

Arson & Bomb Investigators Take the Risk

ABI responds to emergencies with brand new robots

By Mallory Fites, communications assistant, Communications, Sacramento Headquarters

When a condensed milk truck ran into the South Side of the Capitol Building in Sacramento, the accident was splattered across every television on January 16, 2001. Anthony Guevara, a CAL FIRE investigator and bomb technician, recalls the anticipation of watching the scene on television and knowing he would be called to work that night.

Guevara joined the scene with at least 40 other agencies from A to Z and worked 36 hours straight.

“That was a long, long day,” he said.

CAL FIRE arson and bomb investigators are located within the Office of the State Fire Marshal (OSFM) and provide assistance to local government in investigations of arsons and bombings. They also provide bomb squad services to local governments who don't have their own bomb squads.

The OSFM received two Vanguard Remotely Operated Vehicles, or robots this April to assist in their services to both the state and local governments.

Funds for the robots were provided by a Homeland Security grant. Four more robots will be purchased with the grant and utilized

by arson and bomb investigators this year.

The cost of each robot ranges from the low-cost model of \$55,000 each to the most expensive at \$250,000 each.

“We've never owned them, just used them before,” Guevara said.

Each robot is equipped with three color cameras, including one infra-red camera for night operations, a claw camera and a drive camera. Each camera transmits video to a single command console to view objects at the scene.

The claw camera featured on the telescopic arm assists investigators in determining if a suspicious device is a real threat. The arm's claw hand can lift objects weighing up to 40 pounds and reaches objects up to 2.2 meters away.



Above, an Arson and Bomb investigator practices in one of ABI's new bomb suits.

Right, one of CAL FIRE's newest bomb robots.

Photos by Mallory Fites



Lights, a laser, and two firing circuits are also mounted on the robots.

These robots have a low profile in order to reach under vehicles and can go up and down stairs at a 45 degree angle.

According to the manufacturer, the Vanguard robots are faster, more durable, can fit into the trunk of a car and have an advanced modular design for easy field repair.

According to Guevara, in 2009 the FBI will be mandating each bomb squad to have at least one robot.

Arson and bomb investigators are responsible for investigating all fires and explosions that occur in any state facility as well as any accident on site of a licensed company or industry.

CAL FIRE arson and bomb investigators recently responded to investigations involving a fatal fire in San Joaquin County, and an explosion in a residential area due to an attempted suicide in which a house was filled with natural gas in Tracy, California.

Bomb technicians go through a training process to ensure they are fit to deal with all types of emergency situations.

To do the job, "it takes a certain kind of person," Guevara said.

Bomb technicians train at the Federal Bureau of Investigation's Hazardous Devices School at Redstone Arsenal in Huntsville, Alabama, the only school in the U.S. where 2,600 bomb technicians are trained and certified, according to the FBI website.

The school is known for teaching bomb technicians from the ground up, Guevara said.

The six-week training includes working with basic explosives, disposal techniques, advanced render safe procedures for post blast explosions and specialty courses on state-of-the-art robots. Trainees also learn to respond to suicide attacks, large vehicle bombs, weapons of mass destruction, and mortar attacks.

The campus includes mock environments such as, a church, bus and airline terminals, a bank,



strip mall, apartments and practical challenges like, curbs, steps, windows, and tight places that bomb techs—and their robots—might run into.

Trainees attend post-blast schools for up to two weeks, and then attend an advanced training school for large vehi-

cles, learning to read and process a scene.

Additional training includes learning about proper disposal techniques and explosive chemicals.

"If you do something at school you'll go home at night, if something happens in the real world you might not," said Guevara.

Every three years, certified bomb technicians must return to Redstone Arsenal to be re-certified, which is a time when bomb technicians consult with other experienced technicians, transfer information and get the latest FBI updates.

Being a bomb technician requires at least a five year commitment. To be an arson investigator, one must go through seven special training classes that meet state fire training curriculum and approved courses in fire investigation provided by OSFM.

It requires 120 hours of training and practicing on-scene investigation techniques, such as, training burns where one looks for burn patterns. Current training focuses on structure fires, but in another two years OSFM is hoping to expand its courses to include wild land investigation courses, OSFM Chief of Law Enforcement, Tom Hoffman said.

Depending on the circumstances there are at least two bomb technicians to a scene because the 85-pound suit they wear is difficult to put on alone.

Arson and bomb investigators also recieved three new bomb suit with the latest technology.