

WSHAAsia
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HEAT STRESS

Asia set for supercharged heat
as El Nino looms

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OUR 3RD
ANNIVERSARY
EDITION

A close-up photograph of a person wearing a blue work uniform and yellow safety gloves. They are holding a black handheld electronic device with a screen and buttons. The device has 'blackline safety' and 'G7' printed on it. The background is blurred, showing more of the worker's uniform.

EVACUATION MANAGEMENT

How the Latest Technologies are Transforming Evacuation Management

by *Blackline Safety*

Evacuation management is a key part of safety planning for oil and gas operations. When lives are on the line, every second counts, so it's critical to be prepared to quickly and safely evacuate personnel in the event of an emergency.

While evacuation drills and preparation exercises can be disruptive, time-consuming and costly, they have become accepted as unavoidable costs of doing business. That's because until now, there hasn't been an efficient way to manage drills while adequately preparing for real emergencies.

For example, traditional methods of evacuation management depend heavily on manual check-ins at muster points, with team leaders conducting headcounts. It's an extremely time-consuming process that can be prone to error. Leaders are still often left poorly prepared to locate and rescue workers who don't arrive as expected, leading to a loss of valuable time and expenses on unnecessary searches.

What's more, without detailed data, it's difficult for management to measure and improve their emergency preparedness beyond tracking basic metrics, such as total time to complete a drill.

Connected safety solutions in a digital worksite can make a world of difference; saving time during evacuation drills, measuring and improving emergency preparedness, reducing unnecessary efforts and expenditures, and ensuring efficient and timely responses that leave no one behind in the event of an actual emergency.

WHAT IS DIGITAL WORKSITE AND CONNECTED SAFETY?

A digital worksite leverages data from connected Internet of Things (IoT) devices throughout the worksite to gain insights and optimize critical processes across oil and gas operations. This makes it possible to make smart decisions based on near real-time information to improve safety and efficiency.

For evacuation management, a digital worksite leverages personal gas monitoring devices, like Blackline's G7c that refinery workers already wear to protect them from hazardous gases. These GPS-enabled connected safety devices, coupled with online monitoring software, make it possible to visualize each individual's location throughout an evacuation, accelerate response times, and streamline the process of accounting for the wellbeing of each person.

COMMON CHALLENGES FOR EVACUATION MANAGEMENT PREPARATION

LOST PRODUCTIVITY, INCREASED COST

Typically, manual head counts once workers get to a muster point can take 45-60 minutes to ensure each person's safety. These drills can be costly in terms of man hours and lost productivity. An hour-long drill involving 200 workers, multiplied by an average overhead cost of \$50 per hour, for example, adds up to \$20,000 per drill.

$$\begin{array}{c} \text{Icon of 3 people} \end{array} 400 \text{ WORKERS} \times \begin{array}{c} \text{Icon of a clock} \end{array} \$50 \times \begin{array}{c} \text{Icon of a calendar} \end{array} 4/\text{YR} = \begin{array}{c} \text{Icon of a dollar sign with a minus sign} \end{array} \$80,000 \text{ LOSS}$$

This cost does not even include productivity losses from the time needed to get back on the tool, or lost time from higher-cost contractors that may be onsite. In this scenario, an average of four drills a year, multiplied across worksites, would add \$80,000 per year per facility.

TIME-CONSUMING PHYSICAL CHECKS

There are several factors that contribute to the length of time it takes to fully complete an evacuation drill. For one, direct notifications are typically conducted by radio only, and check-ins are completed by swipe cards, which inherently introduce latency to the process. Furthermore, once team members reach the muster points, leaders must conduct manual headcounts to make sure each person is accounted for. If someone is missing, they must try to locate the person while also monitoring to see if the individual eventually arrives at the designated checkpoint to successfully complete the drill.

THE CONNECTED SAFETY SOLUTION

FASTER DRILLS

A connected safety solution gives team leaders visibility into the entire drill through a network of connected devices associated with each crew member. With these personal monitoring devices, emergency notifications can be targeted by individuals or teams, or sent to the full site, providing the ability to precisely direct workers to specific muster points. Teams can also deploy a beacon at each muster point, so the device pings the beacon and confirms the location as soon as the worker arrives.

No manual headcount is required. If a person is missing, their precise location is tracked, reducing the need for unnecessary searches. Blackline's online portal, Blackline Live, enables users to gain full visibility of the individual's near real-time location.

INSIGHTS TO OPTIMIZE

Not only does connected safety increase the efficiency of drills as they happen, but the technology also provides valuable insights to improve future emergency preparedness. For example, team leaders can track and visualize how long it takes each person to get to a muster point and conduct post-drill evaluations to