



CASE STUDY

Using Noise Engineering Controls to Help Protect Workers' Hearing, Reduce Costs and Improve Productivity



The Request

Perform noise analysis and help determine which employees should be in a hearing conservation program

Company Profile

Industry: Beverage Manufacturing

Employees: 2,000

Location: Northeast U.S.

Request

A major beverage manufacturer requested an employee noise exposure survey from Brown & Brown Risk Control Services. The customer wanted to determine the number of workers that should be included in an OSHA hearing protection program. A Brown & Brown certified industrial hygienist (CIH) expanded the project to focus on engineering controls to help reduce the overall noise levels, improve productivity and realize significant savings.



The Solution

Identified the loudest noise sources and re-engineered their enclosures to help reduce overall noise levels

Solution

Process

The consultant worked closely with the corporate safety manager to conduct personal noise dosimetry (personal noise exposure samples) of a representative group of employees. The results indicated that several employees were exposed to noise levels above the OSHA limit of 85 dBA as an average of their 8-hour work shift. This would require the employer to enroll all employees from that department in a formal OSHA hearing conservation program.

The consultant extended the planned risk control visit for two additional days to conduct an in-depth analysis of the various noise sources in the packaging area. The consultant determined that it was not possible to eliminate all of the noise in the department and decided to focus on the loudest processes. The consultant identified two machines responsible for generating the highest noise levels. Additional calculations determined that the proper application of basic noise control engineering techniques on those machines could reduce the overall noise levels in the department below an average of 85 dBA.

Requirements and Claims

OSHA requires employers to establish hearing conservation programs for employees exposed to average noise levels of 85 dBA over an 8-hour work shift. Workers in a hearing conservation program must receive hearing tests within six months of hire and annually thereafter. The employer must also conduct annual training and provide hearing protection for those employees. The average cost to the employer for maintaining an employee in a hearing conservation program is approximately \$500 per year.

Even with these protections, up to 10% of the employees may still experience hearing loss and be eligible to file workers' compensation claims. Workers' compensation claims for hearing loss are occurring more often and cost more than they have in the past ten years. The average hearing loss claim is between \$40k-\$80k, depending on the individual severity rating and the state's workers' compensation guidelines. These claims are difficult and expensive to refute, often leading to litigation.



The Results

Reduced noise exposure and helped improve safety and productivity

Results

Brown & Brown's risk consultant collaborated with the customer's engineering and maintenance staff to use best-practice engineering controls to redesign an enclosure around the two loudest machines. The result was a 5 dBA noise reduction throughout the packaging department. The overall noise level in the department fell to a level within safe limits, eliminating the requirement for a hearing conservation program. Reducing the noise and the requirement for a hearing conservation program in the packaging department program saved the customer \$50,000 annually.

The overall cost of the re-engineered noise enclosures was approximately \$3,000. The customer's engineering improvement can also share the design with the other facilities, implement as a new standard, and help protect workers' hearing, reduce compliance costs, enhance safety and improve productivity.

Additional advantages of reducing the noise levels:

- Significant risk reduction to employees from suffering hearing loss
- Reduction of potential workers' compensation claims for hearing loss
- Reduce workers' compensation litigation
- Enhanced worker well-being and satisfaction
- Improved communication and production
- Enhanced employee awareness of their surroundings



How Brown & Brown Can Help

Connect with our Brown & Brown team to learn about our knowledge in your industry, how we build our risk mitigation strategies and how we can aid your business in building a cost-saving program.



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