

IMPLEMENTATION OF A TSUNAMI PLAN: THE LOS ANGELES COUNTY FIRE DEPARTMENT EXPERIENCE AND LESSONS LEARNED FROM SUMATRA AND HURRICANE KATRINA

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ABSTRACT

December 26, 2004, will go down as one of the most deadly single dates in modern human history. Members of the L.A. County Fire Department and the Fairfax County (VA) Fire/Rescue Department international USAR Task Forces were dispatched to Sri Lanka and Sumatra by the U.S. Agency for International Development (Office of Foreign Disaster Assistance), and returned with important lessons to be integrated into the newly developed tsunami response plan in Los Angeles County.

The Sumatra quake and tsunami disaster should serve as a giant red flag, a wakeup call for fire and rescue agencies and other government agencies in places where tsunamis are possible from sources both near and far. Today there are vulnerable coastal counties and cities whose fire, police, and lifeguard agencies still have not implemented formal protocols for translating tsunami warnings into effective evacuation plans, resource deployment plans, and post-tsunami search and rescue plans. Fortunately, many state, regional, and local officials and responder *have* taken the tsunami threat seriously. Japan, Hawaii, and the Pacific Northwest coast of the U.S. are particularly notable for the extensive tsunami planning and preparation.

Hurricane Katrina was the fourth major hurricane to which many firefighters and other rescuers in the National Urban Search and Rescue (US&R) Response System were deployed in 2005, and the seventh hurricane response in two years. All 28 FEMA US&R Task Forces and two of the three FEMA US&R Incident Support (command) Teams were deployed to Mississippi and Louisiana.

Having been deployed to Mississippi on one of those teams, my first impression was that the Gulf coast looked very much like parts of Asia that had been devastated by the Indian Ocean tsunami. The trains tossed around like toys (and, in some cases, protruding from multi-story buildings) in Gulfport were a reminder of the Asia tsunami, where the force of moving water also had tossed around trains, and had killed more than 200,000 people in 11 nations, erasing some towns and cities from the face of the earth.

Having been extensively involved with research, development, and planning on earthquakes and tsunamis since the mid-1980's--and having been involved with developing the County of Los Angeles (and LACoFD) Tsunami Evacuation and

Response Plans, it struck me that the devastation caused by Hurricane Katrina was similar to the situation we had been warning about for years: Much of the West Coast would look like post-Katrina Mississippi Gulf Coast if a large tsunami were to strike there.

It's possible for earthquakes and tsunamis to cause coastal devastation on the scale of Katrina, which would require search, rescue, recovery, medical, and humanitarian operations similar to those that occurred in Indonesia, Thailand, India, and Sri Lanka. That's why fire and rescue agencies must also apply the lessons learned from disastrous hurricanes to their Tsunami Response Plans.

When large earthquakes strike, it's standard practice for fire department units to respond through their jurisdictional areas to conduct "windshield surveys". These are rapid visual and physical assessments of damage levels and major problems (or lack thereof) conducted while rolling "Code R" through the streets on pre-determined routes to check the status of the most obvious life-loss hazards. The results of these damage surveys are reported and used by commanders and dispatchers to begin moving resources into the places with the worst impact.

In the case of *windshield surveys* being conducted along the coast in potential tsunami inundation zones, and when resources being dispatched into these areas in response to reports of collapsed buildings, fires, trauma and medical emergencies, and haz mat releases, fire fighters, lifeguards, and other public safety personnel are in danger from near-source tsunamis. Entire fire and lifeguard departments might be wiped out by surprise tsunamis. The normal approach to post-earthquake response and damage assessment must be reconsidered in regions subject to *near-source* tsunamis.

Tsunami plans should include appropriate cautions for personnel who must be committed to potential inundation areas. There is the potential for conflict where fires have broken out, people are trapped in collapsed buildings, and mass casualty situations occur within potential tsunami impact zones. Tsunami Plans should take these factors into account and provide reasonable guidelines for personnel faced with such a dilemma, including the principle of L.C.E.S. (Lookout, Communications, Escape Route, Safe Zone) that are used in other situations deemed *immediately dangerous to life and health*.

Tsunami Response Plans should recognize the advantage of using helicopters, inflatable rescue boats, and other special resources to conduct search and rescue in the wake of a tsunami event. It might also include provisions for pre-deploying resources in anticipation of predicted tsunamis from distant sources. And equally important is the need for fire/rescue personnel and their commanders to collaborate with the scientists and researchers who can help them by better defining the hazards that may confront them, and remaining acquainted with the latest information and findings.