to thirty or more calls on the Niagara River. The URRT conducted dive trainings in the Niagara River on the following dates during the last five years; 10/13/17, 7/15/16, 9/18/15, 8/12/15, 7/11/14, 6/20/14, and 10/4/13.

At the time of the incident, there were 17 permanent members and 2 trainees (including Officer Lehner), with an additional 2 members on a leave of absence from the URRT. The URRT maintains Standard Operating Guidelines (SOGs) and a Safe Practices Manual. The majority of 29 CFR 1910.420-425 had been incorporated into the URRTs Safe Practices Manual, and 29 CFR 1910.402-426 and 29 CFR 1910.430-440 had been incorporated into the URRTs SOGs. Before joining the URRT, members are required to have a valid SCUBA certification and be a member of the Buffalo Police Department for at least four years. The preliminary level SCUBA certification, required by the URRT, permits the dive student to manage themselves and their dive equipment under water. This level includes Professional Association of Diving Instructors (PADI) Open Water Diver and National Association of Underwater Instructors (NAUI) SCUBA Diver. Members are also required to pass the Cooper Norms physical fitness test at the fifty-percentile rate before their appointment to the URRT. The physical fitness of the URRT members is monitored during monthly training drills. All members of the Buffalo Police Department are required to have current CPR and first aid certifications, which is also a requirement of URRT members. The SOGs included the following information: requirements to join the team, training requirements, physical requirements, and evaluations.

Detective Leo McGrath serves as URRT commander and is the designated person in charge when on site. When Detective McGrath is not available to respond with the URRT, a hierarchy has been established to fill the role of the designated person in charge. The URRT commander is appointed by the Police Commissioner. Detective McGrath has 31 years of diving experience, with approximately 850 dives. Detective McGrath has been on the URRT for 13 years and has been the commander for 5 years. Detective McGrath has the following certifications: Open Water Diver through NAUI, Open Water Diver through PADI, Certified NITROX Diver, AGA full face mask technician, and Police Instructor Developmental School. His training includes a Water Rescue and Recovery Workshop, Aquatic Death and Homicidal Drowning Investigation, Swift Water Surface Rescue Technician 1, and Swift Water Surface Rescue Technician 2.

There were 17 URRT members present for the dive training exercise on 10/13/17. During trainings, members of the URRT rotate between the roles of diver, dive tender, and backup diver. The URRT uses tethers and dive tenders for all their dives to track a diver's location and for communication between the diver and the dive tender. On 10/13/17, each diver was assigned at least one dive tender and one backup diver where members would rotate between assigned duties. During this training (as with all trainings and responses), the dive tenders assisted the divers entering the water and traveled alongside the diver, from the shore, as the diver traversed the river downstream. The dive tender followed the location of the diver by observing the angle of the tether and the surfacing of bubbles from the diver's regulator. The tether is marked with tape at set increments to provide estimated measurements of the diver's distance from the dive tender.

The Safe Practices Manual for the URRT was made available at the dive location. The manual states that, for each diving mode engaged in (for the URRT that would include SCUBA and surface-supplied air), the safe practices should include the following: safety procedures and checklists for diving operations; assignments and responsibilities of the dive team members; equipment procedures and checklists; and emergency procedures for the following instances: fire, equipment failure, adverse environmental conditions, and medical illness and/or injury. These details were not included in the Safe Practices Manual.

The employer's Safe Practices Manual did not include the following required elements in accordance with 29 CFR 1910.420(b):

- Safety procedures and checklists for diving operations; [1910.420(b)(2)(i)]
- Assignments and responsibilities of the dive team members; [1910.420(b)(2)(ii)]
- Equipment procedures and checklists; [1910.420(b)(2)(iii)]
- Emergency procedures for fire, equipment failure, adverse environmental conditions, and medical illness and injury. [1910.420(b)(2)(iv)]

Violations noted

Team Member Training

The URRT completes an average number of 12 trainings per year. New members are trainees for a minimum of one year and are granted permanent status when they have demonstrated the required proficiency. A determination must be made by the URRT commander before a member's traineeship is completed. URRT trainees do not participate in responses until they become permanent members. The employer stated that URRT members complete a series of progressive skills, such as dives in a pool, graduating to a lake, then a river, then ice dives, etc. The employer's Safe Practices Manual contains a section addressing training. The manual states initial training should consist of learning the specific hazards and diving safety procedures of the local waterways and response to diving emergencies. The employer stated that URRT

trainees are assigned tasks in accordance with the employee's experience and training, only taking on extra capacities in a training environment under the direct supervision of the designated person in charge. All members are subject to semi-annual reviews by the commander and may be subject to removal from the URRT following two substandard reviews. Monthly training records note member performance during drills, instances of termination of dives due to weather conditions as outlined in the Safe Practice Manual for thunderstorms, and pre-existing physical problems affecting divers resulting in members not participating in dives.

During the five years prior to the 10/13/17 incident, the URRT performed rescue/self-rescue training on the following dates: 2/17/17 at the foot of Ferry in the Black Rock Canal (practiced switching to the pony bottle); 9/16/16 at LaSalle Park in the Black Rock Canal (rescue a down diver); 12/18/15 in the Union Ship Canal (diver rescue); 2/13/15 in the Cazenovia Pool (supplying backup air to a trapped diver); 5/23/14 at the foot of Smith Street in the Buffalo River (diver rescue); and on 2/21/14 there was classroom training (switching from using a full face mask to a pony bottle).

The inspectors reviewed the training records from 2015, 2016, and 2017 (up to 10/13/17) of the last five trainees (excluding Officer Lehner) who joined the URRT during 2015 and 2016.

- Trainee 1 performed dive operations in the Niagara River during their sixth dive. This member received their first rescue training during their eighth dive.
- Trainee 2 performed two trainings in the Niagara River, during their fourth and fifth dives. This member was on the team for seven dives before they resigned from the team. During their time on the team, this member did not participate in any rescue training.
- Trainee 3 did not perform any dive operations in the Niagara River during their traineeship because they were not working during the trainings that occurred in the Niagara River. As a permanent member, this employee participated in one Niagara River training. This was the member's sixteenth dive. This member received two rescue trainings, during their third and eighth dives.
- Trainee 4 did not dive in the Niagara River during their traineeship. The URRT had a training in the Niagara River during the member's second training on the team, and this member performed their dive in the Black Rock Canal instead of in the Niagara River. Their first dive in the Niagara River was conducted when they were a permanent member. This member received two rescue trainings, during their fourth and ninth dives.
- Trainee 5 performed one training in the Niagara River during their traineeship. It was the trainee's tenth dive. This member received rescue training during their fourth dive.

Prior to the 10/13/17 incident, Officer Lehner participated in five trainings at two locations consisting of: the foot of Michigan Street (in a slip south of Wilkenson Pointe Park) on 5/19/17 and 8/17/17 and in the Union Ship Canal on 6/16/17, 7/14/17, and 9/15/17. Both locations are enclosed on three sides, located behind break walls, and have minimal current. Officer Lehner's sixth training was in the Niagara River with a current of approximately 7.7 to 9.7 knots, according to the NOAA Upper Niagara River Booklet Chart. According to Detective McGrath, the water was moving approximately between 10 to 15 knots. During his first five trainings, Officer Lehner performed all three roles of dive tender, backup diver, and primary diver. During these trainings, Officer Lehner received no negative reviews and was recognized for his abilities. However, Officer Lehner's only dive in swift water current was his sixth training which occurred in the Niagara River on the date of the incident. Diving conducted under swift current conditions entails additional hazards which complicate operations and rescue procedures. The employer acknowledged that Officer Lehner had not been provided rescue/self-rescue training

during his traineeship with the URRT. All other current members of the URRT, at the time of the inspection, had been provided rescue/self-rescue training with the URRT in the past.

Not all dive team members had experience or training in diving operations and emergency procedures in accordance with 29 CFR 1910.410(a)(2): Diving operations and emergency procedures. [1910.410(a)(2)(iii)]

Violation noted

Dive Records

The URRT maintains logs for every dive performed during training and rescue/recovery. The inspectors reviewed the dive logs (which included all dives performed during training and calls) from 10/14/16 through 10/17/17. The dive logs included the following information: names of the primary divers, backup divers, dive tenders, and the designated person in charge; date; location; pre-dive and post dive briefings; general nature of work performed; general notes on underwater and surface conditions (water temperature and air temperature); maximum depth and bottom time for each diver; and start/end dive cylinder air pressure.

29 CFR 1910.423 (d)(1): The following information was not recorded and maintained for each diving operation:

- Date, time, and location; [1910.423(d)(1)(ii)]
Dive logs did not include time entries
- Diving modes used; [1910.423(d)(1)(iii)]
Dive logs did not indicate diving modes
- Approximate underwater and surface conditions (visibility, water temperature and current) [1910.423(d)(1)(v)]
Dive logs did not describe visibility and current conditions

Violations noted

Determination Summary

In applying 29 CFR 1910 Subpart T — Commercial Diving Operations to this incident, the following violations were noted:

- 29 CFR 1910.410(a)(2)(iii): The employer did not ensure that all current members of the Buffalo URRT had training or experience in emergency procedures.
- 29 CFR 1910.420(b)(2): The Safe Practices Manual did not include safety procedures and checklists, assignments and responsibilities of the dive team members, equipment procedures and checklists, and emergency procedures for fire, equipment failure, adverse environmental conditions, medical illness, and injury for all dive modes the URRT engages in.
- 29 CFR 1910.421(d): The employer's assessment of the safety and health aspects of the training dive on 10/13/17 was deficient in the following areas: breathing gas supply (including reserves); diving equipment and systems; surface and underwater conditions and hazards; and emergency procedures.
- 29 CFR 1910.423(d)(1): The employer did not regularly document the following information in the dive logs: time of dive, dive mode used, and approximate underwater and surface conditions (visibility and current) for each dive.
- 29 CFR 1910.424(c)(4): During the dive training on 10/13/17, URRT members performed dives without a reserve breathing gas supply.

Recordkeeping:

Annual injury and illness logs were reviewed for the URRT. The average Days Away, Restricted or Transferred (DART) Rate for calendar years 2014, 2015, and 2016 was 0.0.

Year	Dart Rate
2014	0.0
2015	0.0
2016	0.0

A closing conference was conducted on 10/2/18. Present during the closing conference were:

Jennifer Puerner, PESH, Senior Safety & Health Inspector
Ryan Cox, PESH, Safety & Health Inspector
Bret Schmidt, PESH, Supervising Safety & Health Inspector
Darren Mrak, PESH, Program Manager 1
Jeffrey Rinaldo, Buffalo Police Department, Captain
Barbara Lark, Buffalo Police Department, Deputy Commissioner
Joseph Gramaglia, Buffalo Police Department, Deputy Commissioner
Michael Mordino, Buffalo Police Department, Detective- Homicide Squad
John Evans, Buffalo Police Benevolent Association, President
Mark Goodspeed, Buffalo Police Benevolent Association
Erin McCarthy, Buffalo Police Benevolent Association
Kristin Russo, Buffalo Police Benevolent Association

During the closing conference, violations to be cited, possible abatement measures, abatement periods, consultation assistance, Petition to Modify an Abatement Date, and the appeal process were discussed.

CITATIONS TO BE ISSUED:		CSHO NAME	DATE PREPARED
X	YES	Jennifer Puerner / Ryan Cox	1/23/18
	NO		

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