

The Changing Face of Emergency Management



The attacks of September 11, 2001, reveal the new face of 21st century warfare and its revolutionary arsenal. Federal, state, and local emergency preparedness and response must also don a new face. The dilemma of today's emergency managers is how to anticipate the unexpected threats, prepare for the unfathomable outcomes, and gauge the unknown nature and magnitude of future attacks.

In the face of terrorism's rapidly changing and evolving schemes, people have come to anticipate the worst. Of the worst scenarios imaginable, few approach the horror of an attack on a nuclear power plant; many people fear the uncontrolled release of radioactive material into the environment.

Emergency management experts have grappled with the threat of a potential radioactive release for many years. The U.S. Federal Emergency Management Agency created the Radiological Emergency Preparedness (REP) Program to ensure public health and safety in communities surrounding nuclear power plant facilities. ICF Consulting and its team of more than 130 evaluators work with the REP Program to assess the planning, emergency preparedness, and response capabilities of federal, state, and local governments and the private sector in the event of a peacetime

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Web Site Development: Tools for Integrating the "Voice of the Customer"

It is critical that businesses understand how customers and stakeholders interact with their Web site to ensure return on investment. Organizations are no longer willing to invest in a Web effort without justifying its value. Now there are tools and techniques that evaluate customers' and stakeholders' expectations of, and satisfaction with, particular Web sites.

In the early days of the Web, organizations scrambled to create a "presence." At that time, the objective was to have a beautifully designed Web

site—often at the expense of navigation and architecture. Little thought was given to the customer's access to information, services, and products. Beginning in the late 1990s, the "e-commerce phase" of Web development began; that phase was characterized by extremely rapid innovation and experimentation fueled by explosive investment.

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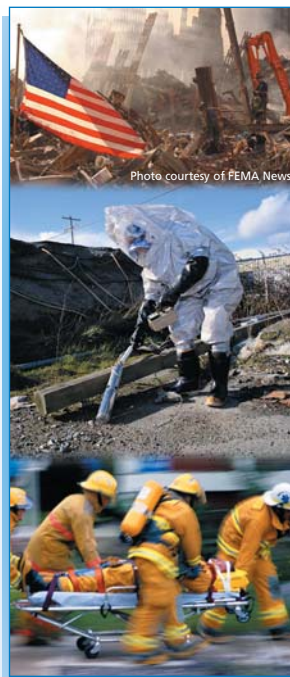
Recommendations for U.S. Homeland Security

In an article for *International Affairs Review* published during the summer of 2001, ICF Consulting used its extensive experience in emergency management to develop recommendations that would strengthen the United States' ability to fight international terrorism. Some of the recommended actions included the following:

- Strengthening the domestic policy on terrorism
- Targeting and implementing sanctions against known foreign terrorist organizations
- Implementing sanctions against state sponsors of terrorism
- Enhancing domestic intelligence capabilities and information sharing
- Increasing coordinated information sharing capabilities on an international scale

In response to the attacks on September 11, 2001, the White House implemented many of the concepts noted in the above recommendations. President Bush ratified the White House Office of Homeland Security to solidify and intensify preparedness efforts. The U.S. Department of Justice has taken action to freeze the domestic assets of known terrorist organizations. The President and Congress have worked together to enact anti-terrorism legislation that implements stricter fines for harboring or financing terrorist organizations, increases the investigative intelligence powers, and promotes domestic and international information sharing.

While these efforts are sure to increase national preparedness, a more comprehensive policy approach needs to be applied to produce an effective system for strengthening domestic security.



The ICF Consulting assessment produced additional recommendations aimed at promoting national security. One recommendation suggests that federal agencies specifically account for counterterrorism-related expenditures. Accounting for these types of activities will require an oversight process that should eliminate any duplication of efforts and ensure a more effective and efficient use of available funds.

Another recommendation endorses the utilization of a universal standard. International terrorism experts have recognized a set of eight *incident traits* that could be used as criteria for classifying an event as an act of terrorism. The elimination of definitional differences of terrorism, both in U.S. agencies and foreign governments, would facilitate efficient responses.

The adoption of a universal extradition treaty within the international community was also recommended. A broadly adopted extradition treaty that encompasses governments as well as organizations and individuals—and carries heavy sanctions—is expected to create a strong deterrent to terrorist activities.

In the emergency management community, prevention, mitigation, and preparedness (to include planning, training, and exercises) are key ingredients that help minimize impacts and victims of terrorist events, and increase the effectiveness of emergency response. Thus, comprehensive emergency management principles are the same building blocks needed for the foundation of our homeland security. In response to the extensive and far-reaching impacts from the September 11 attacks, those responsible for public safety must focus on coordination among agencies as not experienced heretofore, and work with the international community to strengthen deterrents.

Combating International Terrorism

For further ideas and suggestions on how to combat international terrorism, please refer to "A New Approach to International Terrorism" in *International Affairs Review* 10, vol. 2, (Summer/Autumn 2001): 80-95. The article is authored by Martin A. Kalis of ICF Consulting's emergency management practice.

Tools for Integrating the “Voice of the Customer” (cont. from page 1)

Until recently, Web site usability (i.e., designs based on user preferences) was largely ignored. Instead, Web site development was often driven by technology, organizational structure, and business objectives that do not include the “voice of the customer.” Research by User Interface Engineering, Inc., found that people cannot find the information they seek on Web sites about 60 percent of the time.

Now that Web development is slowing, organizations are focusing on the effectiveness of Web sites, the appropriate use of the Web for certain business processes, and return on investment. Organizations realize that competition on the Internet is fierce; if customers’ expectations are not met, they will simply switch to a different Web site. Organizations must understand their customers’ expectations and preferences. Toward that goal, there are many Web site evaluation tools and tactics. ICF Consulting leverages these and other tools to evaluate and then redevelop Web sites.

- **Usability Testing.** This tool evaluates how users interact with a site or site concept. While relatively inexpensive, usability tests help determine if a Web site is useful and usable for the intended audience.

- **Qualitative Measurement.** Focus groups and one-on-one interviews help determine how the Web can complement business and communication goals. Although ineffective for testing usability, these techniques help uncover both articulated needs and “exciting” needs—needs that will delight a customer if fulfilled.
- **Quantitative Online Surveys.** Online surveys can be used to test goals and objectives as well as site organization and categorization. The results can be generalized to the larger population.
- **Workgroup Exercises.** Multidisciplinary work-groups that develop use scenarios and employ taxonomies and disaggregation/aggregation exercises help ensure a more diverse viewpoint when evaluating and designing a site.

By considering the “voice of the customer” using the tools above and implementing changes to address their needs, organizations will experience greater customer satisfaction and increased return on investment

For more information on ICF Consulting’s information technology services, please visit our Web site at www.icfconsulting.com/it.

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radiological emergency. These evaluations, mandated by the Nuclear Regulatory Commission, are conducted through a series of biennial exercises, drills, and other activities at U.S. commercial nuclear power plants.

The Program requires conducting exercises and drills that simulate the occurrence of an accident and the resultant failure of multiple layers of redundant safety systems. The malfunctioning of these safety systems then creates a simulated, uncontrolled release of radioactive material to the external environment, which necessitates emergency response from federal, state, and local agencies. The training derived from these simulated exercises and drills provides critical experience and confidence to emergency personnel, whether events are caused by terrorist or other activities. Although the nuclear power industry was

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not directly affected by the recent terrorist attacks, the implications demand that REP exercises focus on varied releases and continue to forge strong partnerships among industry and government to protect our communities. Now, more than ever, the REP exercises that train responders for a wide-range of releases are imperative.

In light of recent terrorism, it is imperative that governments work with the private sector to continue to build a coordinated, flexible, and broad-based approach to ensure the safety of nuclear power plants and those who live near them.

To learn more about ICF Consulting’s emergency management services, programs, and expertise, please visit our Web site at www.icfconsulting.com/em.

Calendar of Events

January

January 14-17, 2002

Washington, D.C. ICF Consulting will present several papers at the annual **Transportation Research Board Conference**. This meeting covers all transportation modes and provides an opportunity for representatives of government, industry, and academic institutions to learn about the latest developments in transportation research, policy, and practice. *For more information, please contact Michael Grant at 1.703.218.2692.*

January 22-25, 2002

Tucson, Arizona. ICF Consulting will lead a workshop on "Establishing a GHG Baseline for Utilities" at the **Electric Utilities Environmental Conference**. John Blaney will speak on the "Renewable Energy Credits Market Assessment: Valuing New Renewable Capacity and Green Tags." *For more information, please contact Stacey Hohenberg at 1.703.215.2504.*

January 23-25, 2002

Geneva, Switzerland. Abyd Karmali and Melinda Harris of ICF Consulting will lead a workshop for participants on greenhouse gas emissions trading in the aviation sector at the **3rd Annual "Aviation and The Environment" Conference**. *For more information, please contact Abyd Karmali at 44.20.7554.8752*

February

February 19-21, 2002.

Amsterdam, The Netherlands. At the **Emissions Trading Europe 2002 Conference**, Abyd Karmali will chair

Day Two of this pan-European meeting on greenhouse gas emissions trading to analyse how European companies might develop emission strategies. *For more information, please contact Abyd Karmali at 44.20.7554.8752*

February 21-27, 2002

Washington, D.C. ICF Consulting is exhibiting at the **National Emergency Management Association (NEMA) 2002 Mid-Year Conference** as well as sponsoring a portion of the conference. *For more information, please contact Joe Greenlee at 1.703.934.3956.*

March

March 4-7, 2002

Washington, D.C. A sponsor of the **E-Gov Web-Enabled Government: Strategies for Internet-Based Operations Conference**, ICF Consulting also will exhibit. Focusing on Web-enabled initiatives and online services, the conference includes sessions on Understanding the Changing Climate, Building Frameworks, and Managing Internet-Based Operations. *For more information, please contact Chris Holmes at 1.703.934.3536.*

March 19-21, 2002

Fairfax, Virginia. ICF Consulting and **ICF Energy Solutions** will hold its **Annual User's Group Meeting**. This year's meeting, "Your Vision for the Future," will focus on maximizing the capabilities of Energy Vision Enterprise™ and Load Vision™ (Energy Vision PC) in today's dynamic marketplaces. *For more information, please contact Steve McAllister at 1.703.934.3021.*

March 25-26, 2002

Washington, D.C. Experts from ICF Consulting's energy practice will present papers at the **American Council for an Energy Efficient Economy (ACEEE) Market Transformation Symposium** in addition to hosting a reception for members and attendees. *For more information, please contact Jim Stimmel at 1.703.934.3070 or visit the ACEEE Web site at www.aceee.org.*

April

April 22-25, 2002

Washington, D.C. ICF Consulting will exhibit at the **E-Gov Knowledge Management: The Catalyst for Electronic Government Conference**, which is focused on designing, managing, and funding knowledge management initiatives in government enterprises. *For more information, please contact Chris Holmes at 1.703.934.3536.*

June

June 2-4, 2002

Boston, Massachusetts. ICF Consulting will exhibit at the **Edison Electric Institute (EEI) Annual Meeting**. In addition to the exhibition, EEI is providing authoritative speakers on strategic issues shaping the industry and is joined by the Canadian Electricity Association in this year's endeavor. *For more information, please contact Pat Alexander at 1.703.934.3157.*



Electricity Demand Response

The electric supply problems in California and elsewhere during 2001 have brought national attention to the need for new capacity to meet growing electricity demand. The recent problems have spurred national attention to alternative responses to the crisis, particularly from the demand side. Demand-side solutions generally involve customer load reduction (through either curtailment or use of distributed generation) in response to price signals or directions from distribution utilities or system operators. By and large, these solutions also involve a greater degree of flexibility and interactivity than the load management programs implemented in past years. The former “demand-side management” programs were implemented in an era of regulated electricity supply to forestall the need for new generation, transmission, and distribution capacity additions through an “integrated resource planning” approach. The incorporation of demand response can produce multiple benefits—providing system operators one more option to use during system emergencies; creating tangible economic incentives to reduce demand by customers; mitigating electricity producers’ market power; and introducing demand elasticity in the face of high prices.



Demand response programs currently implemented across the United States include real-time pricing tariffs, emergency load curtailment programs, voluntary demand response programs, demand bidding programs, and direct load control.

- Real-time pricing tariffs expose customers to price volatility in the wholesale market. Wholesale market prices are passed through to customers who are charged on an hourly basis. Customers who can respond quickly to high prices or shift their consumption to lower-price periods can reduce their electricity bills.
- Customers that participate in emergency load curtailment programs must reduce their consumption to predetermined levels in response to directions from system operators. In exchange for these reductions,

customers receive discounted electricity rates or are paid directly for the reductions.

- Voluntary demand response programs also pay customers to reduce their load upon request by system operators, but the customer does not have a contractual obligation to curtail their demand.
- Demand bidding programs let the customer specify their own reservation bid for a specified level of load curtailment. If customer bids are at or below market clearing prices in the wholesale market, the customer must reduce demand by this amount and then

receives payment for the reductions.

- Direct load control programs remotely cycle off customer appliances, such as air conditioners, water heaters, and pool pumps during times of high peak demand.

Although many of these programs are in their relative infancy, several underlying themes and findings can be identified. First, demand

response programs were active this past summer. During the heat waves that blanketed the eastern half of the United States in late July and early August, system operators throughout the region turned to emergency curtailment programs and direct load control to reduce demand. Surprisingly, although demand response programs had been designed in preparation for the summer in California, they were not used to any great extent during this time frame due to cooler than normal weather and confusion over funding and regulatory jurisdiction.

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Second, customers have the capability to reduce their load. In response to pleas from state officials and various rate incentives, California residents and businesses (including federal government facilities by Executive Order) reduced total state demand between 10 and 15 percent. A key rate incentive available in California is the 20/20 rebate program that provides a 20 percent reduction on electric bills if


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customers reduce their usage by greater than 20 percent. More than 30 percent of customers in the San Diego region have reduced their consumption to qualify for this incentive. Building managers in New York City who participated

in Consolidated Edison's (Con Ed) and the New York Independent System Operator's demand response programs undertook a variety of actions, including shutting down banks of elevators, dimming lobby lighting, turning up air conditioner thermostats, shutting down nonessential equipment, and operating their emergency generators.

Third, customer market research conducted by ICF Consulting in California and New York suggests that customers are interested in participating in emergency load curtailment programs and voluntary demand response programs as long as their reductions are used to forestall imminent outages and blackouts. However, most customers are not interested in expending significant time and effort tracking wholesale prices and actively bidding and participating in these programs on a regular basis. As a result, customer involvement in real-time pricing programs and demand bidding will probably be limited to the largest and most flexible customers until advanced meters and information systems are widely deployed. These sentiments have been supported by reports in Wisconsin that customers are interested in reducing their demand only when payments approach \$1 per kWh reduced.

Fourth, a whole new demand response industry is developing. Companies in this industry are offering a wide range of services to utilities and their customers from software and hardware to aggregation of customer load reductions. New automated meter reading systems and energy information systems are being developed to provide customers the capability to monitor their usage and participate in demand response programs. ICF Consulting has been retained by the California Energy Commission to implement and fund customer installations of these systems in the small commercial and industrial sector. Our early experience has identified multiple vendors, interested customers, and a wide variety of strategies to reduce peak demand.

ICF Consulting is a key provider of demand response expertise. The firm develops and implements demand response programs for electric utilities, government agencies, and trade associations. The firm combines expertise in customer demand reduction strategies and implementation of energy efficiency outreach with detailed knowledge of the electricity market. 

About ICF Consulting

ICF Consulting is one of the world's leading consulting firms advising clients on managing the world's natural, physical, economic, and community resources in a sustainable way. The firm's 800 employees help clients optimize energy resources, meet environmental challenges, foster economic and community development, enhance transportation policy and projects, and manage information technology resources. ICF Consulting's clients include firms in the energy and utility industries, all levels of government, and national and multilateral organizations throughout the world. ICF Consulting has offices around the globe, including offices in Bangkok, Fairfax, London, Los Angeles, Moscow, San Francisco, Toronto, and Washington, D.C.

For more information on ICF Consulting's services, please visit our Web site at www.icfconsulting.com.

We welcome your comments and suggestions. Please contact us at 1.703.934.3659 or by e-mail at consult@icfconsulting.com.