





LAFD

ALIVE! FEATURE





LAFD's Urban Search and Rescue Team simulates a radioactive emergency.

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Members of the LAFD's California Task Force 1 enter the simulated contamination zone.



The "victim" awaits.



Photos by Tom Hawkins, Club Photographer, and John Burnes, Alive! Editor



A mid news of the catastrophic earthquake and subsequent nuclear power crisis in Japan, the LAFD, along with the Federal Emergency Management Agency (FEMA), held a mock emergency response exercise May 6.

The exercise was held at Fire Station 88 in Sherman Oaks.

The simulation wasn't on that grand of a scale – instead of a nuclear power plant crisis (as in Japan), the LAFD staged a response exercise following a mock earthquake and leak from a radiological facility at a hospital, such as a nuclear medicine facility.

Groups from the main LAFD USAR Team – California Task Force 1 – put on special hazmat suits and went into "rescue" a "victim" or two.

The details follow in the next section.

The LAFD USAR Team

The Los Angeles Fire Department staffs multiple Urban Search and Rescue response teams designed to provide a coordinated response to disasters in urban environments. The response consists of six Type I Heavy Rescue Units plus California's USAR Task Force 1 (CA-TF1). All these teams are designed to provide a coordinated response to disasters in urban envi-

ronments. Emphasizing locating and extricating victims trapped in collapsed structures, confined spaces, or trenches in largely populated areas, these resources are capable of responding to all local, State and National disasters including earthquakes, hurricanes, widespread tornadoes, and man-made technological and terrorist events in largely populated areas.

The LAFD's Urban Search and Rescue Program is under constant pressure to train, improve, and provide flawless service to the community and the nation. When the public needs help, they call 911 and firefighters respond with courage, knowledge, skills, and abilities. When the firefighters need help,

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City Employees Club of Los Angeles, Alive!

Earthquake Simulation

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THE SETUP:

There has just been a major earthquake, and a medical warehouse lies in ruins. Victims are trapped in the rubble, and they must be rescued. And one area of the warehouse contains nuclear medicine supplies, so a radioactive leak is suspected.

The LAFD's California Task Force 1 is assigned to perform the rescue.

The USAR team is fully equipped and ready for the rescue simulation.

Gathering at a Staging Area

The USAR team gathers at a staging area.



LAFD Urban Search



they call USAR.

The Los Angeles Fire Department staffs three levels of urban search and rescue teams. The first is categorized as a Type 1 heavy rescue company. The LAFD staffs six type 1 heavy task forces throughout the City. These companies are capable of the initial attack and in many cases, resolution, of any technical rescue situation.

If the rescue extends beyond the initial attack, the LAFD is developing a Regional USAR Task Force. This Regional Task Force is a 29-member team capable of maintaining continuous operations beyond the initial attack.

For large-scale incidents, the LAFD staffs a self-sufficient 70-member task force. This task force (CA-TF 1) is one of eight in the State of California and is a key component of the Governor's Office of Emergency Services (OES) response plan. In addition, CA-TF 1 is one of the 28 FEMA task forces responding to events of national significance.

These units provide structural collapse, trench, confined space rescue capabilities throughout Los Angeles. In addition, these units provide heavy rescue capabilities for the entire Southern California region as part of the OES mutual aid system.

and Rescue Team

National Response Team

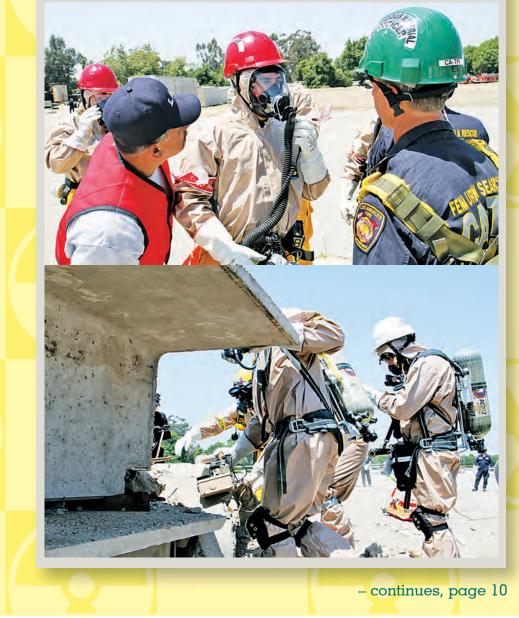
Here are just a few of the many national deployments of the LAFD's California Task Force 1:

Sept. 11, 2001	World Trade Center terrorist attack
Feb. 3, 2002	2002 Olympic Winter
	Games in Salt Lake City, Utah (disaster prevention)
Sept. 2005	Hurricane Katrina
Sept. 2005	Hurricane Rita
Sept. 2008	Hurricane Gustav
Sept. 2008	Hurricane Ike

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Masks and breathing apparatuses are secured. Team members used completely self-contained breathing apparatuses until they can determine the level of radiological contamination.





ISSONG

THE ALIVE! INTERVIEW

The Future Is Now



On May 16, *Alive!* editor John Burnes interviewed Capt. Steve Hissong, the program manager of the LAFD's Urban Search and Rescue program, to talk about the just-completed radiological emergency simulation. The interview took place at Fire Station 88 in Sherman Oaks. – Ed.

Alive!: Thanks for welcoming us today, and to the exercise a week ago Friday. Let's talk about that disaster preparedness exercise. Explain what that was.

CAPT. STEVE HISSONG: That was part of an exercise we do with our California Task Force One, a FEMA [Federal Emergency Management Agency] Urban Search and Rescue national response team. It's a collection of all of our Los Angeles City Fire Department members from all around the City who are part of an urban search and rescue team. We respond nationally to different types of disasters or anything that might be happening. For example, we responded to the World Trade Center in New York. We responded to Salt Lake City for the Winter Olympics. We've gone to Hurricanes Katrina, Rita, Ike, Gustav. So we've gone to several significant disasters nationally, but they're also a collection of people from our City who specialize in urban search and rescue.

Do you move staff on and off of the taskforce? How does that work?

The team members that are in each one of those disciplines, they start out by getting a certain level of training of the urban search and rescue discipline, and then we might send them through more specialized training. I went through the national training system and got elevated training for each one of those specific disciplines.

Most of the members that are on this team, they do it because of their love and passion for the urban search and rescue discipline. It's a voluntary program. It's not something that they are elected to do. The longer they're on

How often do you do these kinds of exercises?

We try to do them at least every two years. It's very difficult for us to get all these members together. We have a red, a white, and a blue team, and we try to get all of them together at least once a year, or every other year at least, to do some kind of a large-scale exercise and work on what would happen if we got a request. It's a method of exercising everything from our callout all the way through the actual exercise and then cleaning up all the equipment and ready to go for the next one.

How many personnel would be on each of those three?

There are 70 members assigned on that team, and that team is broken down into the different disciplines, from the taskforce leader to the plans chiefs, through the rescue members themselves. There's a HAZMAT component, and then there's the search component. So all of these components comprise one team. the team, we try to keep elevating their level of training.

And who does your level of training? Is that FEMA?

Most of the training is sponsored through FEMA, yes.

lt's a First

Have you done an exercise for a radiological event or a nuclear event before?

No, this was the first time we've ever exercised that component of it. When we were in Salt Lake City for the Winter Olympics, we were preparing for some type of a disaster that had to do with chemicals or a terrorist action, but we've never actually exercised getting into the suits and actually doing an exercise hands-on while we're in those suits.

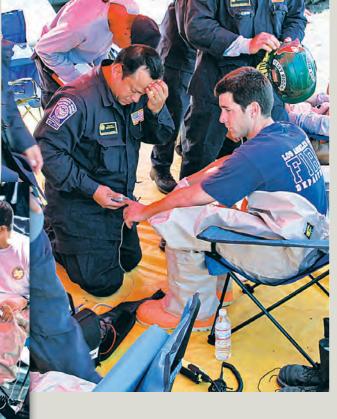
Are they done frequently throughout the country, or were you the first in the country to do this?

There are actually 28 FEMA Urban Search and Rescue teams throughout the country. We are the first one out of all of those 28 teams to actually exercise it hands-on. There have been – continues, page 11

LAFD THE Earthquake Simulation, continued from page 9 **B** Vital Signs

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The team member's pulse, blood pressure and temperature are taken.



Before the rescue team is completely suited up, the vital signs of each member must be recorded as a baseline; conditions within the

suits can become oppressive within minutes.

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The small yellow instrument on the left (the team member's right shoulder) is a dosimeter, which measures the levels of radiation

that member is exposed to during the mission.

Ready for action! Now completely suited up with masks, radios, dosimeters and breathing apparatuses, the four-man rescue team makes its way to the simulated emergency location.

4 To the Rescue



THE ALIVE! INTERVIEW, - continued from page 9

a lot of concepts that have been prepared in how they would respond and how they would act, but nobody has ever actually put the suits on and actually worked in them like we did.

So that was the first exercise of a task force in the United States for a nuclear emergency? Yes.

Was this prompted at all or spurred on by the earthquake and nuclear emergency that happened in Japan?

Well, ironically, we started our planning exercise back in January. So the preparation [had begun] in concept. And then when the earthquake happened in Japan in March, it actually solidified the reason why we have to exercise this hands-on. The exercises that we were planning were actually prior to the earthquake. It just made more sense afterwards that we really need to exercise this part of the discipline that we've never done before.

FEMA was here. Was FEMA here both to participate and to judge, or just to participate, or just to judge?

They weren't here to participate. They were here as evaluators. We had evaluators that came from the different taskforces, and they observed our taskforce, because the funding for this is provided by the state of California. FEMA [and the other evaluators] came here to evaluate our team, our effectiveness, but they were also learning just as much as we were. Their teams have never done this before. It was a learning experience for both our team as well as the members that came to evaluate it. They're going to go back to their teams and try other things also.

The Simulation

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Now tell me what we were looking at during that exercise. What was different to what they normally do – what they wear or their procedures – to prepare for a radioactive incident rather than a nonradioactive one?

That's a good question, because when we deploy on a normal disaster, for example, we monitor the air to ensure our safety. At the World Trade Center, there were a lot of dust particles within the air, so we wore respiratory protection. Going into an environment like this with the radiological isotopes, there's something more that we have to wear to protect our skin as well as our respiratory. Those suits that you saw – they're almost like a plastic suit. They don't ventilate air, because they protect the skin. So not only are we in an environment where we're wearing a plastic suit that doesn't allow your skin to breathe, we're also working in confines of small, confined spaces.

If you look at, for example, our LAFD HAZMAT teams, when they wear those kinds of suits, they're going in typically to test what kind of chemicals might be there and how they can prevent them from expanding farther. But that team is not into any kind of typical rescue operation. For this exercise, we took two separate disciplines and merged them.

Containment and human rescue?

Exactly, which we've never really done that before. So you're in a suit that doesn't allow your skin to breathe, and yet you're going into these small, confined-space areas to breach the concrete so we can extract a victim. You're doing that in very, very hot environment that wouldn't allow your skin to breathe. It was very stressful on the individuals that were in that environment because they were just exhausted by the time they got out.



Capt. Steve Hissong (left) explains the simulation to Alive! editor John Burnes.

'We learned that right about 30 minutes is about the length of time we want anybody in that suit.'

Not ongoing. That was one of the things that we're trying to evaluate – how we could better monitor our individuals without just physically doing it by monitor.

We monitor them prior to going into the suits. We take all their vital signs, and then as soon as they get decontaminated – they go through what's called a decon process, getting cleaned up to make sure they don't have any exposures on themselves. As soon as they get out of that decontamination tent, then we monitor their vitals again. So we're assessing them right before and exactly right after just to make sure that they're okay. Maybe we might need to put an IV in them and try to get some more fluids back into them.

A Limited Exercise

This wasn't the scenario of a Japan, where a nuclear plant had possibly leaked radioactivity. This was more a contained thing.

Yes. The scenario itself was actually a medical warehouse that had collapsed. We had a scenario of two lost victims still inside, and we actually had radiological sources so the detectors actually detected radiation levels.

You did? In that concrete box?

Yes. So the team was actually detecting real radiation inside that

When we go out the door as a FEMA Urban Search and Rescue team [nationally], we're also going with a specific cache of equipment. We're allowed to take only so much equipment. We had to practice with the amount of equipment that we could actually be taking with us. We don't have a continuous supply of equipment like we would here inside the City of Los Angeles. When we go to, for example, New York, when we went to Texas or Biloxi, [Mississippi], we were self-contained, and we brought all of the equipment with us. [In this exercise,] we wanted to make sure we knew exactly what we could and couldn't do.

What was in the decontamination shower?

It was just a little bit of soap and water. Soap and water are one of the main decontamination solutions that we use for just about anything.

Even in a nuclear situation, it's still soap and water? That's correct.

The breathing apparatuses – do they do any kind of radiological filtering? Are they equipped to do that?

We used two separate types of respiratory protection. We were using an actual self-contained breathing apparatus, where they had tanks on them. And then once they determined what the level of radiation was, then they were able to lower the level of protection down a little bit and used just a filtered system. Those filters are small enough or restrictive enough to reduce any kind of particles to get into their air systems, even on a radiological environment. But with that being said, they also had to test for a level of radiation that could be detected. For example, in Japan, they had very, very high levels of radiation. The protective suits and everything that we wore allowed us to go to a certain level. It wouldn't have meant that we could have gone into the very core of the radiation leak like they were having at the nuclear plants there. We determined what level of radiation there is and what protection we could have to get up to that level [of protection]. Anything beyond that, even we can't go into it because it would be too high for those suits to protect us.

Is there a time limit on how long they can be in an active rescue, or an active operation?

That was part of what we were looking at when we were doing this exercise – exactly how long could an individual be in that suit before we just have to say, "That's enough." We learned that right about 30 minutes is about the length of time we want anybody in that suit. Obviously the temperature, the weather itself, is going to alter that a little bit longer or a little bit shorter.

And this is for men who are in really good shape. $\ensuremath{Yes}\xspace.$

For 30 minutes, you can just imagine how taxing that would be.

Yes. Some of our members on Thursday [the first day of the exercise] were in the suits around 45 minutes to 50 minutes, and just that extra 20 minutes was just absolutely exhausting for them. The 30-minute mark was a point where they could get out of the suit and still be able to recover in a somewhat [regular] timeframe and be able to go back into it if they needed to, if we had to have a cycle. But by 45 minutes to an hour, they were just exhausted to where they almost couldn't recover in time to try to work them again.

I see. It was that taxing. Exactly.

Is there an electronic vital sign monitor that sends the data back to a central station? How do you monitor the vital signs during the mission? environment.

But to answer your earlier question – like any other rescue operation, you have to take it in small grids, and you break it up into small areas. To do a scenario like Japan would take more teams than just one team. You'd have to break it up into small grids, and then prioritize where your most potential victims might possibly be, and then you narrow that down into the one or two buildings that might have a potential rescue operation.

I presume it was a small amount of radioactive material that you used.

Very small, very safe. But [enough so that] the radiological detectors [could] actually pick up a level of radiation in them.

Lessons Learned

What did you learn?

It was a huge learning improvement for us because we've never done anything like this before. The field of urban search and rescue and hazardous materials are usually two very distinct disciplines. To merge those two together, where we had to work hand in hand, took a little bit of learning, too. We had to make sure that our rescue people didn't go in too soon before they actually got their detections and made sure that the environment was safe.

So we were looking at those components working together. We were looking at working in those suits that we had and what the duration of timeframe was. And it gave us an opportunity to really exercise our team, our FEMA Urban Search and Rescue Team, in that discipline that we've never done.

So what you wore on Friday would not have been sufficient for the levels that they saw in Japan. That is correct.

What can regular citizens take away from this? I would imagine that L.A. is better protected now because we have more knowledge than we did two weeks ago.

Communities can walk away from this exercise knowing that they're protected, that if anything happens that we can come and protect not only them but we can get to them on almost all levels. Having that comfortable feeling knowing that their department is there to protect them no matter what is a pretty comforting feeling. I'd like to hope that they would all be able to walk away from

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THE Earthquake Simulation, continued from page 10

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5 In the Hole



The USAR rescue team reaches a concrete conduit. The team is very careful not to puncture their suit with any of the dangerous edges or rebar.

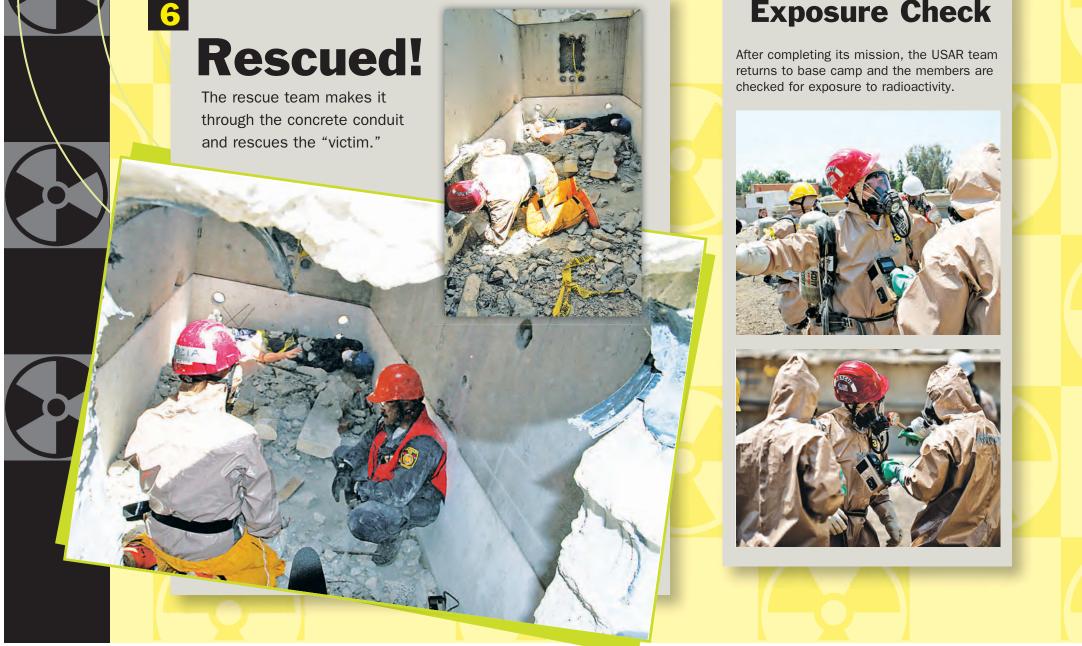
Before heading in, the team uses a Geiger counter to check the levels of radioactivity.





At the other end of the conduit lies th "victim."

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7 Radioactive **Exposure Check**

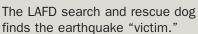


Becontamination Shower Team members then go through a decontamination soap-and-water shower for neutralization and cleaning before the special gear is removed and a second set of vital signs is taken.

Solution Security of Securi

also included a USAR K9 search and rescue unit.

Part of the simulation included a scenario where the K-9 was exposed to radiological material. Above, a member of the decontamination team (in the beige protective suit) decontaminates the K-9 (the exposure to nuclear materials was simulated and not real).





THE ALIVE! INTERVIEW, continued from page 11

this exercise knowing that if we had a radiological environment, like they did in Japan or San Onofre with the reactors that they have there, we can come in and still be able to do our job.

That's a safe feeling!

That's the biggest point here - that the communities and the City of Los Angeles know that their fire department is there for them - and for our nation. I hope that they can be proud of us.

A Big Deal

This was a big deal for our national security, wasn't it?

It was. This was big for us as a department to exercise this part of our abilities, but it was also big because I think it really helped the community. It helped anybody that wanted to know: Are your departments prepared for this kind of an incident? All of the people on this FEMA Urban Search and Rescue team are still the same firefighters that respond daily on responses throughout the community in Los Angeles City. Everything we exercised there for the radiological test are things that we're prepared to do right now in our own neighborhood. It was important that people knew what kind of level of training we were doing, not for just a national disaster but right here in our own backyard.

Fire Department. They're not just all at one fire station. They all come together collectively to build a really cohesive team in this discipline of urban search and rescue.

The Future Is Now

Radiological material is nasty stuff. Did you ever think that this would be something that you'd have to deal with?

No. When I joined the department, I was just ecstatic to get onto the fire department. To be part of the Los Angeles City Fire Department was one of my all-time goals. And in 1990, I started progressively getting into swift water rescue, and urban search and rescue. At that time, we did not have a FEMA Urban Search and Rescue team that responded nationally. That wasn't until 1998, when we actually implemented our team. When I was able to go to New York and provide a service to the community of New York as a national responder, that was something I'd never even dreamed of when I first got on this job. It was a very strong sense of satisfaction knowing that we were able to go beyond just

That's unbelievable. And so you suited up for the Pierce College incident the way you did for the training exercise?

Not exactly. They were able to downgrade the level of radiation and contain the environment much easier than we did within our environment in our training scenario. But the response of the companies that responded into that scenario was almost exactly the carbon copy of the response that we were coming into. We just elevated our levels higher for the training exercise. But it was very surreal in the sense that we were listening to this on the radio and watching us actually suiting up and listening to them on the radio on an incident that was so identical to ours.

So you see them rising in frequency?

Yes. People are sending more medical, radiological isotopes that are packaged. We're always on the alert when we see the different types of packages. People send things through the mail that they don't always identify.

And the LAFD is who they call.

That's a good point. But conversely, what you learned a week ago Friday is now going to be taught throughout the rest of the country maybe even the world.

Yes. The training taught other taskforces what they need to do. The lessons that we learned from it, other teams are already taking away from it and learning it right away so they don't have to start from Square One like we did.

Great Crew

Talk about your crew and their courage, and what they have to go through in these sort of uncharted territories.

Our crew, within our fire department, is some of the best of the best. They're the elite. Because Urban Search and Rescue is more of a volunteer-type discipline, it definitely brings out the individuals that truly have the passion to go beyond just firefighting. And that's what this level of team is. It's the elite members of this fire department who collectively come together to provide a higher level of protection, a higher level of rescue and extraction for people. It's from members all around the City of Los Angeles

the communities of Los Angeles.

To another level - to provide a radiological extraction, providing safety to us, but also to the community - was not something that I ever thought of when I got on this job. But it's a pleasurable feeling knowing that we can provide that service if we need to.

Radiological material has to be a tough challenge.

Yes. And it's a scary one, too, because it's not something you see. For example, when we fight fires, I can feel the heat levels. I can see the fire. I can see what the dangers are when I'm getting into an area that's getting more and more risky. Radiological environments - I can't see it. You have to know that you're in a bad environment, and all I have to depend on is a radiological detector to tell me that this is really bad.

It's satisfying to know that I'm in a career that helps other people, and to take that to another level is even that much more gratifying.

I had hardly ever heard of radiological environments, or radiological incidents, in my 25 years. But the day that we were having the exercise, on Friday, there was actually an incident at Pierce College where two people were exposed to a radiological environment in a vault. So not only were we suiting up, preparing our members to go into this environment in a training scenario, but members of our fire department were responding to almost an identical situation right down the street. It was very strange and almost surreal, in the sense that we had members that were responding to an incident that was almost a carbon copy of our training environment.

Correct.

You're on the other end of that call. And that's why you're prepared.

Yes, indeed.

Great. Thank you so much for your time. We really appreciate it.

Well, I appreciate you coming out and allowing us to talk about it.

