EXTREME WEATHER

Extreme Weather Testing Critical for Reliable Safety Devices

*by **Blackline Safety***

From hotter heat waves and stronger winds to higher storm surges and greater snowfalls, extreme weather events are on the rise across the globe. So when the quality and integrated testing team at **Blackline Safety** says the company's G7 EXO connected safety area monitor is 'built for the real world,' they decided to step outside the box to prove it.

"This device is intended to be left outside in all kinds of conditions and needs to reliably detect harmful gases without suffering damage. More and more, that means being able to withstand extreme weather events — both expected and unexpected," said Phil Benson, Blackline Safety Director, User Experience, explaining that the team wanted to go above and beyond the rigorous testing already performed in the company's in-house laboratory setting.

Going beyond the lab to perform real-world testing

Designed and built in Canada, with a tough cast aluminium frame and long-life battery, G7 EXO is raising the bar in rugged connected safety devices by providing the ability to withstand harsh weather without sacrificing ease of connectivity. Like all area monitors on the market, it undergoes very specifically, third-party verified Ingress Protection (IP) testing to determine its susceptibility to sand or dust particles and water spray, but Blackline Safety mechanical engineers and industrial designers proposed more could be done to give customers even greater peace of mind.

"We thought, 'How can we do this? Do we just leave it outside and monitor it?'" said Benson, noting that some members of the testing team did exactly that, setting the device out in their backyards at home and monitoring it over several weeks. "We knew we wanted to mimic harsh weather on a larger scale, we just weren't sure how to go about it," he said.

Taking a page from the car industry

That's when they decided to take their cue from the automotive industry and reached out to the Ontario Tech University Climatic Wind Tunnel, an Automotive Centre of Excellence specializing in extreme climatic testing in Oshawa, Ontario. For the first time, an area safety monitor was put through the same extreme testing that cars routinely undergo.

Over the course of two days, G7 EXO underwent testing in windy, snowy, icy, rainy and hot conditions, from blistering heat to frigid cold and sustained hurricane-force winds. For variety, the device was mounted on an adjustable tripod, the custom EXO base, and placed on the ground.

The testing proved the design could withstand the conditions of snow and ice build-up and wind speeds up to 165 kilometres (102.5 miles) per hour – strong enough to damage roofs or walls and push cars off roads.

"It was extremely cool to see the testing in operation, but more importantly, we were able to optimize the device's performance based on some of the results," said Benson, noting that the team also ensured G7 EXO could be successfully calibrated in the field under severe conditions.

"We went the extra mile, at additional expense, and now we have concrete results to show our customers so they know they can rely on our device to keep their employees safe," he added. "They can set it and forget it, even in the most hostile or remote environments."

Connectivity and long battery life are key differentiators

An added advantage to G7 EXO is its ability to connect directly to the cloud via cellular or satellite, removing the need to set up complex mesh or WiFi networking. In mesh networks, which operate like local-area networks, devices must be within range of each other in order to communicate. If one goes down, communication can be lost.

G7 EXO, on the other hand, connects directly to the Internet so users always have access to Blackline Safety's 24/7 monitoring portal, **Blackline Live**. If there's a sensor error or for some reason, a device stops detecting gas, they will be alerted immediately.

It also uses the same robust battery that is found in emerging electronic vehicles, offering as much as 100 days of operation before needing to be recharged. In very remote or hard to reach settings, users also have the option of adding a small solar panel as an accessory so the battery can recharge on its own.

"Sometimes people forget to include available accessories in their buying decision," noted Benson. "Anyone can sell you a box, but you should also be considering how well it will be supported based on your unique application."

Top five mistakes to avoid when selecting equipment for extreme weather conditions

To help organizations know what to look for when selecting safety devices that need to operate in extreme weather, Benson suggests avoiding these biggest mistakes that companies make:

- Don't stop at the device. Look for accessories as well that will add to its ability to withstand weather events, such as steel cables when mounting at heights, bases that peg into the ground like a tent for added stability, or additional lights and sirens that can augment a device's ability to alarm those nearby.

- Don't sacrifice leading-edge connectivity and intelligence for ruggedness. Look for a connected device first, and then choose the most durable one. Connected safety monitors such as G7 EXO instantly communicate hazards via text alerts, provide full visibility into where employees are located, and can even activate fans or open and close gates in the event of an emergency.
- Don't buy multiple area monitors when one can do the job. For longer projects like a two- to four-week plant turnaround, users will often buy spare monitors so they can charge one while another is out in the field and then swap them. Instead, look for devices with long battery life – anywhere from one to three months – that will work throughout the duration of your project.
- Don't limit your communication options. Often, users look for rugged devices because they need to monitor for harmful gas in remote locations where cellular networks aren't reliable. If that's the case, look for a device that comes with an optional satellite module for truly global coverage.
- Don't compromise on ease of use. An area monitor that can withstand the harshest of conditions doesn't need to be complex to set up and deploy. Look for products that are simple to operate and maintain, that offer a clear, large display and worry-free operation.
- "Focus on what it is you want to achieve – reliable gas detection to keep employees safe," emphasized Benson, noting that G7 EXO offers one of the largest portfolios of gas sensors on the market. "We did more than we had to, to prove our ability to operate in harsh conditions," he said. "It's not necessarily information we can add to a product spec sheet, but it does give our users added confidence that when we say we're built for the real world, we mean it."

More information on Blackline Safety's G7 EXO device can be found at https://www.blacklinesafety.com/solutions/area-monitoring/g7-exo.

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About Blackline Safety

Blackline Safety is a global connected safety leader that helps to ensure every worker gets their job done and returns home safely each day. Blackline provides wearable safety technology, personal and area gas monitoring, cloud-connected software and data analytics to meet demanding safety challenges and increase productivity of organizations with coverage in more than 100 countries. Blackline Safety wearables provide a lifeline to tens of thousands of men and women, having reported over 165 billion data-points and initiated over five million emergency responses. Armed with cellular and satellite connectivity, we ensure that help is never too far away. For more information, visit **BlacklineSafety.com** and connect with us on **Facebook**, **Twitter**, **LinkedIn** and **Instagram**. More information can be found at **https://www.blacklinesafety.com/**.