**Toolbox Topic**

**Trainer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Company: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Distracted Attention ---------- Cell Phone Use and Walking**

***Ref: WorkSafeBC Human Factors Bulletin 2011-03*“**

**This bulletin looks at how using a mobile phone can affect a pedestrian's attention, body position, visual field and safety. Widespread research shows that there is increased distraction and collisions associated with mobile phone use when driving. However, it is also increasingly recognized that pedestrians, whose attention is distracted because they are talking on a mobile phone, increase their chances of being involved in an accident.**

**What happened?**

**At an active construction site, sections of land were being preloaded with sand and gravel. Settlement gauges had been installed. The section manager arrived and parked at the worksite. While the manager was parking his vehicle, two loaded dump trucks with trailers approached the staging area. One truck waited. The driver of the second truck unhitched the trailer and reversed towards the landing to release its load. After leaving his vehicle, the manager walked across the landing to check the height of the settlement gauges. While he was**

**walking, he made a call on his mobile phone to the engineer about the gauges. Meanwhile, the truck was still reversing and the backup alarm was sounding normally. The driver was in visual contact with the spotter through his side-view mirror. The spotter briefly turned away from the reversing dump truck to check behind him, and at the same time, the manager crossed behind him and into the path of the truck. The spotter did not notice him. Still talking on the phone, the manager stopped with his back to the truck, unaware that it was backing up immediately behind him. The truck's rear tires snagged the back of his leg and pulled him under the truck. He later died from his injuries.**

**From a human factors perspective, why did it happen?**

**Distracted attention can affect the performance of drivers and pedestrians alike. With mobile phone use, the degree of distraction is related to several factors.**

**These include the purpose and intensity of the conversation, the phone itself, thelocation and position of the person involved in the conversation, and the environment (including devices and equipment) in which the conversation took place. Just before the accident, the manager was discussing the settlement gauges with the engineer. The conversation was intense. It required the manager to both actively listen and respond. This type of conversation is considered high priority in terms of the attentional demands it places on an individual. As a result, other sounds such as verbal signals and equipment noise (including backup alarms) become less important. When information is considered less important, it is "more easily filtered from attentional processing." In other words, the less important information is easily tuned out. During the conversation, the manager's back was towards the truck. Reports indicate that he was referring to the ground level gauges while talking. His posture (head tilted and bent forward) likely resulted from both looking at the gauges and wanting to block out the noise of the nearby machinery. The manager's visual attention being focused on the gauges, his physical location behind the truck and his posture are all factors that likely reduced his ability to see the reversing truck. Backup alarms are safety devices that provide an audible alarm to persons behind a vehicle to warn them that the vehicle is reversing. Backup alarms are loud. Sound pressure levels (SPL) are often between 105 dB SPL and 112 dB SPL. The frequency or pitch of backup alarms ranges up to 3000Hz. Sounds above 1000Hz are difficult to localize (determine from which direction they are coming from). With full auditory attention on the conversation, it is likely that the manager did not notice or localize the sound of the backup alarm of the approaching truck. Several factors influence the effectiveness of a backup alarm in providing a warning to persons in the immediate vicinity. These include the loudness and pitch of the alarm, the mounting location of the alarm and whether the alarm has a steady or varying sound. Although the backup alarm on the truck was loud and functional at the time** of the incident, those aspects **alone may not have been enough.**

**Understanding human factors helps avoid workplace accidents**

Mobile phones are used just about anywhere—including while at work. Many jobs require the use of them. While many **workplaces (including ours) have written safe work procedures and policies restricting or defining phone use, these may not go far enough. Effective control measures must consider how workers can become distracted while using a mobile phone and the implication of this for safety. Asking some key questions can help to determine what additional measures may be necessary. For example, Is a mobile phone required for the job? Under what circumstances is it be used? What are the implications if the person becomes distracted while using a mobile phone? What measures are in place to support the safe use of a mobile phone? Are pedestrians separated from moving machinery? Are backup alarms functional and effective? Recognizing that sometimes people can be distracted, answering some key questions and exploring new ideas can help improve how our workplaces are designed to provide for the safe use of mobile phones.**

**Basics Tips**

**Do not use cell phones in the immediate vicinity of mobile equipment**

**Do not use cell phones where noise levels are excessive and multiple sources exist so that you may not be able to distinguish between different sounds**

**It is better to stand in one safe location and complete a conversation rather than move about a work area while talking on the phone. Remember that you have very little control over cognitive distraction.**

**Always obey the company’s mobile phone procedures for the use of such devices at work.**

**Pedestrians must always avoid inter-phasing with mobile equipment at work sites**

**Clear work zones must be established to ensure adequate traffic and pedestrian control**

**“If you really want to do something, you'll find a way. If you don't, you'll find an excuse." Jim Rohn**