

Entry for CCDEH Excellence Award 2010

Contact Name and Title: Steve Van Stockum, Director
County of Riverside Department of Environmental Health

Mailing Address: 4065 County Circle Dr, Riverside, CA 92503

Phone: (951) 358-5172

Email: svanstoc@co.riverside.ca.us

Title of Entry:

Laptop Installation for Expedited Hazardous Materials Incidents Response

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Overview: County of Riverside installed laptop computers in their Hazardous Materials emergency response vehicles to provide aid in dispatching responders and to provide access to information from permitted facilities' Business Emergency Plans.

Program Description for Emergency Response and Investigations: Riverside County formed a joint agency in 1986 between the Hazardous Materials Management Branch (HMM Branch) within the County of Riverside's Department of Environmental Health and Riverside County Fire and Cal Fire personnel. The team concept provides for specialization and strengths from both agencies in allocating staff 24 hours/7 days a week. The team responds to approximately 600 hazardous materials incidents each year including highway accidents, industrial spills, abandoned chemicals, illicit drug labs and terrorism related incidents. Emergency response activities include mitigation, containment and control actions as well as hazard identification, evaluating the threat to the local populations and the environment. Twelve State-certified Hazardous Materials Specialists in the Environmental Health Emergency Response Program participate as part of the joint agency Hazardous Materials Emergency Response Team (HMERT). Additionally, the HMM Branch in coordination with the Environmental Crimes Task Force, works with the District Attorney's Office for the investigation and prosecution of crimes that involve illegal disposal of hazardous wastes.

The HMERT is really a team of experts. When called to the scene of a chemical-related incident they analyze the situation and make recommendations to the Incident Commander on how best to proceed. Unlike fire and rescue units, the HMERT must fully understand the "chemical components" of the hazard it faces to adequately protect the responders. The nature of the hazard will dictate the appropriate personal protective equipment that the responder must wear. An error in selecting the equipment can result in serious injury or loss of life. Using monitoring instruments, shipping manifests, chemical reference books, computer modeling, and other resources, the HMERT determines the appropriate course of action to mitigate the hazard and to expedite the clean-up.

Problem or Challenge: When responding to incidents obtaining accurate information about the facility where it is occurring and the chemicals handled there can be daunting. A timely response is critical when highly toxic and hazardous chemicals are involved that can greatly affect public safety, mitigation and clean-up. This objective is tremendously difficult if incidents require response during evening hours when facilities are closed and

knowledgeable personnel at the facility are unavailable. Responses to hazardous materials on the roads and roadsides can be even more difficult as manifests may not be available to identify the chemicals and their properties.

Solution: A Hazardous Materials Business Emergency Plan (HMBEP) is submitted by all permitted facilities to Riverside County's Department of Environmental Health, HMM Branch as is required by law. This document may be the only immediate source of information on what chemicals are on site and any other salient data that would aid in the response. The HMBEP was originally developed to get critical information about a facility into the hands of the first responder, but since the plans are lengthy and bulky, they are difficult to carry and cumbersome to use in vehicles.

In 2006, the HMM Branch expanded their Memorandum of Understanding with Riverside County Fire/Cal Fire updating the method for dispatch and information sharing. Panasonic ToughBook® mobile computers were installed in fire engines and in each of the HMM Branch response vehicles for complete mobile use. The Toughbook computers are loaded with all current HMBEPs for permitted facilities within the county and provide access to the GTS Mapper system and a wide variety of additional applications as listed below:

- HMERT members, responding to incident calls, call into the Fire command center and identify themselves. Within minutes the responders are dispatched using GTS Mapper system on the Toughbook computers. The virtual location of the incident and the location of their response vehicle appear on the screen into a map of the affected area. The map will zoom into the area where the responder is, and provide route mapping and turn by turn instructions from the vehicle location to the incident.
- Incident details are provided and with the click of a button, the location of other units responding, appear on the map along with their estimated times of arrival. A radio channel is assigned to use for communications regarding the incident response. All of this valuable information is instantly provided as the responders are in route to the incident.
- Evacuations are expedited with this system. The GTS Mapper will indicate sensitive sites such as schools, hospitals or senior centers that are within an identified radius from the incident, so that priority can be given to their evacuations.
- Topological features are shown in map overlays that can be important when estimating where the waste plumes will potentially travel.

- HMBEPs are instantly available to both Branch responders and County Fire/Cal Fire responders providing needed information for determining the extent of the hazards and measures for containment at permitted facilities that are experiencing incidents.
- Locations, through the use of map overlays of fire hydrants, schools, hospitals, fire stations, Indian reservations and other features that might be important to the response, are instantly made available.
- Aerial photographs of streets and buildings are available and can provide valuable information during responses.
- Hazardous materials emergency response management programs (examples: CAMEO, ALOHA and WISER) are instantly accessible.
- Websites providing chemical and response information (examples: TOXNET, CDC, and AGRIAN) are also available within seconds.

Costs:

Startup cost:

- Toughbook computers: \$6,200 each x (15) = \$93,000
- Mounting hardware and installation: \$1,500 each x (15) = \$22,500
- Total: **\$115,500**

Annual cost:

- Maintenance, software upgrades and access to data: **\$16,000**

All costs:

- are covered through settlement awards that are paid by violators in cases that are brought to legal action.

Results/Savings: Tremendous benefits have been realized with the installation of the Toughbooks computers into emergency vehicles:

- Discrepancies with the property owner and responsible party information have been resolved in the field by accessing a mapping/aerial photo program (GTS Mapper) and the Riverside County Transportation and Land Management Agency website.
- HMBEPs have been used to research emergency contacts during after hour incidents at permitted facilities. They provide vital information about chemical locations on site to aid in determining flow and drainage control when mitigating released substances.
- Access to information needed to help in the identification and chemical properties of hazardous materials involved in roadway incidents has proven invaluable.
- Average response time to incidents has greatly decreased due to the improved accuracy of incident location descriptions and real time routing to the incidents.
- Reduced response times has yielded a reduction in costs.
- The reduced need and cost for dispatching response vehicles have been a fantastic benefit of the GTS Mapper

Overall, the vehicle computers and the access that they provide to information and support programs have proven invaluable in expediting responses to hazardous materials emergencies by minimizing costs and improving efficiencies. We believe that our team is a trailblazer in utilizing this method, providing an innovative and superior approach to the response process and greater public safety.

Project or Program Contact: Steve Van Stockum – Director

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