



Tool Box Talks

The Quarry safety video "*Preventing Fatal Accidents in Quarries*", produced by the Health and Safety Authority contains six scenarios involving potentially dangerous situations that take place in quarry operations.

The scenarios are:

- 1. Mobile Plant and Pedestrians
- 2. Working on Fixed Plant
- 3. Access to Working at Height
- 4. Working at Quarry Faces
- 5. Mobile Plant Safety
- 6. Working on Conveyors

Each scenario is divided into two sections. The first section clearly shows how the accident can happen and the tragic and generally fatal consequences that result. The second section demonstrates how the implementation of the necessary control measures will prevent the accident.

These scenarios are designed to raise awareness of the causes of fatal accidents in quarries and can be used in conjunction with a Tool Box Talk, A sample tool box talk has been prepared and is included with this video. It is recommended that each sheet is photocopied and issued to persons attending the talk as well as being posted on the safety notice board. It is useful to keep a record of the people who have attended the Tool Box Talks.

Tips for presenting a talk

A Tool Box Talk is a short safety talk, which should be given by Quarry Managers, Supervisors, Safety Officers or Safety Representatives. It is preferable to keep numbers attending each talk to between five and ten people and to hold it in a place where they will feel comfortable, such as the canteen.

The aim of a Tool Box Talk is to highlight specific hazards in the workplace. The objective should be to raise the awareness of the employees and inform them of the control measures put in place to prevent workplace accidents. Tool Box Talks should be designed so that they are easily understood by workers with either literacy or language difficulties and so should be visual and interactive where possible.

The presenter must explain in detail the contents of each Tool Box Talk and relate the hazards highlighted to their own operation. To evaluate how well the talk is progressing, encourage interaction with the attendees and finally to check the level of understanding, summarise the talk by having a quick question and answer session.

Observe the KISS rule. Keep it straightforward and simple. Focus on just a few key points as highlighted in the Tool Box talk. Encourage questions. Remind the participants that there is no such thing a as a silly question. Everyone learns when one person asks a question.

Find ways to involve members of the group. It will keep their interest and it will help them to remember what you have been discussing. Ask them for examples of hazards and safeguards related to the topic. End your meeting on a positive note by summing up the key points that are outlined on your copy of the talk, along with any further action that will be taken as a result of the safety meeting. Remember to thank the participants for their involvement.

It is recommended that the series of Tool Box Talks relevant to your operation are delivered during Quarry Safety Week and repeated as necessary in accordance with the relevance of the risk to your location.

Tool Box TalkScenario 1Mobile Plant and Pedestrians.

Introduction

Reversing accidents are a major cause of workplace vehicle fatalities and serious injuries.

1993- Lorry reversed over experienced worker

1996- Lorry reversed over worker at a weighbridge

Hazard: Crushed or run over by vehicle.

The line of sight of drivers is generally obstructed during reversing manoeuvres and there are generally a number of blind spots. While reversing aids are available and used by the driver, all persons must keep well clear of any reversing vehicle and anticipate possible trap/crush points.

Control Measures

- 1. Where possible remove or minimize the need for reversing, e.g. by re-organising loading and unloading procedures.
- 2. Minimise the distance for reversing.
- 3. Exclude non-essential people from areas where vehicles are operating.
- 4. Drivers must receive recognised training and re-training in the safe operation of quarry vehicles.
- 5. Always check for pedestrians and other vehicles before reversing.
- 6. Vehicle operators should ensure that flashing amber beacons, reversing lights, reversing sirens and other reversing aids such as CCTV are operational and clean.
- 7. A safe distance must be maintained between vehicles and pedestrians.
- 8. Reversing operations should be carried out at a speed suitable for the work being carried out.
- 9. All persons on site must wear high visibility clothing.
- 10. Pedestrians must ensure they stay outside of a vehicle's operating radius and turning circle and must ensure that the driver is aware that they are in the area.
- 11. Pedestrians should not approach vehicles unless the driver is aware of their intentions and has signalled that it is safe to approach.

Attendees:

Presenter: _____

Tool Box Talk Scenarios 2 and 6 Working on Fixed Plant/Conveyors

Introduction

Cleaning or adjusting machinery while it is running and the unexpected start up of equipment has caused many serious injuries and fatalities in quarries and ancillary factories.

1999 - Worker crushed to death in pipe making machine - during maintenance 1999, 2001 and 2002 -Young person dragged through nip points of conveyors 2003 - Employee drawn into a pan mixer

Many of these fatalities could have been prevented if the machines had been isolated, locked out and tagged. Without an isolation/lockout procedure, there is always the possibility that somebody will start up the machine while you are working on it.

Hazard: Entanglement in a machine

The isolation/lockout procedure must be used when removing a guard or bypassing a safety device, or when any part of your body is placed where it could be caught by moving machinery.

Control Measures

Isolation/Lockout Procedure:

- 1. Let all those who need to know that an isolation/lockout procedure is taking place.
- 2. Identify all parts of any systems that need to be shut down and determine what switches need to be locked off and tagged or the fuses removed.
- 3. Shut down the equipment.
- 4. Isolation switches are to be locked in the off position and tagged to prevent and warn people not to start the equipment.
- 5. Each employee working on the machine must place his own lock and tag on the isolation switch.
- 6. Test and verify that the equipment is isolated before starting work on the plant.
- 7. On completion of the work each employee must remove his own isolation lock/tag.

<u>Checks</u>

- ✓ Do you know how to isolate/lockout the machines in your area?
- ✓ Have you read the isolation instructions?
- ✓ Do you have an isolation tag?
- ✓ Do you use it? If not why not?
- ✓ Always isolate before carrying out maintenance / cleaning.
- ✓ Always replace guards when work is complete.

Attendees:

Presenter:

Tool Box Talk Scenario 3 Access to working at height

Introduction

Falling from any height can result in serious injury or death. Many tasks particularly maintenance tasks in quarries require working at height and it is essential that a safe system of work is in place each and every time.

Hazard: Fall from height

Quarrying operations often require access to remote and inaccessible locations such as maintenance on inclined conveyors, or the clearing of blockages from chutes or hoppers or the replacement of lights on masts and it is often these short-duration, random, unplanned and unexpected tasks that are the most hazardous.

Control Measures

Where work equipment not specifically designed for the purpose of lifting persons is being used to gain access to heights as a working platform, the following must be carried out provided that appropriate action including adequate supervision has also been taken to ensure safety.

The man basket must have been thoroughly examined and certified and contain or display the following:

- a Safe Working Load clearly marked upon it;
- a hand rail, mid rail and a toe board;
- a solid floor;
- secure attachment to the lifting machine;
- an adequate anchor point for persons to attach fall-arrest equipment.

If a Front End Loader is to be used as the lift vehicle it must have the following:

- check / non-return valves on the hydraulics of the lift ram;
- a lockable bucket tip switch

The safe operating procedure must consider the following:

- 1. an assessment of ground conditions before persons are lifted in the basket;
- 2. that stabilising jacks, where fitted, are in place and that the vehicles is stationary when persons are to be lifted;
- 3. that the loader driver remains in the cab at the controls at all times during the lifting operation;
- 4. that an adequate line of sight or communication is available between the driver and the persons in the basket;
- 5. that there is a plan for the evacuation of persons from the basket in the event of mechanical failure or other difficulty such as illness or injury.

Attendees:

Presenter: _____

Date: _____

Tool Box Talk Scenario 4 Working at Quarry Faces

Introduction

This Tool Box Talk is intended to provide guidance and information on the safe erection and use of edge protection and to outline the necessity for providing fall protection and fall prevention to those persons carrying out work close to the quarry face edge.

Hazard: Fall from height

Any person who works close to the edge of a quarry face has the potential to fall from that edge. The people exposed to this hazard include drillers, shot firers, quarry workers, explosive truck personnel, etc. A safe system of work must be put in place to protect workers from falling off the quarry face.

Control Measures

- 1. Minimise the number of personnel working on the bench.
- 2. Only competent supervisors and workers must be involved in this work.
- 3. Always ensure that the edge protection system is available for use and in good order.
- 4. Holes must be pre-drilled by the driller to accommodate the edge protection system (at least 2m from the crest of the face).
- 5. When installing the poles and attaching ropes/straps ensure that you are wearing fall protection equipment attached to an adequate anchor point.
- 6. To maximise protection ensure that the upper rope/strap is positioned at a height approximately 1.1m from the floor and the lower rope/strap at least 600mm from the floor.
- 7. The ropes/straps are a physical barrier to the danger, not just an indication of the danger and must be adequately tensioned at all times.
- 8. Never go beyond the edge protection system unless you are wearing fall protection equipment attached to an adequate anchor point.
- 9. The edge protection system should not be disassembled or removed until charging and connecting is complete and the round is ready for firing.
- 10. Ensure that the workers are trained/instructed in the safe use of the edge protection system.
- 11. Always be aware of the conditions underfoot and minimise slip/trip hazards through good housekeeping by removing plastic bags and boxes.

Attendees:

-	-

Presenter: _____

Date:		

Tool Box Talk Scenario 5 Mobile Plant Safety

Introduction

Typically, nearly half of all fatal accidents in quarries involve vehicles at quarries e.g. **Co. Cavan - man crushed to death by excavator while cleaning his trailer Co. Wicklow/Kilkenny - 28 year old and 47 year old men struck and killed by mobile plant Co. Cavan - 60 year old man pulled under tracks of a bulldozer**

Hazard: Being struck by or run over by a vehicle; vehicles going out of control.

All employees and visitors should be aware that the greatest risk of fatal injury at the quarry is from interaction with vehicles. They must follow site rules and remain vigilant at all times for their own safety and the safety of others.

Control Measures

- 1. You must not drive any vehicle on site unless trained and authorised to do so.
- 2. Always drive your machine with due care and consideration for others.
- 3. Drivers must carry out daily vehicle checks and report any defects or poor road conditions immediately.
- 4. Never allow passengers to ride on the vehicle.
- 5. Ensure that all loads are secure and evenly distributed and within the load-carrying capacity of the machine. Loose loads must be tied down.
- 6. Avoid harsh acceleration and braking.
- 7. Vehicle operators should ensure that flashing amber beacons, reversing lights, reversing sirens and other reversing aids such as CCTV are operational and clean.
- 8. Drive at a speed where any obstructions in the road will not present a danger.
- 9. Never take for granted that everyone else is on the lookout for you.
- 10. Ensure you know the position of any overhead cables at the quarry and never drive with the tipper body in the raised position.
- 11. Pedestrians must wear high visibility clothing.
- 12. Pedestrians must ensure they stay outside of the vehicle's operating radius and turning circle and ensure that the driver is aware that they are in the area.
- 13. Pedestrians should not approach vehicles unless the driver is aware of their intentions and has signalled that it is safe to approach.

Attendees:

Presenter: _____

Date: _____