1981
RESPIRATOR TRAINING
PROGRAM OUTLINE

Instructors: JVU, JGR, Department Supervisors

Purpose: Lecture, Practice and Testing in the Use of Plant Respirators.

Location: Safety Training Room, Respirator Cleaning Room.

Equipment:

1. Dustfoe 66 Respirator (1)
2. Scott VCM Cannister Gas Mask (1)
3. Scott VCM Cannister Gas Masks, equipped with high efficiency particulate filters instead of VCM cannisters. (35-40)
4. Paint Spray Respirator (1)
5. 3M Airhat System (1)
6. MSA Constant Flow Respirator, Full-Face (1)
7. " " " " , Half-Face (4)
8. Scott " " " , " " (4)
9. Bullard System 999 Supplied Air Respirator (1)
10. Scott Presur Pak 1.1 (1)
11. " Pressure-Pak 2.2 (1)
12. Spare SCBA Cylinders (2)
13. Breathing Air Supply Hose, Coupled to Breathing Air System (1)
14. Cleaning/Disinfecting Supplies
15. MSA Ventilation Smoke Tubes, MSA # 5645 (Stannic Chloride) and Squeeze Bulb (4)

Class Preparation:

1. Insure presence, cleanliness, and correct functioning of equipment.
2. Block inlet air grille to Respirator Cleaning Room and turn off vent fan.
3. Discuss/allocate instructor assignments with Department Supervisors.

I. INTRODUCTION - JVU

A. Purpose and Importance of Class

B. Schedule of Events (FLIPCHART)

II. LECTURE - JVU

A. Plant Hazards - Familiar examples
(FLIPCHART)

1. Gases - VCM. Many potential sources that require careful, constant attention.

a. Tops of Blend Tanks

(1) Ever fail to use respirator?

(2) Ever see others fail to use?

(3) VCM is there!

(4) Steam stripping does not remove all of the VCM!

(5) Moral: Use respirators!

(6) New Employees

b. Filter Pack Changes - Same hazard, but worse! VCM is there! Use your respirator!

c. Compressor Problems - Sometimes, system has to be opened. Don't take chances; use your respirator!

d. Safety Rules - You've heard it before: ".....safety rules are for your well-being .....". If you ignore them when the sun goes down, you're going in harm's way.

II. LECTURE (Continued) - JVU

A. Plant Hazards - (Continued)

2. Vapors - Phthalic Anhydride

3. Particles

a. Dusts - Lead

b. Mists - Very few cases, except paint spraying.

c. Fumes - Best example is during welding, flame cutting, etc.

4. Gas/Partical Combinations - Two good examples:

a. Burning Out VCM Lines

(1) Fumes & Smokes

(2) Gases - HCl, phosgene

b. Paint Spraying

(1) Particles - The paint droplets

(2) Gas - The solvent

5. Oxygen Deficient Atmosphere

a. A constant concern during "entry" work.

b. "Normal" Air (FLIPCHART)

c. Effects (FLIPCHART)

B. The Lung As An Entry Biomode - or " Why do you make such a big deal about respirators?"

1. We've seen what happens when oxygen supply is too low.

2. Some gases and particles can be absorbed into the body when they reach the lung.

3. Others can "lodge" in the lung and cause trouble later. Good example is asbestos.

II. LECTURE (Continued) - JVU

B. The Lung As An Entry Biomode - (Continued)

4. Some materials can endanger life immediately. Our best example is chlorine.

5. Most particles and some gases, etc. are removed by the lung during its self-cleaning process and swallowed.

C. Overview of Plant Respirator Program

1. We provide respirators when hazards dictate need. They are selected for the hazard.

2. Employees are required to use respirators.

3. Employees are trained in respirator use. Some people in the plant are highly proficient.

4. Respirators are routinely inspected, cleaned, and repaired by people qualified for that purpose.

5. Each employee is a key element in the program!

III. LECTURE/DEMONSTRATION - JVU, JGR

(FLIPCHARTS)

A. Dustfoe 66 Respirator

1. Filters small amounts of particles out of air.

2. For nuiscance dusts only.

3. Offers no protection against gases (VCM, ect.).

4. Does Not provide oxygen. Do not use in oxygen deficient atmospheres.

B. Scott VCM Cannister Gask Mask

1. For protection against no more than 10 ppm VCM.

2. Does not provide oxygen.

3. Very specialized use. Note cannister markings. Always check to see what a cannister is designed for.

4. Face seal is very critical!

III. LECTURE/DEMONSTRATION - (Continued) - JVU, JGR

C. Paint Spray Respirator

1. Anyone have ever do paint spraying?
2. Ever use a respirator?
3. Would you want to use the Dustfoe 66 for this?
4. Pre-filters - Catch paint droplets.
5. Carbon filters - stops the solvent
6. Does not provide oxygen!
7. What happens if you try to spray-paint your car inside your garage with the doors closed? What are some of the risks?

D. 3M Airhat

1. Battery powered.
2. Removes dusts from air.
3. Used in lead and asbestos work.
4. Offers head and eye protection.
5. Offers no protection against gases!
6. Does not supply oxygen! Do not use in confined spaces!
7. Must not be used by anyone without training!

E. Constant Flow Air-Line Respirators

1. Two face piece sizes.
2. Two makes - you have a choice! Use what works best for your face.
3. Breathable air supplied through hose lines from pressure - regulated fresh air system.
4. Facepiece fit is very important, although constsnt flow will tend to overcome minor leaks.
5. Adjust flow control valve to give slight excess of supplied air during inhalation.
6. Used in plant most commonly for VCM atmospheres of no more than 1000 ppm.

III. LECTURE/DEMONSTRATION - (Continued) - JVU, JGR

F. Bullard System 999 Supplied Air Respirator

1. Breathable air supplied from breathing air system.

2. Head protection.

3. Face protection.

4. Hood type shroud

5. "Loose Fitting Facepiece"

6. Used in dust collector entry

G. Scott Pressure Pak II

1. Self-contained breathing apparatus (SCBA)

2. Uses breathing quality air from supply bottle.

3. Used in VCM concentrations of 1000 ppm + or unknown

4. A "30-minute" supply bottle

5. Must be used only by trained personnel

6. Selectable between "Demand" mode and "Pressure Demand" mode.

Must be used in "Pressure Demand" mode.

H. Scott Presur Pak 2.2

Same device as "Presur Pak II", except for improvements, including:

1. Fewer harness straps. Use of quick-opening belt.

2. In "Pressure Demand" mode at all times.

3. Improved weight distribution via backpack carrier.

4. Improved vision

5. Fewer facepiece straps and use of hairnet- Type harness

IV. PRACTICAL EXERCISE - Department Supervisors

A. Air-Line Respirators

1. Proper fitting of facepiece, including seal check.

2. Proper connection to air supply.

3. Correct adjustment of flow control valve.

IV. PRACTICAL EXERCISE - (Continued) Department Supervisors

B. Scott Air Paks

1. Pre-donning checks
2. Donning of air supply cylinder and harness.
3. Proper fitting of facepiece, including seal check.
4. Connection to air supply
5. Use of "Pressure Demand" mode
6. Regulator failure procedure
7. Low air supply alarm and procedure
8. Removal of equipment
9. Post-use procedures

V. FIT TESTING - Department Supervisors

A. Don and check respirators in 5-6 person groups outside respirator cleaning room under supervision of Safety Department Instructor.

B. Department Supervisor conduct fit testing of each 5-6 person group.

1. With door closed, generate smoke, using smoke tube, as required to maintain an irritant atmosphere.
2. Keep each group inside room for 10-20 seconds and observe reactions.
   a. Identify poor fits.
   b. Insure anyone in apparent distress exits the room immediately .