

# PREVENT

Think about design and 'buy quiet'



## Thinking about design

When designing an operation or workplace layout, you should consider:

- ✦ all sources of noise,
- ✦ the interaction between sound waves, and
- ✦ how sound interacts with the environment by passing through or reflecting from surfaces or materials.

Sound waves are:

- ✦ attenuated (weakened) by absorption in air,
- ✦ refracted (bent) by winds and thermal gradients,
- ✦ directionally affected (blocked) by barriers,
- ✦ diminished with distance, and
- ✦ cancelled or amplified by reflections.



## Why is managing noise important?

Occupational noise-induced hearing loss is the biggest compensable disease in Australia. The annual national compensation cost is estimated to be more than \$30 million, and the real cost is likely to be ten times this.

Available data for mining operations show that some employee groups (e.g. underground) are at particular risk.

Not only are there significant hearing threshold shifts in some sections of the workforce from age 40 onwards, but initial health assessments done when people join the industry show that many already have some hearing loss. Although more prevalent in those who are 40 and older when they start, noise-induced hearing loss is being recorded for workers in the 20 to 39 age group.

So it is vital that hearing is protected at work and elsewhere.

## Managing noise

- ✦ Choose equipment conforming with noise standards (i.e. 'buy quiet')
- ✦ Specify noise performance criteria on engineering contracts (e.g. crusher design and construction)
- ✦ Use noise barriers, baffles or enclosures for particularly noisy equipment (e.g. crushers, compressors, grinders, pumps, gearboxes) or work (e.g. welding, sheet metal work)
- ✦ Position equipment in sheltered locations (e.g. behind earth mounds)
- ✦ Operate equipment within specification and capacity (e.g. don't overload)
- ✦ Use noise abatement accessories for earth-moving equipment (e.g. sound hood, mufflers)
- ✦ Use noise-attenuating jackets around impact equipment (e.g. jackhammer)
- ✦ Use noise-absorbing pads on the foundations of vibrating equipment (e.g. crusher)
- ✦ If practicable, turn equipment off when not in use
- ✦ Keep equipment in good condition
- ✦ Ensure site personnel understand their role in managing noise on site

Content provided by the Government of Western Australia, Department of Mines and Petroleum

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