Lecture 3 Occupational Safety and Health Dr. Muna Merza

**Noise Hazard**

**Noise:**

Sound without agreeable musical quality or as unwanted or undesired sound, it is generated as a byproduct of man-made in natural activities.

Not all sounds are detectable by human ear.

**Noise types:** based on frequency of sound:

a. Steady wide-band noise; general machines.

b. Steady narrow-band noise; circular saws.

c. Impact noise; hammering.

d. Repeated impact noise.

e. Intermediate noise; traffic noise.

Noise sources:

Jet engines; thunder; artillery; boiler factory; police whistle; noisy office; radio; noisy home; private office; compressors.

**Effects of noise:**

**a. Auditory effect:**

i. rapture of basilar membrane with severs hearing loss.

ii. Work trauma cause ear dram rapture.

ili. Reduction in hearing activity which is depends on physical and medical factors.

v. hearing loss; bilateral depend on noise intensity and sensitivity of each ear.

**b. No auditor effect:**

1) Speech communication interference.

2) Behavior effects.

3) Annoyances.

4) Effect of efficiency.

5) Fatigue.

6) Health effect.

7) Decrease electrical resistance in skin.

8) Reduction of gastric activity.

9) increase muscle tension.

10) Improved in extremities circulation.

**Noise control:**

***a. Reduction of noise at source by:***

i. manufacture of equipment in design to reduce noise.

i. Modification of basic components of machine or processes may be beneficial.

***b. Insertion of barrier between the noise source and the hearer (noise in closures) by:***

i. isolation vibrating parts of machine.

ii. Door seals may be necessary.

***c. Medical prophylaxis measurers:***

i. primary medical examination.

ii. Periodic medical examination.

iii. Medical education.

iv. personal equipment; ear blocker, ear cover.

***d. Rules and law which protect workers from noise:***

***e. Keeping the total noise emission from all noise sources below the dose limit in the work area.***

***.f Regulation spacing between noise source and between sources and operators.***

***g. Enclosing the noise sources by a sound reducing structure.***

***h. Reducing reflected noise by absorbents materials.***

***i. Correcting imbalance and vibration by preventive measures. ~25~***