

3. EXTREME HEAT WITH OR WITHOUT TEMPERATURE CHANGES

Extreme Heat — Temperature sufficiently high to cause marked bodily discomfort.

Temperature Changes — Variations in temperature which accompany extreme heat and are sufficiently marked and abrupt to cause marked bodily reactions.

Situations in Which Extreme Heat With or Without Temperature Changes Is Important

Works close to hot stove during cooking operations while carrying on various activities such as agitating, testing, and draining cooking mixture.

Charges furnace, turns billets in furnace, and withdraws heated billets.

Works constantly around hot tumblers in laundry room reaching in and removing articles when partially cooled.

Controls movement of machine that spreads hot asphalt on streets and roads and is subjected to intense heat produced by heating mechanism of machine.

Situations in Which Heat With or Without Temperature Changes Is Present but not Important

Patrols outside swimming pools and beaches during hot summer months.

Makes short trips into kitchen carrying dishes from dining room working primarily in dining room, clearing and setting tables, rather than near stoves in kitchen.

Performs a wide variety of duties on a general farm on which livestock and field crops are raised.

4. WET AND/OR HUMID

Wet — Contact with water or other liquids.

Humid — Atmospheric conditions with moisture content sufficiently high to cause marked bodily discomfort.

Included in this factor are conditions in which the worker has contact with water or other liquids and/or works in an oppressively humid atmosphere, such as the slashing department of a cotton-textile mill or the wet-cleaning room of a drycleaning plant.

Situations in Which Wetness and/or Humidity are Important

Presses garment using pressing machine and is constantly exposed to oppressive humidity resulting from steam emitted by pressing machine and by damp garments which are being ironed.

Loads damp articles into tumblers: Removes hot, dried articles from tumblers. Atmosphere is wet and humid.

Situations in Which Wetness and/or Humidity are Present but not Important

Shaves, shampoos, gives facial massage and applies tonic to hair of patron in a barber shop: Hands come in contact with water for only short periods of time.

Computes cost of customer's laundry: Surroundings may be somewhat humid but not uncomfortably so, because worker is not usually in close proximity to water and steam-producing laundry machines.

Sprays paint or glaze on finished pottery or porcelain ware or unburned terra cotta blocks: While this job requires the individual to work constantly with liquids, it is not necessary for him to have his hands in the liquids, nor would the working area be considered significantly humid.

5. NOISE AND/OR VIBRATION

For this factor to be primary there must be sufficient noise, either constant or intermittent, to cause marked distraction or possible hearing loss and/or sufficient vibration (which is the production of an oscillating movement or strain on the body or its extremities from re-

peated motion or shock) to cause bodily harm if endured day after day.

Do not consider this factor important unless the noise reaches 80 or more decibels. See tables on page

Situations Illustrating Noise and/or Vibration

Operates compressed-air, rock-drilling machine to drill holes through hard materials: Exposed to continuous vibration plus noise of approximately 130 decibels.

Operates frame-spinning machine for spinning thread out of roving: Noise levels in large spinning rooms with many frames in operation at once reach approximately 105 decibels making conversation impossible, except by shouting.

Operates a tractor to scoop up earth: Is subject to intense vibration while scraper is forced into ground and while tractor is driven forward to fill scraper with dirt. In excavating and transporting earth, tractors are frequently driven over bumpy ground, resulting in jolting sufficient to cause possible bodily harm if endured day after day.

Rivets structural-steel members by spreading rivet shank and shaping the head with pneumatic hammer; reams misaligned rivet holes with electrically driven or hand-reaming tool. Riveting and construction operations reach approximately 130 decibels intensity.

Situations in Which Noise and/or Vibration are Present but not Important

Drills holes in picture frames: Operating a small electric drill subjects worker to noise of approximately 65 decibels.

Solders parts into circuits of radios and other electronic devices, working in large room with other solderers: Sound in room is approximately 60 decibels intensity.

Types on manual typewriter: Is subject to moderate sound of approximately 70 decibels intensity, an amount not considered to be fatiguing, while performing duties or directing group of typists.

6. HAZARDS

Conditions or situations in which there is danger to life, health, or bodily injury. This cate-

gory includes a variety of physical hazards, such as proximity to moving mechanical parts, electrical shock, working on scaffolding and high places, exposure to burns and radiant energy, exposure to all types of explosives, and exposure to toxic chemical and biological agents.

Situations in Which Hazards are Important

Demolishes parts of buildings to reach and combat fires and rescue persons endangered by fire and smoke and is exposed to burns, fumes, smoke, and falling objects.

Repairs energized electric lines and is subject to falls when climbing poles and to serve burns or electrocution.

Blasts rock in quarry and is exposed to danger from explosives and flying fragments of rock. Worker must retreat to place of safety after lighting fuses with match or squib.

Situations in Which Hazards are Present but not Important

Cooks in hotel kitchen subject to possible slight burns from stove and hot grease when cooking foodstuffs, and to minor knife cuts in preparing food for cooking or immediate table use.

Delivers telegrams, usually by bicycle and is subject to ordinary hazards of traffic.

Performs domestic duties in home and is subject to ordinary household hazards.

7. ATMOSPHERIC CONDITIONS

These following conditions affect the respiratory system or the skin.

Fumes — Solid particles generated by condensation from the gaseous state, generally after volatilization from molten metals, and often accompanied by a chemical reaction such as oxidation. For example, cadmium, lead, magnesium, manganese, and zinc fumes are toxic and may cause metal fume fever.

Odors — Noxious nontoxic smells.

Typical Overall Sound Levels¹

Given Distance from Noise Source		Environmental	
		<i>Decibels</i>	
50-Hp. Siren	(100')	-140-	
F-84 At Take-Off (80' from Tail)			
Hydraulic Press	(3')	-130-	
Large Pneumatic Riveter	(4')		Boiler Shop (Maximum Level)
Pneumatic Chipper	(5')		
		-120-	
Multiple Sand Blast Unit	(4')		
Trumpet Auto Horn	(3')		Jet Engine Test Control Room
Automatic Punch Press	(3')	110-	
Chipping Hammer	(3')		Woodworking Shop
Cut-Off Saw	(2')		Inside DC-6 Airliner
Annealing Furnace	(4')	-100-	
Automatic Lathe	(3')		Can Manufacturing Plant
			Inside Subway Car
Subway Train	(20')		
Heavy Trucks	(20')		
Train Whistles	(500')	- 90-	Inside Motor Bus
10-Hp. Outboard	(50')		Inside Sedan in City Traffic
Small Trucks Accelerating	(30')		
		- 80-	
Light Trucks in City	(20')		Office with Tabulating Machines
Autos	(20')		Heavy Traffic (25' to 50')
		- 70-	
			Average Traffic (100')
			Accounting Office
Conversational Speech	(3')		Large City Industrial Areas
		- 60-	
15,000 Kv.-a, 115 Kv. Transformer	(200')		
		- 50-	Private Business Office
			Light Traffic (100')
			Average Residence
		- 40-	
			Minimum Levels for Residential Areas in Large City at Night
		- 30-	Broadcasting Studio (Speech)
			Broadcasting Studio (Music)
		- 20-	Studio for Sound Pictures
		- 10-	
Threshold of Hearing		- 0-	

¹ This table adapted from chart on page 2, *Handbook of Noise Measurement* by Arnold P. G. Peterson, and Lee L. Beranek (Cambridge, Mass.: General Radio Co., 1956).