The purpose of this presentation is to provide training for personnel on the management of noise in the workplace.
WHAT IS A HAZARDOUS NOISE

A hazardous noise in relation to hearing loss means noise that exceeds the exposure standard for noise in the workplace.

- Excessive exposure of hazardous noise levels over a long period of time will damage your hearing.
- This may happen so gradually and painlessly that you may not notice the minor deterioration from one day to the next.
- Hazardous noise in the workplace presents a real risk of hearing damage.
Noise exposure at the workplace must not exceed the exposure standard for noise. That means that risks to hearing loss associated with noise must be managed.
TEMPORARY EFFECTS

The temporary effects from excessive noise exposure are:

• Ringing, buzzing, or roaring sounds in the ears; and/or muffled hearing.
WHAT ARE THE PERMANENT EFFECTS FROM EXCESSIVE NOISE?

- Constant ringing in the ears (tinnitus).
- Trouble hearing high-frequency sounds such as the phone ringing.
- Speech consonants such as ‘S’, ‘T’, ‘K’ and ‘C’ may be hard to hear.
- You may have to turn the TV or radio up to hear it clearly.
The outer ear collects and funnels sound waves along the ear canal to the eardrum.

The middle ear contains three tiny bones called ossicles. When sound waves strike the eardrum, the ossicles conduct the vibrations to the cochlea in the inner ear.

Hair cells within the inner ear respond to vibrations by generating nerve impulses. The brain interprets this as sound. Healthy inner ear hair cells are the key to good hearing.
HAIR CELL DAMAGE
If the hair cells deep down inside the ear become damaged, they do not heal. This injury is permanent.
HOW MUCH NOISE?

Tests have indicated that a daily noise dose for an 8-hour working day is 85 decibels or 85 dB(A). For every addition of three (3) decibels, the time that you are exposed unprotected is halved.
## NOISE LEVELS & TIME EXPOSURES

Equivalent Noise Exposures $\text{LA}_{eq,8h} = 85 \text{ db(A)}$

<table>
<thead>
<tr>
<th>Noise Level dB(A)</th>
<th>Exposure Time (Unprotected)</th>
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<tbody>
<tr>
<td>80</td>
<td>16 hours</td>
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<tr>
<td>82</td>
<td>12 hours</td>
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<td><strong>85</strong></td>
<td><strong>8</strong> hours</td>
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<tr>
<td>88</td>
<td>4 hours</td>
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<td>91</td>
<td>2 hours</td>
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<td>94</td>
<td>1 hour</td>
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<td>97</td>
<td>30 minutes</td>
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<td>100</td>
<td>15 minutes</td>
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<td>103</td>
<td>7.5 minutes</td>
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<td>106</td>
<td>3.8 minutes</td>
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<tr>
<td>109</td>
<td>1.9 minutes</td>
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<tr>
<td>112</td>
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<td>118</td>
<td>14.4 seconds</td>
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<tr>
<td>121</td>
<td>7.2 seconds</td>
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<td>124</td>
<td>3.6 seconds</td>
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<tr>
<td>127</td>
<td>1.8 seconds</td>
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<td><strong>130</strong></td>
<td><strong>57 seconds</strong></td>
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<td><strong>132</strong></td>
<td><strong>28.8 seconds</strong></td>
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<tr>
<td><strong>134</strong></td>
<td><strong>14.4 seconds</strong></td>
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<td><strong>136</strong></td>
<td><strong>7.2 seconds</strong></td>
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<tr>
<td><strong>138</strong></td>
<td><strong>3.6 seconds</strong></td>
</tr>
<tr>
<td><strong>140</strong></td>
<td><strong>1.8 seconds</strong></td>
</tr>
</tbody>
</table>
NOISE LEVELS

- Conversation 60 dB(A)
- Old Lawn Mower 90 dB(A)
- Belt Sander 95 dB(A)
- Angle Grinder 100 dB(A)
- Wacker Packer 103 dB(A)
- Quick Cut Saw 105 dB(A)
- Rock Band 110 dB(A)
- Chainsaw 112 dB(A)
- Shotgun 160 dB(A)
- Jet Engine 180 dB(A)

Some Common Decibel Levels

- Hearing loss threshold in 10 years 140 dB
- Gunshot, Fireworks 120 dB
- Airplane takeoff - 25 Meters 140 dB
- iPod at Peak Volume 110 dB
- Baby Crying 110 dB
- Rock Concert 105 dB
- Helicopter 105 dB
- Hair Dryer 90 dB
- Lawnmower 90 dB
- Busy City Traffic 85 dB
- Vacuum Cleaner 85 dB
- Normal Conversation 60 dB
- Clothes Dryer 60 dB
- Raindrop 40 dB
ASSESSING NOISE

Noise assessments in the workplace should be carried out if you need to raise your voice to talk to someone approximately one metre away.

Noise assessments measure the noise levels in your workplace.
NOISE CONTROLS

If noise is a hazard at the workplace!

- Identify if noise is excessive or a problem at work.
- Consult with workers.
- Assess the risks to health and safety from noise exposure.
- Develop a hearing conservation program.
- Introduce noise control measures.
- Provide workers with training and information about noise.
- If warranted, provide audiometric testing for workers.
HEARING PROTECTION

Hearing protectors can be very effective but only if they fit properly and are worn and cared for. A significant noise reduction for 10–24 decibels can be achieved if the correct hearing protectors are selected. There are two different types of protection:

- **Ear-plugs**
- **Ear-muffs**
HOW TO FIT EAR PLUGS

• Slowly roll and compress the foam plug into a very thin cylinder.
• While compressed, insert the plug into the ear canal.
• Fitting is easier if you reach around the head to pull the ear outwards and forward during insertion.

Keep the plugs clean, free from dirt, and material that can irritate the ear canal.
Discard the plugs after use if they harden or do not re-expand to their original shape and size.
HOW TO FIT EARMUFFS

• Muffs must fully enclose the ears to seal against the head.
• Adjust the headband, so the cushions exert an even pressure around the ears.
• Pull the hair back and out from beneath the cushions.
• Don’t store pens or caps under the cushions.
WHAT ARE MY OBLIGATIONS?

• Follow the instructions given to protect you from the risks associated with hazardous noise exposure.
• Use hearing protection.
• Maintain your hearing protection (PPE) in good condition.
• Follow any noise advisory signage at the workplace.
IN SUMMARY

PROTECT YOUR HEARING OR END UP DEAF!