

# The Sounds of Safety

By Linda Johnson  
Sherrard, MS, CSP

*Challenge your safety committee to enhance your employees' knowledge of the warning sounds at your workplace.*

My first exposure to alarm warning situations was watching the robot on “Lost in Space” alert space travelers to immediate danger. The message is the same today: Stop what you are doing, immediately react to the tone and sound, and act accordingly (avoid the hazardous situation by responding correctly). Do your employees know the sounds of safety at your workplace?

One facility where I worked utilized a steam whistle for shift beginning, lunch, and end of shift. Sadly, it was also the emergency alarm for fire or catastrophic situations. Ten minutes before a shift's scheduled end one day, a tanker flipped near the facility. The alert operator sounded the steam whistle as he had been instructed, issuing pulsing long and short blasts. Many employees did not pay attention or realize the message being relayed and thought the shift was over, so they headed out—potentially into the danger zone (until emergency crews blocked traffic).

Retraining and changing the system prevented this from happening in the future. A public address backup was also put into place. All too often, we learn what does not work through trial and error. The smart safety manager learns from these errors and makes the safety structure stronger so there will not be a “next time.” Safety has to keep up with changing technology and, in fact, be a leader for constant positive change.

## Interpreting the Symphony of Warnings

Bells, chirps, beeps, horns, whistles, and chimes. There are many sounds for different uses. They may be back-up alarms, fire alarms, proximity alarms, height alarms, signals for radiation exposure, hazardous or toxic leaks, confined space and mining workspaces with air monitoring equipment,



processing equipment start-up signals, emergency notifications of an injury, special verbal instructions over a PA system, workplace violence or lost-child alerts, electronic storm warning alarms, tornado or tsunami warning signals. Can you identify all of them? Some, such as those used in public areas, are gentle tones to reduce panic. Others are blaring sirens that demand response.

Whether mandated by a specific code requirement or recommended as a really great idea, alarms and warning devices make our employees and others in the area safer by providing instant alert status of impending problems or danger. These reminders serve as a backup to our senses, which can be faulty or weakened because of health, attention span, or previous exposure.

Many workplaces have situations in which employees need to be alerted, including blasting operations, marine operations, construction sites with many pieces of heavy equipment in motion, warehouse operations, industrial processes moving product in narrow aisles, vehicles at loading docks, retail operations, public gathering places, high-security areas, parks, and medical centers. The list is endless. Our employees are ultra-busy and focused on the task at hand, so they may not be paying attention to movements around them. Or they may be unaware of hazardous conditions occurring or developing in another area that could affect escape or avert injury. (Just imagine if a campus-wide warning for evacuation had been available and sounded quickly when gunfire erupted recently at Virginia Tech University. The campus “locked down” may have saved many from moving into harm.)

Think back to your first warning sound. For some, it will

be the civil defense sirens during wartime or later atomic war preparation drills; for others, verbal public address systems or a bell, Klaxon fire alarms, fire trucks and rescue ambulances with wailing sirens, or the old reliable—a lookout yelling a warning. We all need such monitoring, depending on our work. We need reminders because we become accustomed to situations quickly and overlook danger until someone or something such as an alarm jars us back into reality.

## Why Aren't They Listening?

I often ask which is worse, ignorance or apathy? In our workplaces, there are employees—full time, part time, temporary, or contractors—who have no idea what the alarm really means and may not know how to react. So, they cower and wait for instructions. More dreaded is the apathetic employee who simply does not react or care, thinking the situation could not affect him, other than by annoying his work-day routine.

Getting the message to employees and visitors can be challenging. Some workplaces with unique hazards have a specific section in new employees' orientation for warnings, fire alarms, etc. I have seen a warning sound and emergency action checklist used for employees, contractors, etc. during new-employee orientation (it's good documentation and a great idea). Other companies have computer sound files available so temporary workers can hear the alarms on demand at the click of a button.

Deaf communities often have information kiosks with scrolling messages and a flashing light, in addition to audible warning alerts. Posters or occasional e-mails will help reinforce for the employees to listen and pay attention to "something different." Tailgate meetings help construction workers understand lives are on the line if back-up alarms are disabled or otherwise toned down. It is important to understand after purchase that installation should be by qualified sources. If the alarm does not work when needed and how intended, the system has failed because of human error, not mechanical failure.

Make sure your efforts are ADA compliant. Warning sounds are only one part of a well-developed program of beacons, signals, and sounds.

The most important thing is repeating the training often. If employees are not familiar with the sound, they may be confused or, worse, ignore the alarm. Once a year is not enough—employees forget. Training has to be beyond simple familiarity; it has to be second nature.

Challenge your safety committee to enhance your employees' knowledge of the warning sounds at your workplace. Print flyers, send e-mails, and improve. When employees are discussing safety, they act more safely.

*Linda Johnson Sherrard, MS, CSP, is Technical Editor of Occupational Health & Safety. Article reprinted with permission from the July 2007 issue of Occupational Health & Safety (Vol. 75, No. 7), (c) 1105 Media Inc.*

Yes No Has your workplace been assessed for need of warning sounds? Evaluate natural and man-made hazards, machinery, evacuation routes and systems, process handling, and special or unique situations.

Yes No Is your alarm system designed based on the level and type of hazards present at the site? Is it monitored and updated as needed?

Yes No Does this assessment include compliance with ADA and needs for visual as well as audible alarms? Are supervisors aware of those on site who are hearing-impaired?

Yes No Are all employees advised as to what the sounds mean? What about visitors and contractors?

Yes No Are employees advised as to actions needed to respond to the alarm, such as evacuation, special PPE, sheltering in place, safe locations for workplace violence situations, etc.?

Yes No Are employees who do not speak English advised as to meanings of alarms and responses to them? Do you include multiple languages on the site?

Yes No Is each sound specific, and do employees understand how to get additional information if needed?

Yes No Are volunteers, temporary employees, and contractors advised as to sounds, meanings, and needed actions? Is there a process for constant turnover of crews?

Yes No When alarm styles are changed or updated (for example, fire alarms changed from bell to chimes), do you consult the local authority having jurisdiction? Is this documented in safety minutes, etc.?

Yes No Do employees who wear hearing protection in the workplace understand they should still be able to hear the warning sounds? Is an alternative, such as having a watch person in place, available in the event there are problems? (Usually it can be solved by trying a different model of hearing protection. Other warning system levels can be adjusted if needed.)

Yes No Are employees aware of potential for disciplinary action for disabling or circumventing alarms that are required, such as disabling a forklift's back-up alarm or turning down the public address system?

Yes No Is there a backup plan in the event your primary warning is not operational (for example, air horns are used if the PA system is not functioning, a lookout is posted for firewatch, etc.)?