

VEHICLE FALLS:

Every year, drivers are killed and seriously injured as a result of vehicles falling from stockpiles and tips. What steps can you take to stop this happening?

The health and safety document



Care needs to be taken where vehicles load and tip on stockpiles

The health and safety document should show how the tip or stockpile was designed, how it is to be built, the type of equipment that can be used safely on it, and how equipment is to be used.

Every tip or stockpile should be designed to ensure it is safe from movement and safe to build on or load from.

- Have you seen the design?
- Has the tip/stockpile been built according to it?
- Are the rules for carrying out work safely suitable for the type of tip/stockpile being built?
- Do these rules give the drivers enough information to work safely?

When carrying out an inspection of a tip or stockpile, either as part of the daily inspection scheme or as part of the workman's inspection, what should you look for?

What should the design address?

How tips and stockpiles are built depends on what materials it is to be built from, what shape it will be, what it will be built on and how much water it will contain. These factors will influence how stable and safe the tip/stockpile is to work on.

Information on the nature of the materials to be used comes from the geotechnical specialist, who can then say what shape can be built, whether the foundations are suitable and how the tip or stockpile will be drained. The inspection and maintenance scheme is drawn up with the geotechnical specialist to ensure that the scheme is suitable for the tip/stockpile and that the management, supervisors and workforce know what to do if something goes wrong. Factors to consider and discuss with the specialist include:

- Are dust or wet materials being tipped?
- Is the tip being excavated and tipped on?
- Do vehicles go near the edge of the tip and is edge protection in place? Can vehicles approach edges safely without causing them to fail?
- Does the method of construction minimise the risks to those who work on the tip eg by building in layers instead of advance face tipping?
- Are all drains kept open and maintained? Do they prevent water flowing over the face of the tip?
- Does someone need to measure the water levels in the tip?
- What are the effects of heavy rain and a rise in water table on the tip?

It is important to keep the geotechnical specialist informed about any changes to the tip/stockpile.

tips for vehicles on tips

What should you look for in particular?

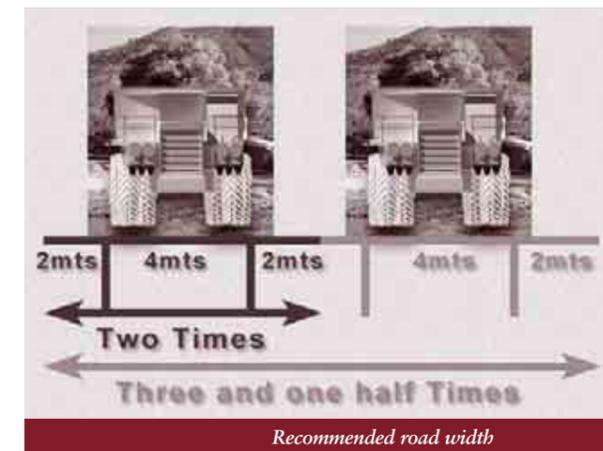
■ **Position of edge protection.** The nature of the material being tipped will decide how close a machine can approach the edge and therefore where the edge protection should be placed. How many tips have edge protection that falls away during the night and has to be rebuilt in the morning because it has not been placed on a firm foundation? The distance of the inner edge of the protection from the edge of the tip must be specified in the document and rules. The geotechnical specialist who designed the tip will decide this and it may vary if different types of materials are being tipped, or one conservative distance to suit different materials may be given at the outset.

■ **Height of edge protection.** The height of the edge protection will depend on the type of equipment being used, the speed of approach and the material the protection is to be built from. The minimum height will be 1.5 m (5 feet), or the radius of the largest wheel, whichever is the greater, and this will be adequate for slow approach speeds. Where vehicles approach at faster speeds, or on bends etc, the height may have to be three or four times the minimum to stop a vehicle.

If the material used to construct the edge protection is of a type that the height will decrease if it is hit, eg the height of a sand barrier will be reduced if it is bumped by a tyre, the height must be increased so that it is 1.5 m or the radius of the largest wheel *after* this shrinkage.

■ **Lighting.** Drivers must be able to see where they are going, particularly when tipping. Adequate lighting must be provided especially in the winter months when it may be dark at the start and finish of shifts.

■ **Access.** Roads should be wide enough for the vehicles using them: 2 x width on single-track roads and 3.5 x width on double-track roads. They must not be at a steeper slope than 1:10. This includes access on stockpiles.



Recommended road width

Suitability of equipment

The type of equipment that will be used is very important as each class of equipment has different needs for its safe use.

■ **Size and capacity of equipment.**

The equipment should be matched in size to the tip being built, and to other equipment eg the size of the bulldozer must be matched to the dump trucks.



Height of edge protection