

**WAC 296-817-30015 Use these equations when estimating full-day noise exposure from sound level measurements.** You must compute employee's full-day noise exposure by using the appropriate equations from Table 2 "Noise Dose Computation" **when** using a sound level meter to estimate noise dose.

**Table 2  
Noise Dose Computation**

Description	Equation
Compute the noise dose based on several time periods of constant noise during the shift.	The total noise dose over the work day, as a percentage, is given by the following equation where $C_n$ indicates the total time of exposure at a specific noise level, and $T_n$ indicates the reference duration for that level. $D = 100 * ((C_1/T_1) + (C_2/T_2) + (C_3/T_3) + \dots + (C_n/T_n))$
The reference duration is equal to the amount of time of exposure to continuous noise at a specific sound level that will result in a one hundred percent dose.	The reference duration, $T$ , for sound level, $L$ , is given in hours by the equation: $T = 8 / (2^{((L - 90)/5)})$
Given a noise dose as a percentage, compute the equivalent eight hour time weighted average noise level.	The equivalent eight-hour time weighted average, $TWA_8$ , is computed from the dose, $D$ , by the equation: $TWA_8 = 16.61 * \text{Log}_{10}(D/100) + 90$

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and chapter 49.17 RCW. WSR 22-15-090, § 296-817-30015, filed 7/19/22, effective 8/19/22. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050. WSR 15-23-086, § 296-817-30015, filed 11/17/15, effective 12/18/15. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 03-11-060, § 296-817-30015, filed 5/19/03, effective 8/1/03.]