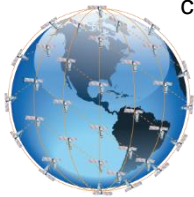


OCENS Land Mobile Case Study: Disaster Recovery

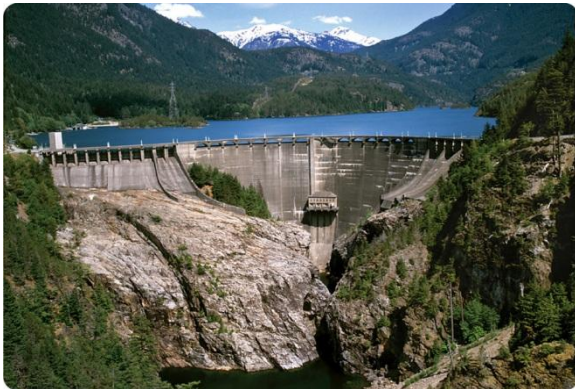
Seattle City Light implements Iridium satellite phones as an integral part of the utility's disaster recovery system

Seattle City Light (SCL), the primary electric utility for the Seattle, Washington metro area integrates over 30 active handheld and fixed satellite phones, provided by OCENS, Inc., in its disaster recovery program. SCL



chose the Iridium network which provides 100% global coverage 24 hours a day. OCENS competitively sourced the Iridium equipment and airtime and provides its customary top-class customer support.

SCL's Iridium phone fleet is comprised of two types of equipment: handheld 9505a phones and Beam fixed phone units. The handheld units are assigned to key management personnel who carry the phones for critical communications capabilities in the event of an emergency. The fixed phone units are installed at SCL's hydroelectric power generation facilities and provide the ability to communicate outside of the area if the landlines fail as a result of a natural or man-made disaster. SCL is committed to providing the highest level of reliability to its entire customer base. Recovering quickly after a power outage is dependent on the ability to communicate throughout the utility's generation and distribution network and with key decision makers. This is particularly important for the hydro-electric plants which generate over 91% of the utility's power.



SCL, a forward thinking and proactive company, has foreseen the need to have active communications in place that will be available regardless of a Telco service

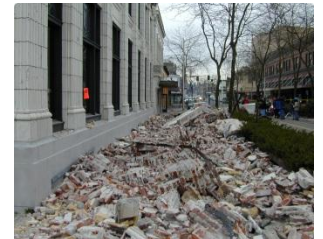
failure. Cellular networks are not viable as a backup to landlines in the event of a natural disaster since they are ultimately land-based, are very susceptible to traffic overload, and in many cases their frequencies are reserved for only emergency responders during a large-scale disaster.

An extreme but very applicable recent example of conventional network availability after a disaster was



the 2011 9.0 earthquake in Japan. The peak number of interrupted fixed-line services was approximately 1 million and the peak number of mobile base stations out of service was approximately 14,800. Incidentally, approximately 1,400 satellite phones were distributed at no cost by the Japanese Telco companies and International Telecommunications Union. This doesn't include units that were brought in by aid groups or shipped to Japan by individuals.

Besides the potential for an unforeseen, grid-related power failure, regional disasters are a focal point of most emergency management plans. Although the frequency of natural disasters isn't as great in Western Washington when compared to some other parts of the world, the region does lie in a tectonic fault zone and since the 6.8 Nisqually earthquake of 2001, the potential for the *big one* has come to the forefront for most disaster



recovery managers. Apart from a seismic event, other potential large scale disasters that are regularly considered include tsunamis, terrorist attacks, and the often mentioned sleeping giant, Mt. Rainier, an active volcano considered the most hazardous in the Cascades that iconically towers over Seattle's cityscape.



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Once satellite equipment is purchased, planners and budget departments often debate a key question—acquire the phones and keep them inactive or spend a nominal amount each month to keep the service available at all times? If the former is chosen, planners must recognize that activation of service will require a phone call via the very Telco network that is presumably down or heavily congested as a result of the disaster. The aftermath of hurricane Katrina taught us this lesson all too dramatically, as owners of satellite equipment in both the public and private sector could not get their service activated in a timely manner and thus rendered their equipment of little use.



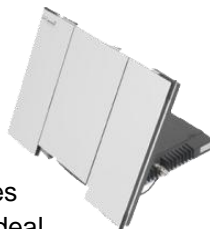
Consistent with its proactive, community-directed service, SCL maintains its Iridium fleet in an active, ready-to-use state. OCENS offers an inexpensive *Emergency Voice Only* plan specifically for this purpose. Further, as part of an ongoing verification procedure, a test call is made by SCL personnel from each unit on a monthly basis to ensure the phones are active and functional. The exercise, which typically takes less than a minute per phone, is the only routine maintenance necessary and ensures the phones are in working condition and that the staff is familiar with operating the equipment.

In terms of recurring operating expenses, to have active satellite service available is a very small investment. Currently, the Iridium *Emergency Voice Only* plan from OCENS is available for only \$24.95 a month and provides full network accessibility for voice calls.



Inmarsat's IsatPhone Pro also offers an inexpensive always-active voice service. To mitigate network interruptions and because more and more emergency response and disaster assistance is web-based, a satellite broadband connection should also be considered for your

disaster management plan. Inmarsat's BGAN platform provides a low-cost backup broadband internet connection, with speeds of up to 492 kbps, and includes simultaneous voice service. BGAN is the ideal



solution as backup communications for an office, or in the case of a utility, can even serve as a secondary connection for grid distribution and automation equipment.



Satellite communications is the only technological platform that will allow you to place calls to anywhere, send and receive email, and even use the internet during a landline and cellular network failure. For a utility like Seattle City Light, incorporating satellite communications was an easy, logical, and necessary decision to make in order to protect the community it serves. SCL found OCENS to be a provider who is able to consistently match the utility's proactive, customer-oriented philosophies while still delivering cost-effective solutions.

OCENS is a provider of a broad range of fixed and mobile satellite communications solutions for industries such as mining, forestry, wildland firefighting, business continuity / disaster recovery, utilities, emergency response, media and broadcasting, military and private security, and maritime. Products and services include VSAT, mobile and fixed Iridium and Inmarsat satellite phones, Inmarsat BGAN, M2M and SCADA, failover systems, VoIP, network controls and metering, web and email compression, asset and personnel tracking, and remote video surveillance. OCENS tailors complete solutions to meet the customer's specific needs and always offers consistent end-user support throughout the use of its products and services.

For more information on the solutions presented in this case study or for any other satellite communications applications, please contact the OCENS Land Mobile division at:

Tel: (206) 878-8270
Email: landmobile@ocens.com
Web: www.ocens.com

