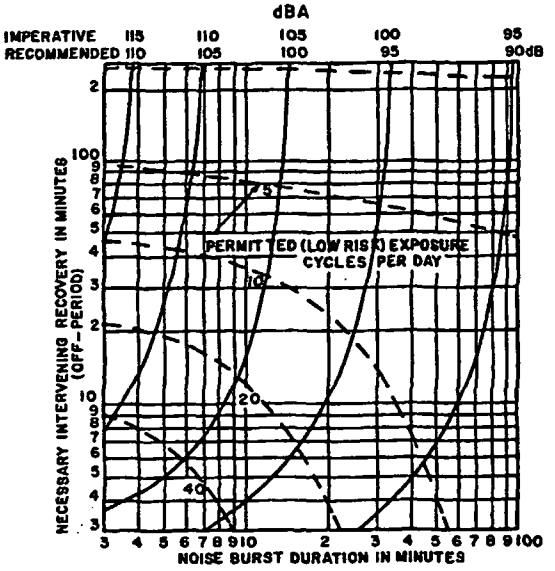

FIG 45-7 – Permissible (low risk) noise exposures for interrupted noise The parameter is sound level dB(A) (the solid lines), and permitted exposure cycles per day (the dashed lines)

is on intermittently during the work-day, the recommended allowable exposure time may be determined by consulting Fig 45-7, which shows the relationship between the duration of the "on-time" between the noise bursts (ordinate), and the allowable A-scale level The broken contours show the number of permitted exposure-cycles ("on-time" – "off-time" combinations) per day, calculated for a working day of 480 minutes

Example If the A-scale level is 100 dB and the noise is habitually on ("on-time") for 10 minutes the recommended allowable "off-time" between noise bursts is the ordinate value of the intersection of the 10 minutes and the 100 dB contour In this case it is approximately 16 minutes or approximately 15 exposure-cycles per day

● Table 45-B shows both overall and octave band levels of three typical industrial noises Asterisks indicate octave bands most important to hearing conservation

Control of Noise-Exposure

Environmental control

The environmental control of noise-exposure requires highly technical skills and should be undertaken only with the help of acoustical consultants There are a number of books written on this subject, see "References" Noise-exposure may be controlled at the source, by changing the path, and by protecting the receiver (Fig 45-8)

Reduction in amount of noise produced by the source This method is the most satisfactory for hearing conservation purposes, but it is not always practical or possible A reduction in the amount of noise produced by a machine or a machining process may be accomplished by

TABLE 45-B

OCTAVE BAND ANALYSIS OF THREE TYPICAL INDUSTRIAL NOISES

Overall Level	*Sound Pressure Level in dB, re 0 0002 dyne/sq cm*							
	Octave band (Hz)							
	37 5 to 75	75 to 150	150 to 300	300* to 600*	600* to 1,200*	1,200* to 2,400*	2,400 to 4,800	4,800 to 9,600
103	84	85	87	93	93	95	97	87
101	91	97	98	85	85	81	80	82
95	84	84	85	84	84	86	88	84

*Octave bands specified in the tentative hearing conservation level