



Energy

Emergency Management Applications Using Solar Electricity

During a disaster event, the first 24 hours are crucial to saving lives. Keeping power running to critical infrastructure sites—such as drinking water facilities, emergency response centers, communications networks, hospitals, and government agencies—is a major concern. Emergency responders need a reliable non fuel, independent of electric power, to manage the crisis response. In the past, only one option was available to provide emergency power during a crisis: gasoline or diesel-powered engine generators . However, recent technology improvements now enable solar technology to help communities meet their goals for energy self-sufficiency, while mitigating the devastating effects felt by a community during a disaster. Solar-powered generators, used in concert with other devices, can allow critical services to continue to function and enable emergency responders to immediately mobilize.

Business Continuity Planning

Every year, ice storms, system failures, floods, and other crises cause long-term power outages that seriously impact the ability of communities to function. Business continuity planning, including continuity of operations planning, provides the basis for resiliency of a city's essential functions and critical resources.

CH2M HILL can assist municipal governments in preparing pre-staged solar sites, pre-wiring shelters for solar power panels and power grids, and identifying potential locations for solar panel and wind energy farms. CH2M HILL has software assessment tools that are useful to municipal governments and emergency management personnel for determining solar energy generation from building rooftops and wind energy generation from geographic wind maps.

Examples of Potential Infrastructure Applications:

Solar energy can provide back-up electricity needs for many different sites that provide critical services, such as:

- Drinking water or wastewater treatment facilities
- Emergency coordination and operation centers
- Hospitals and detention centers
- Emergency shelters (including evacuation sites and Medivac stations)
- Fuel stations
- Other sites identified by a community as critical

For more information, contact
David Herrmann
Enterprise Management Solutions
David.herrmann@ch2m.com
720-286-1813

Emergency Communications

A well-planned, interoperable communications system and process that include all agencies involved in emergency response (from public safety to public utilities) is critical for a successful response effort. CH2M HILL offers interoperability planning and solutions in many areas, including regional communication assessments, communication plans and training, record management systems (RMS), and collocated facilities.

CH2M HILL team members offer city staff our expertise, gained through many years of communication operations experience working in public safety environments. Team members have worked with a broad variety of public sector clients such as city offices, utilities, and state transportation departments to improve their operational resiliency during emergency situations. We have also worked with municipal governments to evaluate and identify applications for solar-generator-supported emergency communication systems.

Examples of Potential Communication Applications:

- Solar-powered backup batteries for mobile amateur radio units
- Hand-held or mobile solar rechargers for field unit cellular phones and other personal communications devices
- City-wide, solar-powered Wi-Fi networks to coordinate responses and emergency communications to private citizens
- Solar-powered, voice-capable sirens that can broadcast pre-recorded messages and live public address
- Solar-powered cellular telephone towers

Combining our skills in business continuity planning and emergency management, experience in solar power solutions, and extensive knowledge of critical infrastructure needs, CH2M HILL offers distinctive expertise to municipal technical staff and leadership teams. Our team also has technical expertise in zoning and building codes related to PV and thermal energy, and can help identify existing infrastructure elements that can be linked together to form continuously reliable energy sources for disaster-recovery efforts.
