

PROTECTION

FOR MAN, MACHINE AND THE ENVIRONMENT.

Safety Stats

i × 800k

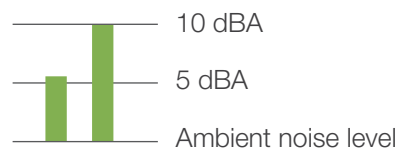
The International Labor Organization estimates 800,000 workers every day suffer a work-related accident (worldwide)

Costs to business from accidents is 4% of GDP

4%

GDP

Audible and Visual Alarms

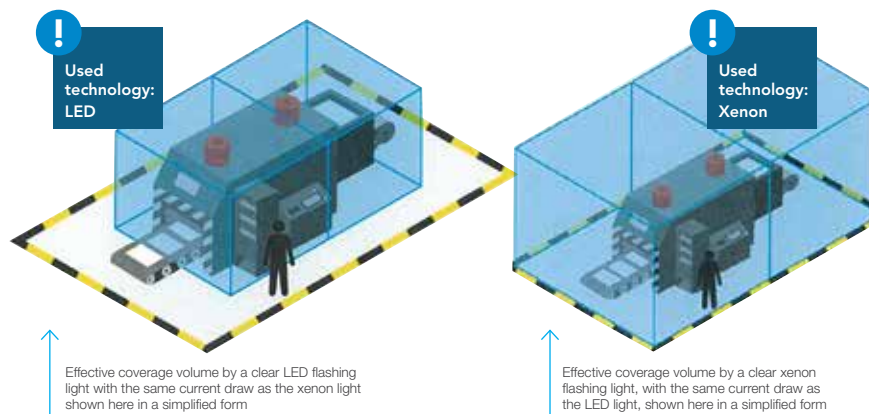


Per OSHA Standards, audible signals should be **6-10 decibels ABOVE** ambient noise levels to be clearly heard.

Other factors to consider when designing an audio signaling system:

- Are employees wearing ear protection?
- Does the ambient noise increase and decrease naturally?

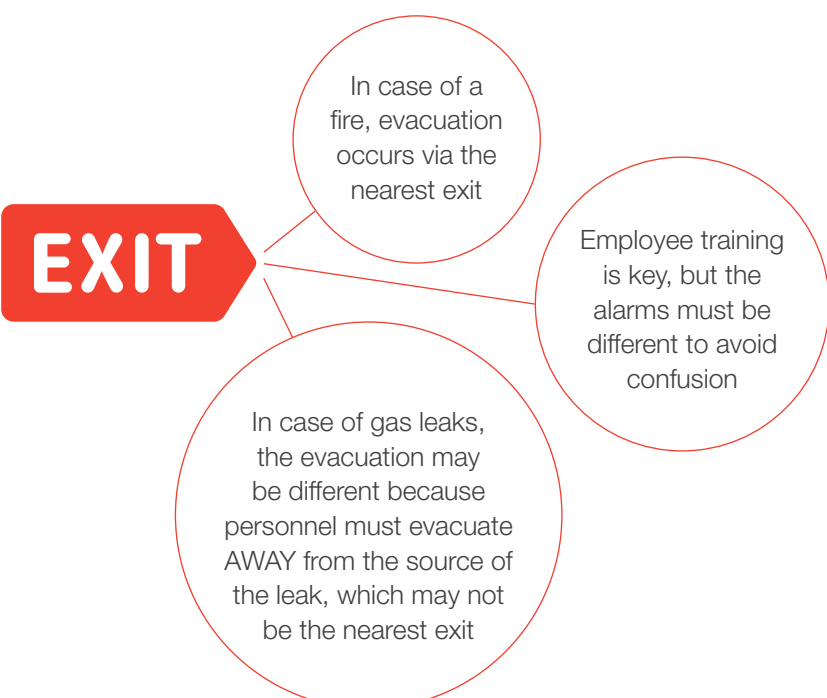
LED vs. Xenon



The technology behind the visual signaling device impacts the effective coverage. The above example shows a comparison between an LED flashing light and a xenon flashing light, both with the same current draw.

Exit Strategy

The TYPE of alarm affects exit strategy



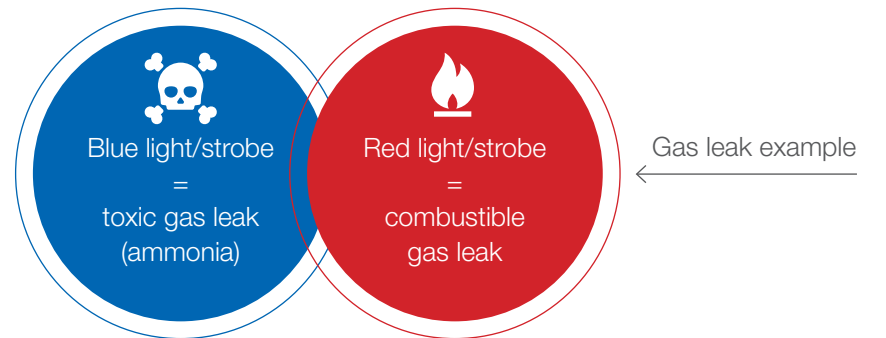
Typical Signal Applications



- MACHINERY STARTUP ALARM
- HEAVY EQUIPMENT MOVEMENT ALARM
- PROCESS UPSET
- EVACUATION ALARM

Signal Colors

The alarm color can indicate different situations.



Alarm System Effectiveness

3 factors that threaten alarm system effectiveness:

- 1 Original manufacturer-specified audible alarms may not perform adequately in a given plant environment
- 2 Alarm "flood" (close proximity of multiple pieces of equipment)
- 3 Improper personnel training and/or poor alarm design; operators must be trained to know what the alarms mean

Planning a Signaling Solution

Planning a signaling solution must factor in the following:

- ✓ Where are people situated?
- ✓ What influences and risks are they exposed to?
- ✓ What are the features of the building?
- ✓ Considering the environmental conditions is CRUCIAL



A Robust Signaling System



A robust signaling system has the following:

- Consistent signal characteristics throughout the plant
- Ability to add new signals based on changing conditions in the plant (e.g., new equipment)