Emergency Response

Disinfection technology aids in disaster relief efforts

By Sarah Brown

In the event of natural disasters, safe drinking water is often compromised and the need for potable water is of utmost importance. The Canada-based company Global Hydration specializes in portable water purification systems for emergency preparedness, disaster relief and humanitarian aid.

The company is based in Kakabeka Falls, Ont., and was started by Andrew P. Moorey, president and chief executive officer, and Ian M. Moorey, vice president and chief operating officer, in 2001 as a research and development venture.

Global Hydration was founded in response to the many water issues plaguing the global community, and providing safe drinking water to the world is the driving force behind the company. Andrew Moorey was one of the six recipients of the 2009 Ontario Premier's Award for exceptional achievement and contributions to their communities awarded to college graduates.

In 2005, Global Hydration released the patent-pending Can Pure water purification system (WPS), which includes multiple models of highly portable water treatment systems. The system has successfully been used by a variety of customers, and Global Hydration was even chosen to work on the U.S. project Medical Emergency Response Facility (MERF). Through its participation in MERF, Global Hydration developed its first desalination system, which was released in late 2008.

Relieving Disasters

On April 17, 2008, there were more than 1,750 boil-water advisories in effect in communities throughout Canada, as many of the country's remote communities are often placed under boil-water advisories or displaced due to environmental emergencies. The deployment of a single Can Pure WPS during an average First Nations Drinking Water Advisory—which last roughly one week's time—would enable the use of local water sources, save more than $260,000 and eliminate the injection of more than 48,000 plastic water bottles into Canada's pristine environment.

Moorey recognized the need for an alternative to bottled water when responding to drinking water emergencies in Ontario's remote northern region. Flying in bottled water is expensive, environmentally taxing and prone to catastrophe should supply or transportation links fail.

Prior to incorporating the VIQUA-TrojanUVMax Pro 10 into their relief efforts, Global Hydration used a combination of microfiltration and chlorination for their treatment efforts.

"The challenges we experienced with non-UV systems," Moorey said, "were the length of contact time and requirement for the user to determine the correct CT values under a variety of water and temperature conditions."

Fulfilling a Need

The company was in need of a UV system that offered third-party certification that supported the manufacturers' claim, operator ease of use, strong technical support and a high degree of both durability and compactness. Global Hydration decided to add VIQUA's UV disinfection to their portable emergency water purification system in order to reduce the amount of chlorine used within the process and eliminate the contact time associated with chlorine. A unique diesel-powered pump with an integral generator runs the purification system, including the TrojanUVMax.

The advanced safety features of the Pro 10 allow Global Hydration and their customers to feel secure with the safety of the water being treated. "We're very pleased with the functionality and reliability of the TrojanUVMax Pro 10," Moorey said. "The 24-hour support line is a tremendous resource and provides us with a great deal of comfort."

Trojan's COMMcenter is a device that datalogs information on system performance in real-time. This capability is critical to Global Hydration's use of the product because information such as UV dose, alarms or lamp hours is available at any time. The COMMcenter can be connected to a computer or the information may be transferred using a mini-SD card.

In November 2008, the Can Pure WPS was successfully used as part of Project Trillium, Ontario's largest-ever disaster-response exercise, which was held in Thunder Bay, Ont., and involved more than 1,500 personnel from the Canadian Forces, Emergency Management Ontario, Ontario Provincial Police (OPP) and CANTF-3 and 4.

The Can Pure system P3-2008A that includes the TrojanUVMax

Pro 10 was used in sub-zero temperatures to produce potable water for drinking, cooking and showers as required by OPP-PERT and CANTF teams participating in Operation Trillium Assistance.

The Can Pure WPS P3-2008A includes the TrojanUVMax Pro 10. The P3-2008A is capable of producing 25,000 liters per day (lpd) of safe drinking water from any fresh water source. The TrojanUVMax Pro 10 is also used in the P3-2008B system, which is capable of desalinating and purifying more than 10,000 lpd. *wqp*

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