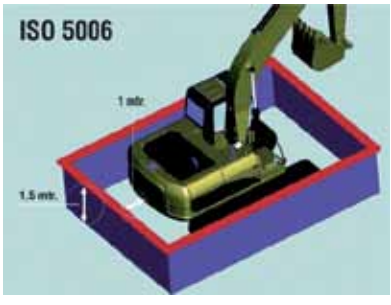
I CAN SEE CLEARLY NOW.....THE BLIND SPOTS ARE GONE

SINCE LSM TECHNOLOGIES HIGHLIGHTED AWARENESS OF TECHNOLOGIES AVAILABLE FOR COLLISION AVOIDANCE TO THE MINING INDUSTRY IN NOVEMBER 2008, THERE HAS STILL BEEN A GROWING NUMBER OF REPORTED HPI'S ASSOCIATED WITH V2P, V2I AND V2V INTERACTIONS.

Between January to July 2011 there has been over 150 HPI's reported by the Mines Inspectorate. involving equipment collisions in Queensland Mines alone. If one was to evaluate the causes of such incidents then more than 90% could be associated with non –conformance to the ISO 5006 Standards for Operator Visibility around machines.



Compliance & Control Measures: ISO 5006/16001

The ISO 5006 Standard for Earthmoving Equipment: Operators Visibility has been in development for nearly 20 years. It became a full standard in 2006 and recommended (mandatory) in November 2008 after a two-year amnesty period.

ISO 5006 (and 16001) is specified, endorsed and enforced internationally to mitigate Operator Visibility ("blind spot") incidents by many safety and health authorities and industries.

The ISO 5006 Standard states: "The purpose of this International Standard is to address operator's visibility in such a manner that the operator can see around the machine (360 degrees) to enable proper, effective and safe operation that can be quantified in objective engineering terms."

ISO 5006/16001 for Operator Visibility is an accepted and recommended industry control measure to eliminate fatalities, injuries and HPI's associated with V2V, V2P and V2I interactions.

ISO 5006/16001 should be a company's first line of defence to:

- mitigate more than 90% of operator visibility incidents, and
- reduce ramifications of non- compliance to a recommended International Standard and accepted industry control measure.

ISO 5006/16001 is already adopted in many Australian and International specifications for equipment and vehicles in the mining and earthmoving, materials handling, construction, waste and transport industries.

A few examples are:

- Mineral Resource Industry / DPI (NSW)- MDG15 specifications.
- British Standards- UK (BS ISO 5006).
- S.A.E. J1091 (USA).
- Safety in Mines Research Advisory Committee- COL 451 Specification- Report (South Africa).
- NIOSH / MSHA (USA).

Major Causes & Contributors

Analysing historical incident data soon depicts that more than 90% of fatalities, injuries and HPI's involving V2V, V2P and V2I interactions are a result- or a contain a significant factor- of restricted operator visibility around vehicles and equipment.

These "blind spots" occur predominantly:

- at speeds of 0-10 kilometres/hour.
- in situations of close proximity to another person, vehicle or structure.
- restricted vehicle visibility- "blind spots".

First Step: Risk Assessment

There can often be some trepidation as to where to start and what technology solutions to implement to improve safety performance due to the differing requirements of underground and aboveground operations.

Your first step should be the completion of a detailed Risk Analysis & Assessment to help target a solution that can meet ALARA and Zero Harm objectives.

One of the most significant concerns "is mitigating one risk and potentially creating others" and this needs to be emphasised as a critical component of risk assessment process. Human factors such as concentration, complacency, learning skill, reaction times, cabin clutter, false alarms, operator information overload, also need to be considered.

Consequently, a thoroughly risk assessment can not be understated.

What technology should we implement?

The selection process for choosing your safety technology is also not an easy task and requires thorough evaluation before implementation.

There is a lot to consider in evaluating the technology to be implemented, such as Operator distraction, interpretation of information, required operator intervention, human factors, cabin noise, false alarms, cabin clutter, and much more.

What are the net effects on production, moving a safety control measure from one asset to another, site to site compatibility, technology to technology compatibility, differing systems across sites- this is especially discerning where Contractors are utilised.

Education, training of all stakeholders in the use of the technology is a significant key for successful implementation and on-going support for the safety control measures- aspire to entrain "ownership" of the control measures.

And again, ensuring that "mitigating one risk does not potentially creating others".

Considering technological and non-technological control measures the following provides a brief overview of the (4) four Defences that should be considered.