

POST

# TRAINING INJURY INVESTIGATION REPORT

INTERNATIONAL  
TRAINING RESOURCES



OCTOBER 17, 2011

CALIFORNIA COMMISSION ON PEACE OFFICER STANDARDS AND TRAINING

# POST Mission

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**The mission** of the California Commission on Peace Officer Standards and Training is to continually enhance the professionalism of California's law enforcement in serving its communities.

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# POST Training Injury Investigation Report

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October 17, 2011

This report summarizes the POST Training Injury Investigation Report.

**Distraction Device Breaching Instructor**  
**CCN: 1025-33566-11-001**

## **EXECUTIVE SUMMARY**

On July 21, 2011, an injury occurred during a POST-certified Distraction Device Breaching Instructor Course at the old Fort Ord military base in Monterey County, California.

Officer Michael Short, a trainee from Visalia Police Department, was a participant in the training. Officer Short was injured when the blast from an explosive charge struck him in the head and upper body. Officer Short's injuries resulted in the loss of one eye and facial injuries.

The instructors for the course were Mr. Ben Tisa and Mr. David Bliss, partners in International Training Resources (ITR), the presenter of the course.

POST conducted an investigation of the incident. It was determined that ITR had deviated from the approved course outline, used instructors not approved by POST, did not have proper licensing for the use of explosives, and failed to follow proper student safety protocols.

The investigation report of the event includes: witness interviews, assessment by external subject matter expert (SME) advisors, and video and photographs of the incident.

## **BACKGROUND**

### **Method:**

The review of this incident involved collecting a written report of the incident from ITR, review of video of the incident taken by ITR, and review of video taken by students using cell phone cameras. Witnesses were interviewed, and SME advisory groups reviewed the facts and offered opinions surrounding the incident.

Electronic Data Interchange (EDI) documentation submitted to POST was reviewed, including: 1) Administrative Information, 2) Instructor Resumes, 3) Expanded Course Outline, 4) Hourly Distribution, 5) Budget, and 6) Safety Plan.

The POST Guidelines for Student Safety in Certified Courses was compared with the EDI documentation, the attested facts of the event, and the ITR Course Manual.

### **The Device:**

The breaching device used By ITR during the incident is called a “WallBanger,” manufactured and provided by representatives of Safariland, LLC; a police equipment vendor.

The device is intended to house deflagrating (explosive) reloads of the type used in standard police flash-sound distraction devices. The main charge consists of a flash powder (or photoflash powder), potassium perchlorate (oxidizer), magnesium (fuel), and aluminum (fuel). (Ref: Diversionary Device Instructor’s Course, National Training Concepts, 2011.)

Upon initiation of the device the chemical compound causes the device to deflagrate (burn rapidly/explode), changing into gases that expand outward up to 3,800 times the original volume and reach ballistic speeds between 5,000 and 7,000 feet per second or more.

The explosion produces light, sound, and pressure. The pressure radiates outward from the point of detonation and “washes over” objects and persons diminishing over distance traveled. The pressure wave violently squeezes the human body in an atmospheric capsule of “overpressure.” The evacuation of air behind the wave then produces a negative decrease in pressure (vacuum). The phenomenon produces psychological and physiological effects that can temporarily incapacitate an individual producing lag time in reaction that allows tactical teams to gain the advantage on criminal offenders.

The WallBanger uses standard diversionary device reloads in multiple combinations, and is intended to provide an explosive breaching option to officers without needing a trained bomb technician on scene to perform target analysis and build a breaching load.

The reloads are loaded into an enclosed carbon steel housing that is placed against a metal or wooden doorjamb. The housing is held in place against the door using a pole held by the operator. The explosives are ignited via shock tube, which is a flexible hollow tube that contains an interior dusting of explosive sufficient to activate the primary charge(s) using a detonator.

Once the primary charge(s) deflagrates, the metal housing contains, directs, and shapes the pressure wave onto the jamb with sufficient force to break the lock.

The device can be loaded with different charges in the amounts of 4-, 8-, or 15-gram loads. Two reloads at a time can be inserted into the device with a maximum gram weight potential of 30 grams (15 + 15).

The device has additional features that permit the deployment of a chemical agent.

Safariland is a private vendor of law enforcement equipment and training. The Safariland personnel that provided on-site expertise and instruction about the device are Ron McCarthy and Frank Harden, account representatives of Safariland.

### **Site:**

The building where the training was conducted is an abandoned military barracks. The blast occurred in a hallway inside the building. The hallways are approximately 7' wide and 8' high. The floor is concrete, and the walls and ceiling are of cinder block construction. There is no furniture, carpets, rugs, or other shock absorbent materials in the halls. The surfaces are highly reflective of sound and pressure waves.

### **Presenter:**

International Training Resources (ITR), San Francisco, California  
Owners: Benedict Tisa and David Bliss

### **Injured Party:**

Michael Short, Visalia Police Department  
POST ID: B10- R35

### **Instructors:**

Benedict Tisa	ITR
David Bliss	ITR
Ronald McCarthy	Safariland, LLC
Frank Harden	Safariland, LLC

### **Witnesses Interviewed:**

Paul Vandiver	Concord PD
Mark Souza	Concord PD
Ben Tisa	ITR
Chris Jacoby	Redding PD
Michael Short	Visalia PD

## **SUBJECT MATTER RESOURCE ADVISORS REVIEWS**

### **Subject Matter Expert Advisors:**

Brian Parker	Post-blast Investigator, Bureau of Alcohol, Tobacco, Firearms and Explosives (BATFE)
Mike Morgan	Post-blast Investigator, Bureau of Alcohol, Tobacco, Firearms and Explosives (BATFE)
RK Miller	Huntington Beach Police Dept., Retired, Tactical Trainer
Randy Sterett	Sergeant, Orange County Sheriff's Department Bomb Squad and SWAT



## **SME Review #1**

### **Agents of the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives**

On August 15, 2011, Agents **Brian Parker** and **Mike Morgan** of the U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives (BATFE) reviewed the Training Injury Report, the videos of the incident, and “company” video from the Safariland website.

Their observations included the opinion the charges deployed were too large for the size of the room that was breached, resulting in overpressure that caused fragmentation. A fragment from the door caused Officer Short’s injury.

Their opinion was had overpressure alone been the cause, the injury would have been more evenly spread over a greater area of the officer’s face. The blunt, penetrating, injurious character of the wound indicated impact from fragmentation.

Their opinion was that the device was classified as a Destructive Device because of its configuration as a shaped charge explosive tool designed and intended to explosively breach doors and walls. The flash powder reloads are used in flash sound diversionary devices and are intended to disorient and distract suspects to allow officers time to make entry and subdue a suspect. Here, the reloads were used with the intent to forcibly breach, not just distract. As such, the (non-peace officer) person(s) in possession of the reloads must have a user permit in accordance with federal explosives licensing rules and possess a current California Blaster’s License (California Department of Mining and Tunneling). Each person who possesses and deploys such a device must be specifically listed by name on the permit.

The author of the ITR Training Injury Report referred to the reloads as containing explosive “black powder.” This is inaccurate and may be indicative that the writer is not knowledgeable about the product. The device does not contain black powder. It contains an active deflagrating formulation of magnesium powder, aluminum powder, and potassium perchlorate.

The specific formulation is identified in the Material Safety Data Sheet prepared by ChemTel, Inc., for Defense Technology under the product name: 7001C1-Distract Device Command Initiate Reload. In this case, it is manufactured for Safariland LLC, Jacksonville, Florida 32218.

The agents evaluated the use of the device on the center of a wooden door as opposed to placement on the doorjamb. The opinion was that such placement on the center of a wooden door would cause fragmentation, as evidenced in this incident.

The agents, as instructors in explosive breaching, were concerned that the instructor (Harden) left the student, Officer Short, alone at the breach point and took cover. They said that in the bomb technician’s culture, it is a point of honor and confidence that the

instructor stays with a student at all times. They would not leave a student alone to experiment with an explosive charge.

## **SME Review #2**

### **RK Miller**

On October 6-7, 2011, Senior Consultant Don Lane, met with RK Miller at the Criminal Justice Training Center in Huntington Beach, California.

RK Miller has a background in SWAT and is a certified Distraction Device Presenter. In his opinion the charge was too large for the target room, and he said that fragmentation should have been anticipated.

In his opinion the target analysis was insufficient and the safety protocols were too risky. His opinion was based upon the witness statements that students were told to experiment with various charges to see what would happen. In addition, the instructors appeared not to know how the charges would perform.

Further, in his opinion, the unpredictable flow patterns of overpressure in confined spaces put the students observing the exercises at risk of injury.

### **SME Review #3**

#### **Orange County Sheriff's Department (OCSD) Bomb Squad and SWAT**

On October 5, 2011, Senior Consultant Don Lane, met with OCSD Bomb Squad Leader Sergeant **Randy Sterett and the six members OC Bomb Squad** who agreed to review the information and materials regarding this incident. Two additional SWAT personnel, the **SWAT Team Breacher and SWAT Team Leader**, also attended to provide further tactical insight and assistance.

Senior Consultant Don Lane gave an overview of the facts collected regarding the incident, including summaries of the witness statements. He provided information regarding the Wallbanger device, and showed two video segments.

The team provided technical assessment of the physics of the deflagration. One team member was provided the gram weight specifications of the charge and the size and shape of the breach point room and hallway. He calculated that the charge was too large to be used in such a location. The gram weight total equivalent of the charges used in the incident was the same as using four standard diversionary devices at one time.

The gram weight calculations revealed the strength of the explosive at approximately .36 pounds of TNT. In lay summary, TNT is the baseline explosive substance used in the industry to calculate the standardized Relative Effect of all other explosives.

The team's conclusion was that the charge was oversized for the breach point, and it was inevitable that the operator (Officer Short) standing in front of the breach point approximately three feet away would be injured or killed.

This conclusion was based on analysis of the room at the breach point (room approximately 3 x 4 x 8 feet), and the highly reflective concrete floor and hallway surfaces described earlier. Again the surfaces were military style construction, concrete block walls and ceilings, both in the hallway and in the room. Further, the officer was approximately three feet from the breach point and directly in front of the door.

Briefly, explosive pressure moves in waves that follow largely unpredictable paths depending on a variety of factors. Chief among those factors is reflective pressure. This occurs when pressure waves strike objects in a room, or bounce off walls and ceilings. Waves also strike each other as they reflect (much like cross currents occurring in water) and create momentary pockets of extremely high pressure when they collide. These collisions happen at very high speed, measured in thousands of feet per second.

Pressure waves from expanding gases can fill a room, and in combination with reflective phenomena can create overpressure. These pressures can be injurious and destructive. Pressure waves also tend to follow the path of least resistance, moving from high-pressure areas to areas of low pressure. Thus, pressure will commonly flow

towards open doors, windows, hallways, larger attached rooms, and ventilation ducts. In the instant case, the hallways were low, narrow, and highly reflective concrete block construction. The door to the target room was outward opening. The target room, concrete block, had no windows, vents, doors, or other exit paths for pressure to escape. The only exit path created was the explosive breach point created by the charges. This path pointed directly at Officer Short.

Despite the pressure wave introduced to the interior of the room by the initiation of the device, the bomb squad personnel said most of the explosive pressure was released on the exterior of the breach point during the deflagration event. This means most of the blast pressure was released within less than three feet of Officer Short. The equivalent of approximately .36 pounds of TNT exploded in his face.

The minimum recommended standoff distance for a standard diversionary device charge (8 grams of photoflash powder) is six feet. Here, the design of the pole and handle on the device, combined with instructor guidance and approval, positioned the officer within three feet of the blast. The subsequent initiation of the equivalent of four diversionary devices (30 grams) in simultaneous deflagration at that short standoff distance was unsafe.

Note: In California, the minimum licensing requirement for explosive breaching is a Blaster's License. A record check by Cal OSHA investigators through the California Department of Mining and Tunneling disclosed that Benedict Tisa had a Blaster License that expired April 19, 2004.

The team also addressed instructional design and safety. The SMR's reviewed ITR's trial and error approach to developing expertise in the students. The ITR approach had each student team configuring a mix of different gram weights to deploy on different targets to "see what would happen." The team was unanimous that the approach used to teach the course was both dangerous and inappropriate.

The team said the standard protocol is to deploy (fix) any experimental charge on practice targets, then remotely deploy (initiate) from behind cover. The instructor should know ahead of time from prior testing what the results of any student "experiment" will be. It should be an experiment for the student only, not for the instructor.

## **WITNESSES**

On August 25, 2011, Senior Consultant Don Lane interviewed witnesses Officer Paul Vandiver and Detective Mark Souza, Concord Police Department. Both were students of the course, and witnessed the injury.

On September 6, 2011, Senior Consultant Lane interviewed ITR Instructor Ben Tisa.

On September 15, 2011, Senior Consultant Lane interviewed Detective Chris Jacoby, Redding Police Department, and a student in the class. He is a Tactical Team Member and a Senior Training Instructor for the Department.

On September 23, 2011, Senior Consultant Lane interviewed Officer Michael Short, Visalia Police Department. He was injured during the course. He is a SWAT Team member.

**Officer Paul Vandiver, Concord Police Department**

On August 25, 2011, Senior Consultant Don Lane interviewed Officer Paul Vandiver regarding the ITR training injury incident. Officer Vandiver is the designated breacher for the department's Special Enforcement Team, and he was a student in the class. He witnessed the injury as it occurred. He recorded it on his cell phone video recorder from approximately 15 feet away.

When asked, Vandiver described his overall assessment and takeaways from the training. Vandiver felt the advertising for the class was misleading for the actual subject matter covered. He said the class, "...was not what I expected." He was unaware the singular focus of the course would be the use of the Wallbanger breaching system to breach a series of doors.

He said there was no other use of the device as a window breach bang pole, or as a gas deployment system. He felt the whole course was one big sales course for the Wallbanger, as opposed to a variety of breaching ideas, techniques, and systems. He said the Wallbanger is a \$7,500 tool that was an unlikely purchase for most agencies in attendance due to the ongoing fiscal limitations for departments.

When asked about the instruction he received on Day 1 of the two-day, 16-hour course, he said the class started with a two-hour presentation by a representative of TASER on the newest features of its electronic weapon. Vandiver said TASER didn't have anything to do with the purpose of the course, and the class was a captive audience to another "sales job" by the representative.

The primary instructor on Day 1 was Ben Tisa (ITR), who delivered a lecture. Vandiver said there was a delay in getting any written class materials because something happened and ITR staff had to go to Kinko's copy service to make copies of a basic device instruction booklet issued by Safariland, the manufacturer of the Wallbanger system. It was not the ITR Instructors Manual (if any), and the class organization seemed ad hoc.

Vandiver said a Safariland injury liability waiver form was circulated to the class for each trainee to sign.

He said there were no other manual or written reference materials issued to the class. Ben Tisa said he would mail the Breaching Instructor's Manual and companion DVD to each student after the class was completed. Vandiver has yet to receive any materials from ITR and it has been more than a month.

The instructors for the course were Ben Tisa (ITR), Dave Bliss (ITR), Ron McCarthy (Safariland), and Frank Harden (Safariland). Sal Barcelona (ITR) who was a listed instructor was not present during the course.

Note: The Safariland reps were not listed on the POST approved list of instructors for this course.

Vandiver said Tisa presented a series of short videos during the lecture. Vandiver recalled one short video in particular that showed ITR's Dave Bliss using the Wallbanger on a "pony wall," a short, four-foot high wall constructed of 2 x 4's and sheetrock.

Bliss positioned the device on the center of the wall and initiated the device. The resulting explosion generated blowback or rebound fragmentation toward the operator (Bliss). The video clearly showed a large section of flying sheetrock skimming over the head of Bliss at a high rate of speed. Vandiver said it would have taken Bliss's head off. Bliss suffered injury to his face (lacerations, burns) from smaller debris as a result. Bliss commented jokingly that he had to go to his son's wedding party thereafter with his face injured.

Vandiver said that throughout the class, deployment of the breaching device resulted in fragmentation, rebound pressures, and blowback from virtually every initiation. It was an obvious hazard.

Asked about target analysis and data collection for the use of the explosive device, Vandiver said Tisa talked about target analysis with regard to team deployment, approach to the objective, the types of door (e.g., metal vs. wood), and what factors to consider if a door was barricaded.

When Vandiver was asked about overpressure, pressure limitations for room occupants, and the differing limitations for infants, children, elderly, etc., he said there was no discussion and "no math" on how to objectively calculate those human factors. However, he said there was information on how to check for hairline cracks and damage to the WallBanger housing.

When asked if a written exam was given at the end of the lecture, Vandiver said yes, there was a short written test of about ten questions that was openly read. The class was told to discuss the answers with each other.

Vandiver said the explosives were delivered and contained in an old white van that he thought was driven by Tisa to the training site.

He said the apparent and practiced objective of the course was for trainees to experiment with the different gram weight explosive loads of 4-, 8-, and 15-gram loads in different combinations, and take measurements of the respective breaching capabilities.

At one point, Vandiver combined a 4- and 8-gram load for a total of 12 gram's of explosive. Upon deployment, the Wallbanger tool arm caused a large and painful bruise on Vandiver's right hip in addition he was struck by peppering shrapnel from rebound fragmentation.



His understanding was that the injured Visalia Police Department officer (Officer Michael Short) used two 15-gram loads simultaneously for a total gram weight of 30. Vandiver considered it too large for a small, closet-sized room with an outward opening door and no overpressure escape paths (windows, other doors). The primary instructor, Harden, suggested and allowed the deployment to proceed. Bliss and Tisa were both in the general vicinity, observing.

Vandiver described the injury event. He said he positioned himself behind a doorway about 15 feet away from the breach point with his body and face behind a wall, and only his forearm and cell phone in the open. Upon detonation, Vandiver felt the concussive effects of the force wave and took shrapnel in his forearm, bloodying his arm.

He said the blast caused a large projection of debris, back into the hallway. The blast shattered and knocked down a hanging electric EXIT sign about 12 feet away from the breach point, and that all observers in the hall took hits from debris and shrapnel. The long handle of the WallBanger device blew backwards into the wall behind Officer Short, and pierced the concrete block wall.

Note: The device can be seen in the video stuck horizontally in the wall after the explosion.

He said that the victim (Officer Short) was positioned at the breach point with the WallBanger placed on the center of the wooden door, not on the door lock mechanism. Officer Short was slightly offset at an angle (to the left). Short's charge was remotely detonated by shock tube<sup>1</sup> from someone (Harden?) around the corner (out of harm's way). His impression was that Short didn't know exactly when the device was going to detonate since someone out of sight was doing it. Vandiver said they were told to avert their faces when detonating the device, but someone said something to Short and he peeked up just as the charge exploded.

Note: The instructor, Frank Harden, exited the hallway and took cover behind a wall in another room prior to the detonation. Harden was, five to ten feet from the blast area, and he could not see Short. The safety plan calls for 1:1 instructor to student ratio. In this case, as depicted in the videos, the instructor(s) were at standoff distances, leaving the student without an instructor in the blast zone. Ben Tisa can be seen in the video observing the deployment from some distance down the hallway. The distance appears to be about 20 feet.

After the blast, Vandiver said he soon realized that Officer Short was injured. He saw Short's "eye hanging on the side of his face," and Vandiver was very concerned and upset.

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<sup>1</sup> A shock tube is a safety fuse where a flame travels through the center of a tube. The tube is made of plastic with an explosive powder covering the inside surface of the tube. The powder detonates at a velocity of about 2000 m/s and this sends a detonating wave to the detonator. [http://material.eng.usm.my/stafhome/termizi/EBS419E%20Blasting%20Tech/A\\_EXPLOSIVES.pdf](http://material.eng.usm.my/stafhome/termizi/EBS419E%20Blasting%20Tech/A_EXPLOSIVES.pdf), P.18.

He said that he thinks two Monterey County deputies, Ron McCarthy, and an officer from CDCR (Corrections), took Short to the hospital in a sheriff's unit. He wasn't sure who was actually in the car that transported him.

Subsequent to the injury, Tisa and Bliss did not halt the class, but continued despite the grievous injury to the student.

Bliss did, however, subsequently produce a safety helmet with a bullet/blast resistant face shield and suggest the class members use it. Vandiver at that point feared for his safety, was unwilling to engage in any further operator/student experimentation with the device and resorted to standoff and shielded detonations only. He said everyone just witnessed what happened to Officer Short and had little interest in being the next casualty.

The class resumed following the injury with additional deployments of the WallBanger device. The rest of the training only involved remote detonation of the device with all trainees behind cover. The device was fixed or propped against the breach point.

Overall, Vandiver said the class was unprofessional, subpar quality, and unsafe training predicated on deceptive or false advertising, and was nothing more than a sales demonstration for Safariland. He said he was "disgusted by the whole thing."

He said he had attended three other separate courses presented by ITR and found each of them to be poor training, outdated, or of little practical use to operations. He attended because ITR is the "only one" who offers the tactical courses he needs. He was hopeful this time would be different and he might learn something useful. He said he learned to never recommend or use the WallBanger system. He described it as heavy, cumbersome, and dangerous. He will use proven mechanical breaching tools in his entries.

Vandiver observed that Tisa consistently brings a vendor "buddy of his" to give a sales presentation during ITR classes.

**Detective Mark Souza, Concord Police Department**

On August 25, 2011, Senior Consultant Don Lane interviewed Detective Mark Souza, Concord Police Department. Souza attended the class with Officer Vandiver, also from Concord Police Department. Detective Souza said he was standing in the hall near Officer Vandiver and witnessed the incident that resulted in the injury to Officer Short. Souza was less than 30 feet from Officer Short.

Souza was asked about his overall assessment of the course and his observations and conclusions from the experience. He said the classroom facilities were satisfactory, and that most of the training was conducted by Instructor Ben Tisa of International Training Resources (ITR), the certified presenter for the course. He remembers most of the classroom instruction involved a PowerPoint presentation.

Other instructors were Dave Bliss (ITR), and two Safariland representatives, Frank Harden and Ron McCarthy. Souza said McCarthy was chiefly serving as a “logistics guy.”

When asked about classroom instructional materials. Souza said there was no course manual, other than what he described as a hastily copied instruction manual from Safariland on how to operate the WallBanger Explosive Breaching device. He thinks McCarthy went somewhere to make the copies for the class at the last minute. He said he didn’t take notes, but relied on the PowerPoint and the hands-on manipulation of the device, loading and unloading inert charges, to gain familiarity. Tisa didn’t provide a student manual, but said it would be mailed to each student after the class. Souza had not received the manual at the time of the interview.

Souza said that during the PowerPoint presentation, Tisa showed approximately 15 to 20 short video clips of various deployment configurations and uses of the WallBanger device.

One video he described was of Dave Bliss (ITR) using the device to breach a 4’ wall, constructed of 2” x 4” lumber and sheetrock (a pony wall). A free standing, non-reinforced, non-barricaded wall was sitting in an open area.

In the video, Bliss detonated the device in the center of the wall, not on the locking mechanism. The resultant rebound fragmentation showed a large piece of sheetrock flying past Bliss’s head, “nearly scalping him,” according to Souza. Bliss said he suffered blast injuries to his face from additional fragmentation that bloodied his face. The hole in the wall from the blast was, “big enough to fit through.” Souza received additional instruction on how to position the device over the door lock mechanism, as well as on the center of doors.

Souza said they (trainees) were to use what he recalled as 4-, 6-, or 8-gram explosive loads in the device. (He later corrected that to 4-, 8-, and 15-gram loads.) The device would hold two loads at a time, and the breacher could mix and match the loads at his discretion to defeat various locks and doorjamb configurations. He said the process of discovering the breaching capabilities of the loads was by class design and included a series of “trial and error experiments.”

The most Souza loaded and deployed at any one time during training was a 19-gram charge (15 + 4). That particular charge was done by remote, on a longer shock tube, where the officers were shielded from the blast and the device was left propped against the door.

Souza did not like the device. He felt it was too heavy and awkward. (Souza is in excellent physical condition, 5’11” tall, stocky, and weighs in excess of 250 pounds). He said the best way to deploy the device was remotely, due to the risk of blast fragmentation, and the fact the operator had to be in front of the target door when deploying it. Souza prefers using a mechanical ram or other device to breach doors for the inherent safety, efficiency, and simplicity.

When asked about the concept of overpressure and its associated risks, Souza said it was discussed in class, but did not recall making or being aware of the “physics” of overpressure or ways to calculate pounds per square inch (PSI), or any “math” of how to do those calculations. He doesn’t recall discussion on occupant hazards or operator hazards from overpressure. He was not instructed on variances between infants, elderly, or other vulnerable persons.

They were told, as operators, to be in a “position of safety” when detonating the device. That instruction was contradictory since the operator had to stand in front of, or near the breach point to place the device. Souza said the safest place was to be in another room, since the device consistently produced explosive fragmentation.

He said, for the purposes of safety, the instructor would call out in a loud voice, “Fire in the hole,” three times prior to detonation.

Souza said the class was instructed to use the various charge combinations on doors at the training site, and “experiment and keep shot logs,” to determine breaching capabilities.

As for target analysis, he said the class was to analyze locks, barricades, and whether the door (breach point) was either a wooden or metal door. Beyond that the class was not provided with a method, checklist, system, or instrument to generate or support such an analysis, nor to calculate overpressures or fragmentation hazards.

He said the only paperwork they used was a “shot log” of the various loads used on different breach points throughout the day to make experiential, common sense estimations of the quantity of explosives needed to defeat the doors.

Asked specifically for his observations of the injury to Officer Short, Souza said he was less than 30 feet from the breach point, and in direct line of sight of Officer Short.

He said that Frank Harden (who was instructing Team 1) suggested they try a charge on the center of the wooden door.

The door (breach point) was an outward opening type into a small room (bathroom) with no windows or other openings that he could see.

He said Team 1, under Harden's guidance and supervision, loaded two 15-gram charges into the device. He said that victim Officer Short was positioned slightly offset to the door. He said that Team 1 was stacked nearby, and most of class was in the hallway observing. Ben Tisa and Dave Bliss were within 30 to 40 feet, watching. The device was placed on the door by Short under the guidance of Harden.

Harden then turned and vacated the blast zone, and went out a door, and behind a wall. Someone yelled, "Fire in the hole," three times. Short nodded or moved his head slightly. The device exploded.

Upon initiation, the glass exit sign above Souza's head came crashing down and the hallway filled with smoke and debris. Souza was struck by the pressure wave and small fragmentation, but was not injured. Souza didn't initially realize that Short had been injured. It upset him to see the severe injury to Short's eye and face.

When asked about any safety briefing prior to the deployment, Souza didn't recall anything specific about such a briefing. He didn't see the instructor(s) perform a breach point inspection, or analysis, or discuss the size of the room, or door configuration. He said he thinks they just decided to "see what would happen." That was the class objective.

Souza was shown four pictures of the breach point (post-blast). He confirmed they were accurate pictures of the site.

**Ben Tisa, International Training Resources (ITR)**

On September 6, 2011, Senior Consultant Don Lane interviewed the presenter and owner of ITR, Ben Tisa. The interview took place in Stockton at the Police Training Facility and Range. Dave Bliss, his partner in ITR, was unavailable.

Tisa was advised that the interview was related to a fact-finding inquiry for POST to address the following:

1. Why the incident happened?
2. Was it preventable?
3. What could be done to insure that a similar incident didn't recur?
4. Review ITR's Safety Policy and Practice.
5. Assess instructor certifications and qualifications.
6. Determine the authority of ITR to possess and use explosives and destructive devices.
7. Review any supplemental class materials not previously submitted to POST that were used in support of the EDI certification documents (Wallbanger Instructor manual, other documents, Powerpoint presentations, etc.).

Tisa was asked for his opinion as to why this incident happened. What environmental or tactical factors, circumstances, actions, or mindset resulted in the injury to Officer Michael Short.

Tisa said that he thought a piece of veneer from the wooden door hit Officer Short in the eye. He emphasized that if he (Tisa) or any of his staff could have known this was going to happen, he would have done anything in his power to prevent it. He said it was impossible to anticipate that something like this could occur, and was very sorry that Short was injured.

He was asked whether too much explosive was used for a center-shot application on an outward opening wood particle board door to a small room. He was asked whether that combination of factors could have resulted in sufficient overpressure or reflective pressure to cause rebound fragmentation or a blowback of explosive energy.

Tisa didn't think that overpressure to the door was the cause. He said he looked in the room after the incident and observed an overhead light bulb still intact. In the case of excess overpressure the bulb would have shattered, he said.

He said the overpressure generated by the amount (gram weight) of the "black powder" reload could not generate enough overpressure to harm anyone. He said he thought it was the fragment, not the overpressure that caused the injury.

Tisa was asked how much overpressure can cause harm. He said five PSI increase in pressure can cause hearing injury. The damage would come from decibel levels, not overpressure. He said the black powder charge was very safe, slow-burning, and not a high explosive.

He was asked if he witnessed the actual explosion. He said yes he was in a clear position to observe a few feet down the hallway.

He was asked if he saw Michael Short place the WallBanger device on the center of the door. He said yes he saw it and knew it wasn't supposed to be placed on the center; it was supposed to be placed on the doorknob.

Tisa was asked why he didn't stop the action and correct the student. He said he didn't think it was a hazard. He said the team (of students) decided to do a center shot. They were conducting a series of experimental breaches and recording the results from different types of door locks and mechanisms to judge the results of the different loads.

He was asked if that was the best method to employ as a teaching technique; conducting trial and error experiments with explosives? He said yes. He said the students had to learn what different gram weight combinations would work on different kinds of doors and build a shot log to document the results. That way they could go back to their agencies and know how to deploy the device.

He said this class was the first time they used combinations of the 4-, 8-, and 15-gram reloads and the purpose was to see what they would do.

Tisa was asked if he had conducted prior controlled testing of the explosives and placements so that at least he, as instructor, knew the capabilities. He said no. He didn't know what would happen either.

He said if he would have known he would have done anything to stop the injury from happening.

He was asked if there were other causative factors contributing to the injury. He said he didn't know what kind of safety glasses Short was using, but that they perhaps might have been of inferior quality. He didn't have any way to tell that for sure, however.

Tisa was asked that as the presenter did he specify any particular rating or ballistic resistance level for the safety glasses. He said no just that they had to have eye protection. It was up to the students to bring them.

He was asked if he was knowledgeable about overpressure considerations. He said yes, and explained that one must calculate the Net Explosive Weight of each charge to get an idea of the pressure generated by a particular charge, which was determined by starting with the industry standard of a Baseline Explosive Rating.

He was asked to explain as an instructor how he would calculate such a number incorporating a 30 gram charge on the small room in question with no windows or other



venting pathways. He said he couldn't do it without a conversion table, which he didn't have with him. Further, he couldn't provide an informal estimate without the table. Tisa further said that overpressure is calculated using charges initiated outside in open areas. It wasn't done relative to interior rooms.

He was asked about the instructor certification. Tisa was told that neither McCarthy nor Harden was authorized by POST to teach in the class. He was asked whether they were otherwise qualified to teach in some equivalent capacity.

He said they were Safariland trained instructors on the Wallbanger. They were cleared by Safariland, and were working with the device as technicians.

He was asked whether they were otherwise qualified to teach breaching in any other capacity. He said he didn't know.

Tisa was asked whether they were bomb technicians. He said no not to his knowledge.

Note: Ron McCarthy is listed via his signature as an Account Representative, not an instructor nor otherwise qualified to teach explosive breaching. His POST training record reflects no certified training in this specialty.

Note: In the video Harden is clearly providing instruction and not just performing as an equipment technician. Harden's POST training record reflects no certified training in this specialty.

Tisa was asked about Instructor to student ratios and if he maintained the 1:1 ratio required in the POST Certification documents. He said that Harden was right there, and that he and Dave Bliss were both close by and observing. It was pointed out to Tisa that Harden left the room, was out of sight of the student, and calling out "fire in the hole" prior to detonation. It was pointed out to Tisa that a 1:1 ratio requires the instructor to be within arms length, or close enough to immediately stop action.

He was asked why Harden left the student alone. Tisa said he didn't know, but he was glad that Harden wasn't standing next to Short or he would have been injured too.

He was asked if he or anybody associated with ITR or Safariland was licensed or permitted to possess, transport, and use explosive substances and destructive devices.

He said he didn't know, and couldn't produce a copy of his license or any authority to possess explosive substances or destructive devices. He said he would be sure to ask Safariland for information about that.

He admitted that he was the presenter of the explosive breaching class and didn't know if anyone in the present instructor cadre had authority to possess explosive or destructive devices. He said he would find out that information. He said that UPS (United Parcel Service) delivered the reloads, so he didn't think it was a very serious explosive licensing requirement.



Tisa said he had been to about ten explosive breaching and/or distraction device instructor courses and was otherwise highly qualified to teach.

Tisa was asked about fragmentation as a safety issue during the training. He was told that students said they had been struck by fragmentation from every shot. He said that fragmentation never affected him. It was just minor debris and dust. He said fragmentation was not a problem. He was asked if he thought Officer Short would agree. Tisa said he probably would not.

He was told that review of the videos and witness statements reflected that fragmentation was an obvious and consistent hazard with each application of the device.

He was asked why the students were allowed to be in the hallway observing the shots in close proximity when fragmentation occurred with each shot. He said it's important for the "conditioning of the officers" to get used to the blasts and know that it wasn't going to hurt them. Asked if the students were now confident that the blasts wouldn't hurt them, he said he didn't think so.

He was asked if he could rewind the timeline, and was again present in the same circumstance with Officer Short, would he let that shot take place. He said no.

Tisa was told that advisors said the charge was too large for the small room and that type of door, and that an explosive rebound fragment struck Officer Short. It was pointed out that the device arm ejected backward from the breach point and stuck in the concrete cinderblock wall behind the officer. Tisa said it didn't stick in the wall but was just leaning against the wall.

Note: Subsequent review of the video shows the device arm stuck horizontally into the wall. This point shows the measure of force released in the deflagration sufficient to drive a steel bar into a concrete cinder block wall.

Tisa was asked if he recalled showing a video during the class of Bliss applying the WallBanger on the center of a sheetrock wall; that a piece of sheetrock nearly hit Bliss in the head; and that smaller fragments bloodied and bruised his face. Tisa said yes, that he "tightened up" safety after that and made sure everyone had helmets, eye protection, and vests.

Note: In the video of the training injury involving Officer Short, Tisa, Bliss, and Harden were not wearing helmets.

Tisa presented a copy of Safariland's "The Wallbanger Instructor Course" manual. He said it is the only manual for the course.

Note: The manual is divided into three sections, of which only the last section (three) has 16 pages of PowerPoint slides depicting the doorkey (breaching device) in use. The information is limited, and briefly addresses safety. There are no calculations of explosive weight charges, or sufficient warnings about

overpressure, occupant hazards, or risk of injury from fragmentation. There is brief mention (page 38) of safety concerns to “children and elderly,” and “...fragmentation...into the objective.” There is no mention of fragmentation hazards to officers while deploying the device.

Multiple graphics showing the device being detonated are included in the instructor’s manual, and virtually all of them show fragmentation ejecting outward from the breach point.

Note: During the course of the investigation, Cal-OHSA Supervising Investigator Mike Fry and Investigator Robert Smith were contacted by Lane. They initiated a query of the California Department of Mining and Tunneling and learned that Benedict Tisa had a Blasters License that expired April 19, 2004. He is not currently licensed.

**Detective Chris Jacoby, Redding Police Department**

On September 15, 2011, Senior Consultant Don Lane interviewed Detective Chris Jacoby, Redding Police Department. Jacoby is the designated breacher for the tactical unit of the Police Department, a graduate of the POST Master Instructor Certification Course, and the senior training instructor for the SWAT Team.

Jacoby said that despite what he had heard about ITR training being repetitive and outdated, he decided to attend the class since he had no certified training in Distraction Devices and nothing else was available. As the training officer for the team it was his duty to gain the appropriate certifications.

He said the class flyer called the course a Distraction Device Breaching course and he thought he was going to learn about distraction devices and how to operationally plan and deploy them. He was surprised to find the course limited to a course about a single device, the Wallbanger, and how to do explosive breaching with that particular tool. He felt the course was a “sales job” for the Wallbanger.

He said he thought the classroom training was well organized, using a PowerPoint presentation and team teaching by Ben Tisa and Dave Bliss. He said the Safariland representatives also participated and join in the hands-on instruction of how to load and prepare the Wallbanger.

When asked about class materials, Jacoby said he received only the Safariland instruction manual. There was no ITR instructor manual, nor any charts or numeric tables. He said he took a written test at the end of class. He said that at the time he was comfortable with the instruction he received. In hindsight, he realizes the training was insufficient, and especially deficient for an instructor level class on explosive breaching.

Jacoby said there was discussion in class about safety when deploying the device. He said that one of the instructors mentioned the “6-60 Rule,” which means that any time breaching is to be attempted, the operator has to assess whether anyone younger than six years old or over 60 years of age is near the target location. The breacher should take the information into account in determining the charge to be used to perform the breach.

When pressed for details on exactly what factors were to be considered, such as PSI overpressure limitations, fragmentation, and how to make the judgments and calculations, Jacoby said that it wasn’t covered enough in the class. He does recall Tisa talking about a formula that could be used, but that it was just touched on, and not an emphasized learning point. He didn’t receive any written materials or charts or other information on how to do the calculations or make those judgments.

When asked about warnings or information regarding fragmentation hazards, Jacoby said there wasn't specific information about fragmentation danger. It was not a serious concern raised by the instructors. He said he observed consistent fragmentation ejecting from the breaching points, but that it was mostly grit and dust, not large fragments.

He was asked if he was advised in the course of the hazard of veneer covered walls and doors. He said he didn't recall such a discussion.

He did recall seeing a video in class that showed Dave Bliss deploying the device upon a sheetrock-covered wall in an outdoor area. Jacoby said a large piece of sheetrock ejected from the breach point and nearly struck Bliss in the head.

Jacoby said the instruction included the need to wear helmets, ballistic vests, and eye and ear protection.

When asked about gram weight categories for the reload, Jacoby didn't remember those numbers (4-, 8-, and 15-gram weights) until his memory was refreshed. He said that he experimented during the second day of training with the lowest 4-gram charge and felt it was powerful and sufficient for most doors. He was unwilling to deploy a greater charge.

When asked how many times he was exposed to the effects of various charges during the training, he said he didn't remember the exact number of exposures (as observer) but said that it was probably about 10.

When asked if he knew about the medically recommended maximum of five exposures in any 24-hour period, he said he didn't know that. He thought the maximum number of shots taken that day was about 18 to 20, but he wasn't sure.

When asked if he knew the purpose of having the students stand in the hallway to observe the shots, he said they were supposed to learn from watching the shots and the damage that was done to various locks. He remembered Tisa saying it was part of the "conditioning of the officers," to be exposed to the noise and pressure.

Jacoby said the class was designed for the students to conduct a series of experiments with the charges to determine how much explosive was needed for various targets. They were to learn by doing and gain experience.

Jacoby recorded a cell phone video of Michael Short when he was injured. A copy of the video was provided to POST.

Jacoby said he saw the instructor (Harden) leave the student alone in the hallway. He said the Team 1 operators were stacked outside the doorway next to Harden, away from the breach point.

When asked if he knew why they were in such a formation, he said he didn't know. He said that it isn't typical training to leave the breacher unprotected (without cover).

Jacoby felt the pressure wave from the breach point deflagration, and was stuck by minor fragmentation, but was not injured.

He said he realized that Short was injured and helped by taking him by the arm and leading him outside. He said Short was in a state of shock and kept trying to touch his injury. Jacoby helped to keep his hands away. Ron McCarthy brought water to flush the wound site, but Jacoby stopped him and told them to just cover it with a bandage and get to a hospital.

Jacoby said Monterey County deputies took Short to the hospital while Jacoby drove to the local hotel to inform Short's wife and child and get them to the hospital.

When asked his opinion if the 30 grams of explosive used by Officer Short was too much for the target, Jacoby said yes.

Jacoby said he thought the Wallbanger was a good tool to use, but only in situations where the high risk was justified, such as in an advanced hostage rescue scenario when there were no other options.

He would not recommend it for routine breaching, such as, during service of drug warrants or other standard operations due to the risk of injury to operators.

**Officer Michael Short, Visalia Police Department**

On September 23, 2011, Senior Consultant Don Lane interviewed Officer Michael Short, Visalia Police Department. Officer Short was injured while participating in the training conducted by ITR on July 21, 2011.

Officer Short said he is a member of the Visalia SWAT team and had previously taken a Diversionary Device Course from ITR. He learned of the Explosive Breaching Course, and knew ahead of time that it was primarily a course on how to use the Wallbanger breaching device.

Officer Short said the first day of training began with a presentation about the new TASER device. Asked if the TASER presentation had anything to do with the subject of breaching, he said that it did not. Asked if he thought it was training or a sales presentation, he said he viewed it as a sales presentation for TASER.

When asked about instructors, he said the instruction seemed pretty good. There was a mix of instructors with Ben Tisa doing most of the work. He did not recall an instructor named Barcelona (an authorized instructor of the course).

When asked about any written materials for the class, he said the written manual consisted of a Safariland manual that Ron McCarthy had taken to Kinko's at the last minute to make copies for the class.

He said that after he was injured he lost all his notes and the manual in all the confusion, and didn't know what happened to it.

When asked if he remembered any videos being presented during the classroom training, he recalled seeing some videos and specifically remembered seeing Instructor Dave Bliss in one video segment deploying the device on the short "pony wall," that was covered in sheetrock. He said he didn't recall Dave Bliss making any comment about being injured by that particular blast in the video, but he did remember seeing debris ejecting from the breach point.

When asked what he learned about target analysis, he said they learned to assess the type of structure and breach points. He said there was discussion about the different types of doors and door breaching techniques for the device.

He said the device was designed to be placed over the door locking mechanism, or could be placed in the center of the door. He said the device was designed to bend the door and pull the locking mechanism apart by the inward flexing of the door.

When asked if there were differences between metal doors or wooden doors to take into account, he said the device basically worked the same in both instances, by bending the lock out of the doorjamb.

When asked if he learned about the characteristics of veneer-covered doors or walls, he didn't recall any particular discussion about that.

When asked if he learned to make a gun port or hole in the wall or door by using the device, he said he didn't remember hearing that discussed as a tactic.

When asked if he was told about the danger or characteristics of fragmentation, he said it didn't seem to be a major concern of the training. The videos depicted dust and objects flying around, but it didn't appear particularly dangerous. Fragmentation was not emphasized as a special hazard.

During the previous deployments of the device on the day of the injury, Officer Short didn't see any fragmentation that could have caused serious injury until he got injured.

He said they were told to use both eye and ear protection but nothing in particular was specified. He said he used his department's tactical safety glasses issued to the SWAT team. They are Oakley M-Frames. He was sure the lenses had some type of ballistic rating, but didn't know what it was.

He did say that some of the trainees were wearing what appeared to be regular sunglasses, not safety glasses, so Short felt he was well equipped.

Short said he didn't see any substantial fragmentation throughout the day prior to him being injured. Most of it was dust and small debris generated by the deflagrations.

When asked about the concept of overpressure, he said understood the basic idea from his previous training and from the ITR presentation. When asked about how to judge occupant or operator hazards by the generation of pressures when using the various mixes of charges, Officer Short wasn't sure how to make such a determination other than by trying to judge the resistance strength of the breach point door or wall.

When asked if he received any charts, tables, or graphs to help make such judgments, he said no. He said he didn't learn any "math" about how to judge overpressure levels.

When asked about overpressure and if he had heard of reflective pressure, he wasn't sure, but said common sense told him it concerned the pressure wave bouncing off walls.

When asked if he learned about how to understand or compensate for various surfaces and materials when considering overpressure, and in particular reflective pressure, he said no.

Officer Short said he did understand that overpressure would be higher in an enclosed area, such as the narrow hallways at the training site. Officer Short said the resulting explosion felt like getting hit in the face with a baseball bat, and stunned him. He remembers being escorted outside and not being able to see out of his eye. It was like a red curtain, and he hoped it was just blood covering his eye and obscuring his vision.

He felt his vision narrowing several times. At one point he checked his eye in the side mirror of a car and realized how badly his eye was injured. He said one of his classmates had a scarf that he used to press onto his wound to control the bleeding. Officer Short was then taken to the hospital for treatment.

Officer Short said the instructors seemed to have very little knowledge of the breaching tool and the materials. He said in previous ITR tactical training courses, the instructors had been confident and thorough in the training. However, in this course, he felt they didn't really know what they were doing. The class wasn't as organized as the other classes he had taken.

He was asked about the shot sheets used to record the results of applying the breaching device, and how the class was designed. He said the shot sheets were to record the shots taken with the various combinations of charges on different doors. They didn't know what would happen until after the shot was taken. The class consisted of a series of experiments. He agreed that it was a "trial and error" learning format of using the device on various obstacles to see what it would do and thereby build expertise.

He was asked if such a format was the best approach in teaching the use of the device (i.e., having students within the blast radius of the explosions, unprotected by shields or barriers), he said no.



## **NARRATIVE**

### **Course Approval:**

ITR submitted and received certification for the 16-hour Distraction Device Breaching Instructor Course following POST course certification requirements.

The course certification package was subjected to closer scrutiny, with special attention to instructor qualifications and safety protocols due to the high risk nature of the training.

Two of the instructors that ITR first submitted for approval were rejected by Senior Consultant Don Lane, Regional Manager, as not having sufficient credentials to teach this course under regulation 1070. Those instructors were removed. ITR, via Dave Bliss, submitted a final list of instructors consisting of Bliss, Tisa, and Barcelona.

The course Safety Plan was reviewed as part of the certification process. The original safety plan was returned to ITR for correction. ITR (Dave Bliss) made the corrections requested. The course was resubmitted with improvements to the Instructor/Student ratios and a clearer medical response protocol. The final Instructor-to-student ratio was changed to 1:1 during deployment of the device, and the medical response plan was improved.

The on-line comments of POST Consultant (Don Lane) and Presenter (Dave Bliss, ITR) EDI online comments are provided below (in italics). Review of the comments show that ITR was aware that each instructor must be identified in Section VII of the certification package, and must have proper training and credentials to teach the course. Neither Frank Harden nor Ron McCarthy were listed as approved by POST to teach the course.

***Approved Title: DISTRACTION DEVICE BREACHING INSTRUCTOR  
New Course Number: 33566***

*[General] Posted by Donald Lane on 8/18/2010 9:59:22 AM for version #127174: Dave, Each instructor on this course must be a qualified Diversionary Device Instructor per reg 1070. Only Bliss and Tisa meet the criteria. The others will have to either get the POST training or submit an equivalency attestation. Also, each instructor must be so identified in Section VII of the resume. Also, I appreciate the 1:1 instructor/student ratio on device deployment, but need more specific info on where/how medical emergency will be handled, to include specific addresses and location of medical facilities in the event of traumatic injury.*

*[General] Posted by David Bliss on 9/9/2010 1:14:34 PM for version #127174: Hi Don, I added further information on the safety protocols and added hospital*

*information for Monterey/Ft. Ord, Santa Barbara and Stockton. I was not able to remove the other locations from the admin info. The instructors that do not have a Diversionary Device Instructor Course were removed. Let me know if you need further. Thanks very much for your time and effort. Dave Bliss*

*[General] Posted by Donald Lane on 9/14/2010 1:34:50 PM for version #127174: Ok I think we've got it covered now. This course gets extra scrutiny due to its high risk profile. thanks. Don*

*[General] Posted by David Bliss on 9/20/2010 11:10:37 AM for version #127174: Thanks Don. We think that this course is safer than our other two breaching courses and because no devices are deployed by hand, probably safer than the Distraction Device Instructor Course. Let us know if you have any questions. I think Ben might be giving you a call. Thanks again. Dave*

*- End EDI comments*

All other documentation was properly submitted and the course was approved.

### **Summary of Investigation:**

Witness accounts revealed that the first day of the two-day course started with a one- to two-hour presentation by a TASER representative, which witnesses Souza, Vandiver, and Jacoby described the information as a sales presentation for the latest model of an electronic weapon, and had nothing to do with breaching course. The TASER topic was not on the approved Expanded Course Outline (ECO).

Ron McCarthy and Frank Harden, who are Safariland representatives, were not approved instructors. They did engage in instruction of device loading, manipulation, and deployment.

The class was presented in PowerPoint format on the first day with Ben Tisa doing most of the instruction.

The class material was a photocopied Safariland operator's manual. It has approximately 50 pages of PowerPoint screens with little textual information. The section covered in class consisted of about 15 pages of the manual that illustrates how to load and operate the Wallbanger Breaching Device. Tisa told the class he would mail them a copy of the ITR instructor manual later.

The POST-approved Expanded Course Outline (ECO) at 1A (3)-(4), Safe Pressure Limitations is listed as a topic. Neither witness, Souza nor Vandiver, could recall such a discussion from the PowerPoint presentation on the first day. Jacoby could recall little of that discussion other than the "6-60 Rule." Kinetic Energy Concepts, which identifies "pounds per square inch pressure (PSI)" is described in the ECO (3); however, student

witnesses don't recall anything specific being mentioned about the subject during training.

The field exercises and deployment of explosives (referred to as "shots") on the second day of the course were carried out as a series of intentional explosive "experiments" to determine how much explosive in various gram weight combinations would defeat a series of locks and doors. Experimentation was the teaching method of the class on Day 2. This is not consistent with the expanded course outline. The outline does not indicate that students are to experiment with explosive charges.

Witnesses' report that following each shot, debris and material would eject (rebound) from the breach point, peppering those who were either stacked in formation as part of the entry exercise, or those observing the action nearby. Fragmentation is a consistent performance characteristic of the device.

During the classroom training, numerous video clips (approximately 15-20) were shown to the students, showing evidence of rebound fragmentation in most of the clips. The after-action videos of the incident from the second day of instruction that were submitted to POST also show rebound fragmentation.

One of the video clips shown to the students on the first day of the course depicts Instructor Dave Bliss, on a previous occasion, being hit by fragmentation from a center shot to a sheetrock covered wall. One large fragment of the sheetrock struck him in the head and upper body, and caused bleeding lacerations to his face.

In most instances the rebound fragmentation appears to consist of small debris and caused minor injury. In this case the use of 30 grams of explosive and the center shot deployment to a particleboard wooden door into a small, windowless room; an outward opening door generated a large and potentially lethal pressure wave that rebounded from the breach point, fragmenting a piece of wood that remained adhered to the veneer covering, which struck Officer Short in the face and eye.

As depicted in the video clips and attested to by witnesses, Officer Short deployed the double 15-gram shot load (30 gram total weight) at the suggestion, approval, and supervision of Frank Harden onto the center of the door. Instructors Bliss and Tisa were nearby and took no action to intervene. Officer Short did exactly as he was told. The resultant explosion and rebound fragmentation resulted in the injury.

Students observing the action were not given the benefit of shields or other protection, nor instructed to move to a safe area. They were in proximity to explosions within the blast zone. This was considered by the instructors to be part of the "conditioning" of the officers.

The class resumed for the remainder of the day despite the injury to a student. The instructors did not perform an assessment to determine whether safety considerations would dictate changes in the presentation of the training should occur.

In the opinion of post-blast investigators (BATFE) Agents Morgan and Parker, a discussion on the “math” of explosive overpressure is a baseline consideration to any explosive breaching course. It is more important in an instructor-level course. The risks and hazards to both operators and the public are high.

There appeared to be little discussion of this important topic in the class; at least not sufficient to qualify a student as an instructor on how to safely operate this device.

The performance characteristics of the device reveal that veneer covered doors and walls present a dangerous fragmentation hazard. During the explosion, the target surface, usually a wall or door, cracks and tears, and is lifted by the expanding burning gases. The veneer tears in pieces or sheets, but holds the undersurface (sheetrock, particleboard, etc.) in a fragment because the veneer is adhered or glued to the undersurface. Once the fragment is torn loose as a mass it begins to accelerate, pushed by the expanding, burning gases. This fragment becomes a dangerous missile.

Neither Tisa nor Bliss are bomb technicians. Tisa last had a CA Blaster’s License expired in April of 2004. It is unknown whether the instructors, Harden or McCarthy, are bomb experts. They were not POST approved instructors of record for this course. They are primarily account representatives for Safariland, a vendor of the Wallbanger, and may be certified by the manufacturer to fire it.

To become a bomb technician requires at least a month-long, highly-technical basic bomb course. The training and specifications manual for that course is hundreds of pages in length, and contains highly detailed and lengthy technical information.

An additional hazard during the course was the repeated exposure of students (and instructors) to explosive pressures throughout the day. According to subject matter expert (SME) advisor R.K. Miller, a standard rule of thumb for exposure to distraction device deflagrations is no more than five in a 24-hour period. One witness estimated the total class exposure to approximately 20 deflagrations in a few hours. The estimated minimum exposure exceeded five.

According to SME Advisor Miller, other recent medical evidence indicates that human physical damage from overpressure exposure may be cumulative, and that operators should consider the number of lifetime exposures as well. Traumatic brain injury (TBI) is often a closed wound injury that can go unrecognized. It can worsen in severity with repeated exposures to the concussive pressures of explosions.

There are psychological and physiological effects from the deflagrations that produce impacts on hearing, vision, feelings (instantaneous “flight or fight” response),

disorientation, confusion, and other effects. Overexposure can exacerbate those effects and in some cases cause long-term injury.

The training theory promulgated and attested by Ben Tisa is that conditioning officers to explosions occurs by repeated exposures. SME statements indicate the human body cannot condition itself to the injuries of cumulative brain damage.

According to SME input, it appears that little target analysis was done following any objectively standard method. The students and instructors did not understand the pound per square inch pressure formulas that would be generated by 30 grams of explosives (.36 lbs of TNT) on a veneer-covered particleboard door affixed to a small room. Nor did anyone account for the veneer covering on the door.

Despite observing fragmentation on previous applications of the breaching device, no instructor called for a reassessment of the safety posture for the class. Students continued standing unshielded in the hallway blast zones (pressure wave pathways), next to the instructors.

Charge amount configurations were based on trial and error. Ben Tisa stated he didn't know what would happen when the charge was initiated by Officer Short. The training was by ITR design a series of explosive experiments by untrained students.

The instructor/student ratios were listed in the safety plan at 1:1 for deployment. The ratio: 1:1 means the instructor is at arm's length, distance from the student, or close enough to immediately correct or stop action. In this case, at the time of injury, the video recordings and witnesses put the primary instructor (Harden) out of sight behind a wall. The other instructors (Bliss and Tisa) were watching from some distance away and couldn't immediately correct the student.

Team 1 (student) operators were standing (in formation) outside the door, protected, and out of the hallway; this is counter to standard SWAT deployment tactics that call for at least a cover officer to protect the breacher. The positioning of the instructor and the team indicates an awareness by the instructor of the potential risk of injury at the breach point.

The course certification documentation ultimately submitted to and approved by POST is in order. However, ITR's presentation of the course did not conform to POST course certification requirements and safety protocols.

## **CONCLUSION**

The investigation discloses that ITR deviated from the approved course outline, used instructors not approved by POST, did not have proper licensing for the use of explosives, and failed to follow proper student protocols.

# **APPENDICES**

## **A – O**