

C.A.W.D.

Hearing Conservation

Program

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- Identify areas throughout the district where hearing protection is required, over 85 decibels (dB)
- Providing all effected employees with hearing protection
- Conducting annual training
- Hiring a licensed contractor to conduct annual hearing tests for effected employees

## How CAWD Maintains Compliance

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- The level of hearing loss requires reporting is set forth in 29 CFR 1904.10.
- “If an employee's hearing test (audiogram) reveals that the employee has experienced a work-related Standard Threshold Shift (STS) in hearing in one or both ears, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz) in the same ear(s)”

# Reporting requirements

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1. Total hearing level of 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz)
2. Age adjustment of audiogram results

# Two variables

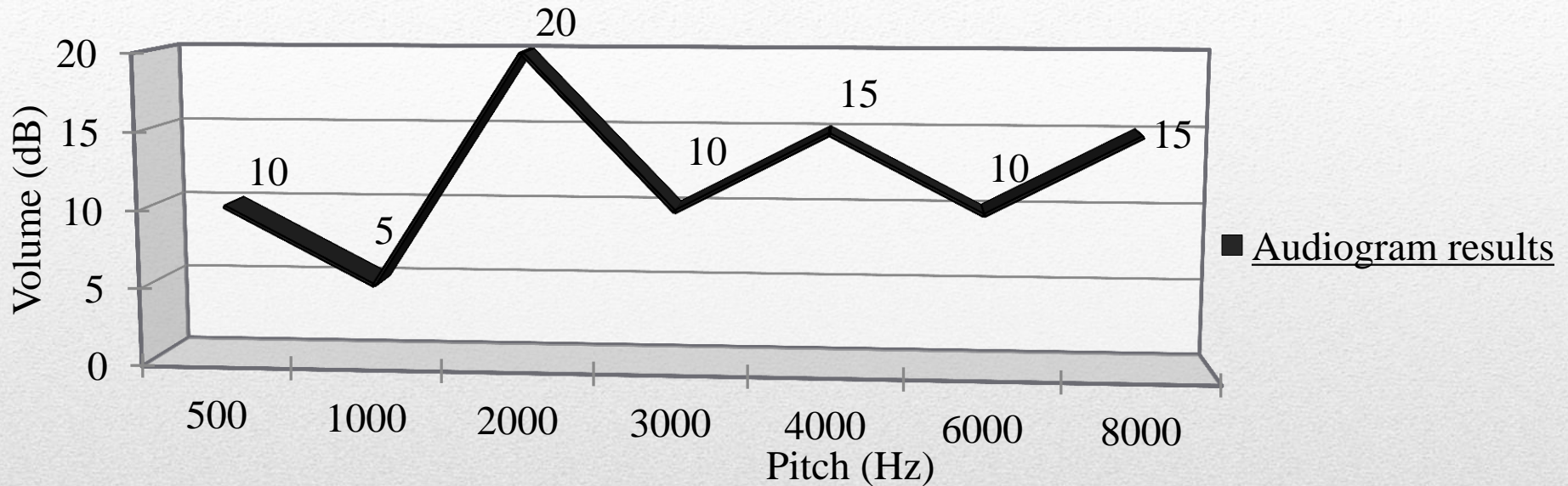
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- Total average hearing level of 25 decibels (dB) or more above audiometric zero (averaged at 2000, 3000, and 4000 Hz)

# Variable 1

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# Calculating decibel average



- $20\text{dB} + 10\text{dB} + 15\text{dB} = 45\text{dB}$
- $45\text{dB} / 3 = 15\text{dB}$
- The employees average hearing level is 15dB above audiometric zero, therefore they are not at risk of having an STS.

- Age adjustment of audiogram results
- OSHA 1910.95 App F: Noise exposure standard and impairment adjustments. Appendix F-1 and F-2 sets fourth age adjustments in decibels.
- OSHA calculated the amount, in decibels, of hearing loss which should be contributed to age.

## Variable 2

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- A change in hearing threshold, relative to the baseline audiogram for that employee of...

An average of 10 decibel (dB) increase or more at 2000, 3000, and 4000 hertz (Hz) in one or both ears

# Standard Threshold Shift

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## 1. Obtain employees baseline results.

Decibel at 2k 20dB, 3k 35dB 4k 20dB

Average =25dB

## 2. Compare to current test results

Decibel at 2k 35dB , 3k 45dB, 4k 30dB

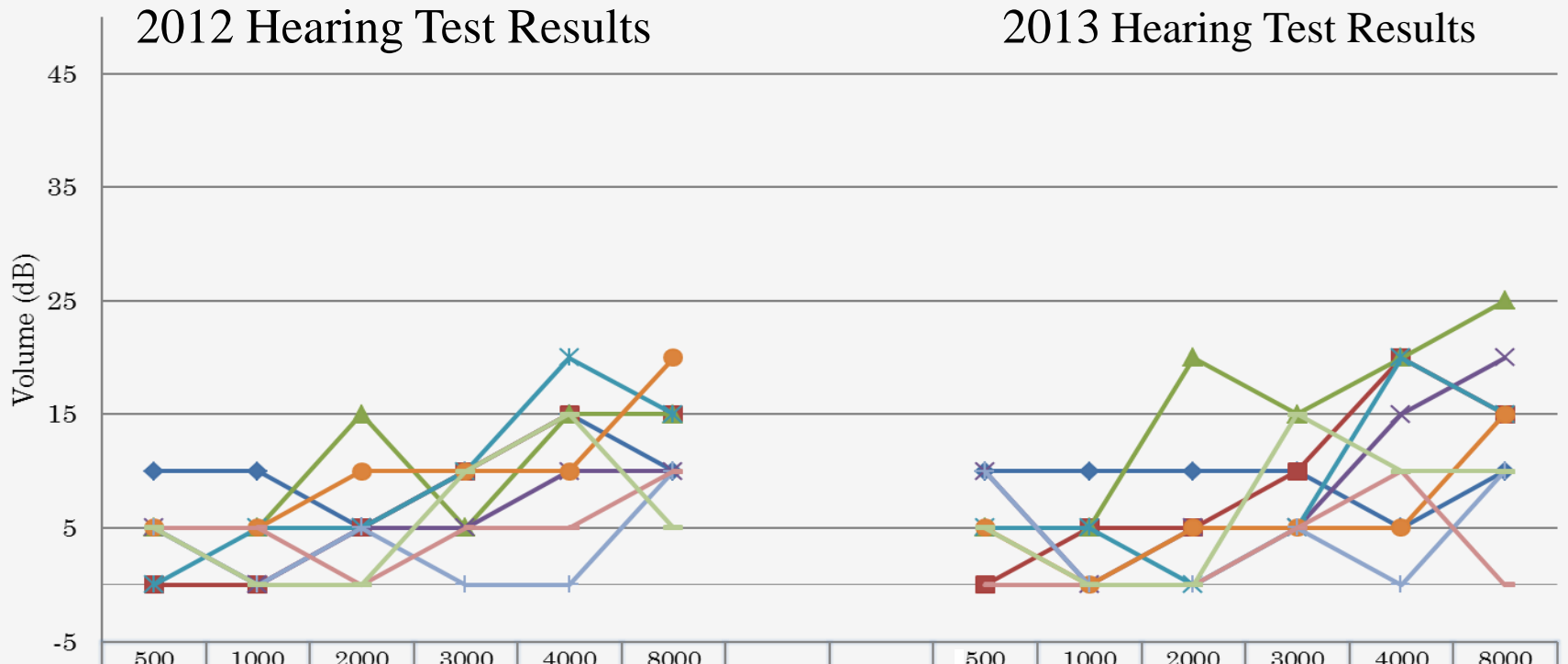
Average = 37dB

This employee is exhibiting a hearing shift of 12dB thus requiring a re-test and possible reporting and follow up medical care.

# Calculating a STS

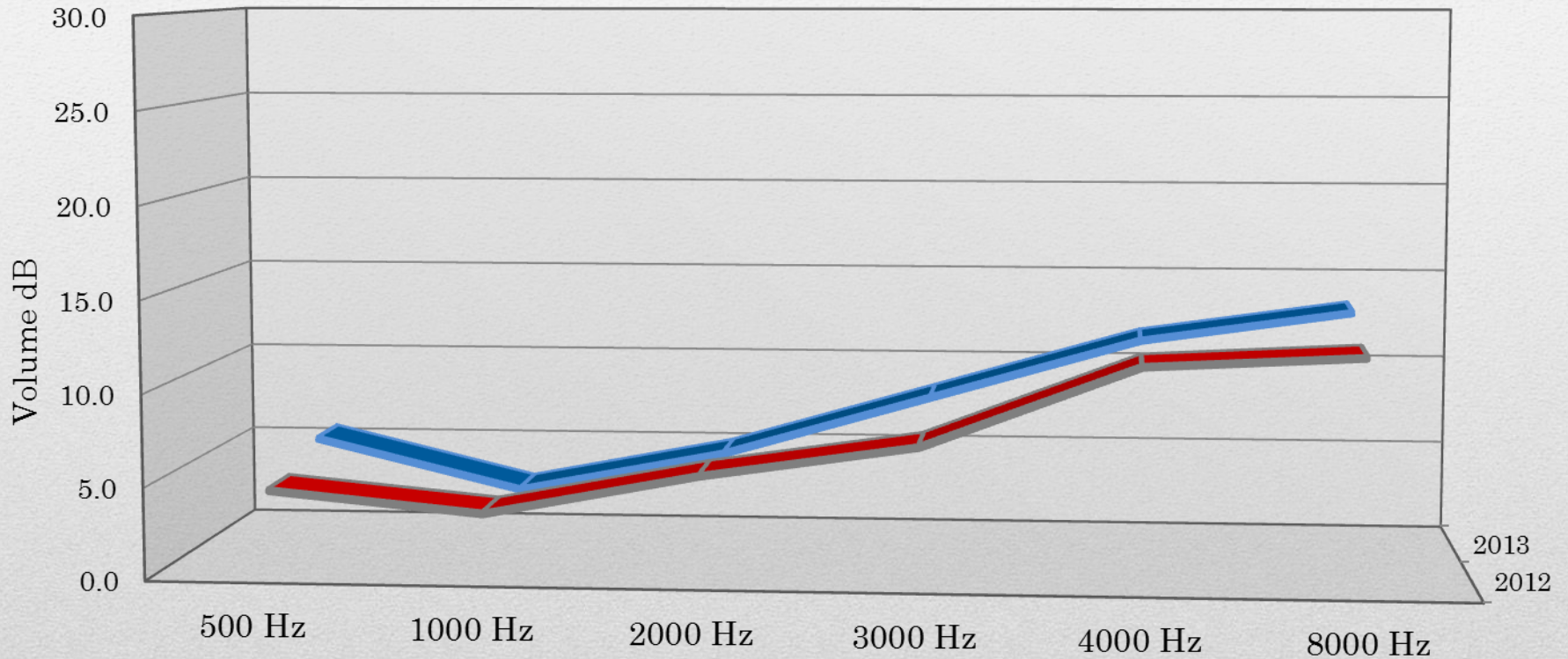
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# 2012-2013 Comparison



	500	1000	2000	3000	4000	8000			500	1000	2000	3000	4000	8000
◆ E1	10	10	5	10	15	10			10	10	10	10	5	10
■ E2	0	0	5	10	15	15			0	5	5	10	20	15
▲ E3	5	5	15	5	15	15			5	5	20	15	20	25
✕ E4	5	0	5	5	10	10			10	0	5	5	15	20
✱ E5	0	5	5	10	20	15			5	5	0	5	20	15
● E6	5	5	10	10	10	20			5	0	5	5	5	15
+ E7	5	0	5	0	0	10			10	0	0	5	0	10
— E8	5	5	0	5	5	10			0	0	0	5	10	0
— E9	5	0	0	10	15	5			5	0	0	15	10	10

# Average Workforce Hearing Trend



	500 Hz	1000 Hz	2000 Hz	3000 Hz	4000 Hz	8000 Hz
2012	4.4	3.3	5.5	7.2	11.6	12.2
2013	5.6	2.8	5.0	8.3	11.7	13.3