RESPIRATORY PROTECTION PROGRAM

AC Transit Maintenance Building
Emeryville, California

by Roebbelen Engineering, Inc.

June 10, 1986

RESPIRATORY PROTECTION PROGRAM

Policy Statement: A respiratory protection program is hereby established so as to coordinate the use and maintenance of respiratory protective equipment as determined necessary to (1) reduce employees exposure to toxic chemical agents; and (2) allow authorized employees to work safely in hazardous work environments, e.g., within office areas between building columns 6 and 8; and within the bus drop table excavation area.

I. DESIGNATION OF PROGRAM ADMINISTRATOR

Roebbelen Engineering, Inc. Project Manager has designated that each subcontractor foreman be responsible for their own respiratory program while working at this facility. Refer to enclosed requirements for minimum acceptable respiratory protection program. No changes in the respiratory requirements program will be permitted at this facility without authorization from Roebbelen Engineering Project Manager. Jay Hines, Roebbelen Engineering Inc. has been charged with the following responsibilities.

A. Supervision of respirator selection procedure;
B. Establishment of training sessions about respiratory equipment for employees.

II. PROCEDURES FOR SELECTION OF RESPIRATORY PROTECTIVE EQUIPMENT

Various soil, water and air sampling analysis indicate that saturated and cyclic $C_7 - C_{11}$ aliphatic hydrocarbons are present. Trimethylcyclohexane and similarly substituted compounds common to the petroleum cracking process were identified. The areas identified are the basement sump area and adjacent areas between columns 6 and 8 and within the bus drop table excavation area.

ORGANIC VAPOR AIR-PURIFYING RESPIRATORS will be required to be worn by all authorized personnel entering the areas between building columns 6 and 8.

SUPPLIED-AIR POSITIVE PRESSURE DEMAND, TYPE C RESPIRATORS will be required by all authorized personnel working within the bus drop table excavation area.

III. PURCHASE OF RESPIRATORY PROTECTION EQUIPMENT

The Roebbelen Engineering, Inc. program administrator Jay Hines shall have the authority to purchase respiratory protective equipment for Roebbelen Engineering, Inc. employees.

All subcontractors shall purchase their own respiratory protection for use by their employees.

Respiratory protection shall be selected only from current NIOSH approval listing.

IV. MEDICAL ASPECTS OF RESPIRATORY EQUIPMENT USAGE

Policy Statement: Only those individuals who are medically able to wear respiratory protective equipment shall be issued one. A signed, dated physician's statement must be filed with Roebbelen Engineering Project Manager before any person is allowed to wear respiratory protection on-site.

V. ISSUANCE OF RESPIRATORY PROTECTIVE EQUIPMENT

Policy Statement: **All individuals who are assigned to wear respiratory protective equipment shall be provided respiratory protective equipment for their exclusive use.**

A respirator assignment record is to be established to facilitate the accounting of users and equipment. The respirator assignment record that has been adopted by Roebbelen Engineering Inc. during the AC transit maintenance building project is enclosed

VI. FITTING PROCEDURES FOR RESPIRATORY PROTECTIVE EQUIPMENT

A visual examination is required before and after each use. A negative and positive pressure check is required prior to wearing respirator in contaminated areas.

A qualitative fit test using isoamylacetate is required when respirator is issued and required periodically to check facepiece seal, as necessary.

VII. RESPIRATORY PROTECTIVE EQUIPMENT MAINTENANCE

Policy Statement: Respiratory equipment maintenance and storage shall be carried out in accordance with instructions of the equipment manufacturer and comply with 8 CAC 5144.

All employees are required to maintain a working copy of the equipment manufacturer's operating and maintenance instructions.

VII. INSPECTION PROCEDURES

Policy Statement: Each program administrator shall develop a field inspection checklist for respiratory protective equipment. Each administrator shall institute a continuing review of the inspection procedures so as to cover all uses of respiratory protective equipment by their employees at the AC Transit Bus Maintenance Building Construction Project, Emeryville, California.

All personnel required to wear respiratory protection must wear it correctly. Personnel not wearing required respiratory protection correctly will not be allowed to perform work on the project.

IX. PROGRAM EVALUATION

Policy Statement: Each program administrator shall develop a procedure to evaluate the effectiveness of the program. Program review shall be done on a continuing basis.

The enclosed field checklist/program evaluation shall be used to evaluate the program on a continuing basis.

References

1. "Requirements for a Minimum Acceptable Respiratory Protection Program", excerpted from Respiratory Protection, a Manual and Guideline; American Industrial Hygiene Association, 1980.

2. Title 8 California Administrative Code Section 5144, Respiratory Protection Equipment.

3. Respiratory Protection, 1984, Occupational Safety and Health Administration, OSHA publication no. 3079.

4. Respiratory Protection..An Employee Manual U.S. Department of Health, Education and Welfare Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Division of Technical Services, Cincinnati, Ohio, October 1978.

RESPIRATOR ASSIGNMENT RECORD

Employee Name: _____ Job Title: _____

Division: _____ Location: _____

Type of Respirator(s) issued (Manufacturer, Model No., Type):

1. _____ Date issued: _____
2. _____ Date issued: _____
3. _____ Date issued: _____

Fit Test Results: (Indicate - Qualitative or Quantitative)

1. Method Used: _____ Rated P.F. _____
   Date: _____ Test P.F. _____
   MUC Permitted (lowest of 3 tests) _____
2. Method Used: _____ Rated P.F. _____
   Date: _____ Test P.F. _____
   MUC Permitted (lowest of 3 tests) _____
3. Method Used: _____ Rated P.F. _____
   Date: _____ Test P.F. _____
   MUC Permitted (lowest of 3 tests) _____

REQUIREMENTS FOR A MINIMAL ACCEPTABLE

RESPIRATORY PROTECTION PROGRAM*

1. Written standard operating procedures governing the selection and use of respirators shall be established.

2. Respirators shall be selected on the basis of the hazard to which the worker is exposed.

3. The user shall be instructed and trained in the proper use of respirators and their limitations.

4. Where practicable, the respirator should be assigned to individual workers for their exclusive use.

5. Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

6. Respirators shall be stored in a convenient, clean and sanitary location.

7. Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use, such as self-contained devices, shall be thoroughly inspected at least once a month and after each use.

8. Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

9. There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

10. Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

11. Approved or accepted respirators shall be used when they are available. The respirator furnished shall provide adequate respiratory protection against the particular hazard for which it was designed in accordance with standards established by competent authorities.

* Excerpted from Respiratory Protection, A Manual and Guideline; American Industrial Hygiene Association, 1980.

Checklist for Evaluation of a Respiratory Program

1910.134-RESPIRATORY PROTECTION

	Yes	No
1. Are engineering controls used where feasible for control of atmospheric contamination?	___	___
2. Does the employer provide respiratory equipment when necessary? 1910.154 (a) (2)	___	___
3. Does the employee use the respiratory protection in accordance with instructions and training he received? 1910.134 (a) (3)	___	___
4. Are written operating procedures which govern the selection and use of the respirators available? 1910.134 (b) (1)	___	___
5. Are all respirators selected for the particular hazard? 1910.134 (b) (2)	___	___
6. Does the employee receive training in the use of the respirator and is he instructed as to its limitations? 1910.134 (b) (3)	___	___
7. Are respirators assigned on an individual basis, when practicable? 1910.134 (b) (4)	___	___
8. Are respirators cleaned and disinfected on a regular basis? (When used by more than one person, after each use; when individually assigned, after each day's use). 1910.134 (b) (5)	___	___
9. Are respirators stored in a convenient, clean, and sanitary location? 1910.134 (b) (6)	___	___
10. Are respirators inspected during cleaning and are deteriorated parts replaced? 1910.134 (b) (7)	___	___
11. Are respirators which are used for emergencies inspected on a monthly basis and after each use? 1910.134 (b) (7)	___	___
12. Is appropriate surveillance of the work area conducted? 1910.134 (b) (8)	___	___
13. Is the level of exposure to an employee maintained? 1910.134 (b) (8)	___	___
14. Is the continued effectiveness of the respiratory program determined through regular evaluation? 1910.134 (b) (9)	___	___
15. Before employees are assigned a task which require a respirator to be worn, do you determine whether or not the employee can perform the work while using the equipment? 1910.134 (b) (10)	___	___

	YES	NO
16. Do you periodically check the medical status of all employees who wear respirators? 1910.134 (b) (10)	___	___
17. Are all respirators approved by the U.S. Department of Health, Education, and Welfare (National Institute for Occupational Safety and Health) or the U.S. Department of the Interior (Bureau of Mines)? 1910.134 (b) (11)	___	___
18. Is the respirator selected according to the guidance of the American National Standard Practices for Respiratory Protection Z88.2 - 1969? 1910.134 (c)	___	___
19. When oxygen is used, does it meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen? 1910.134 (d)	___	___
20. Does breathing air meet the requirements of the specifications for Grade D breathing air? 1910.134 (d)	___	___
21. Are steps taken to insure that compressed oxygen is not used where compressed air has once been used? 1910.134 (d)	___	___
22. Are steps taken to see that oxygen is not used for airline respirators? 1910.134 (d)	___	___
23. Is the compressor, used for supplying air, equipped with necessary safety and standby devices? 1910.134 (d)(2) (i)	___	___
24. Is the compressor of the breathing air type? 1910.134 (d) (2) (ii)	___	___
25. Is the compressor designed, constructed, and used so that its exhaust does not re-enter the system? 1910.134(d)(2)(ii)	___	___
26. Does the compressor have in-line purifying devices? 1910.134 (d) (2) (ii)	___	___
27. Is the receiver of sufficient capacity to allow the user to escape should the compressor fail? 1910.134 (d) (2)(ii)	___	___
28. Are alarms present in the system to indicate compressor failure and over-heating? 1910.134 (d) (2) (ii)	___	___
29. If the compressor is of the oil-lubricated type, does it have a high-temperature or carbon monoxide alarm or both? 1910.134 (d) (2) (ii)	___	___

	YES	NO
30. If only high-temperature alarm is installed, are tests performed periodically to insure that the carbon monoxide level is less than 20 ppm? 1910.134 (d) (2) (ii)	____	____
31. Do you insure that the air-line coupling is incompatible with outlets from other gas systems? 1910.134 (d) (3)	____	____
32. Are breathing gas containers properly marked? 1910.134 (d) (4)	____	____
33. When respirators are individually assigned, are they durably marked as to identify the user? 1910.134 (e) (2)	____	____
34. Is a record maintained which shows the date the respective respirator was issued? 1910.134 (e) (2)	____	____
35. Are personnel familiar with the written procedures which cover the use of respirators in dangerous atmospheres and the use of the respirators in emergencies? 1910.134 (e) (3)	____	____
36. Are steps taken to insure that there is at least one additional man present when a person wearing a respirator could be overcome by a toxic or oxygen deficient atmosphere? 1910.134 (e) (3) (i)	____	____
37. Is communication (visual, voice or signal line) maintained between all individuals present in toxic or oxygen deficient atmosphere? 1910.134 (e) (3) (i)	____	____
38. Do emergency plans exist and is proper rescue equipment present? 1910.134 (e) (3) (i)	____	____
39. Are safety harnesses and safety lines or other equivalent previsions for the rescue of persons using air line respirators in atmospheres immediately hazardous to life or health used? 1910.134 (e) (3) (iii)	____	____
40. When persons are using air line respirators in atmospheres immediately hazardous to life or health, is there at least one standby man with suitable self-contained breathing apparatus available at the nearest fresh air base for emergencies? 1910.134 (e) (3) (iii)	____	____
41. Are frequent random inspections performed to assure that all respirators are properly selected, used, cleaned, and maintained? 1910.134 (e) (4)	____	____

	YES	NO
42. Does the training of employees who use respirators include: proper fitting; testing face-piece-to-face seal; wearing in normal air for a familiarity period and wearing it in a test atmosphere? 1910.134 (e) (5)	___	___
43. Are employees instructed not to wear beards, sideburns, skull caps, or temple pieces on glasses that might project under the respirator? (Reason: These conditions will prevent the formation of a good seal between respirator and face) 1910.134 (e) (1)	___	___
44. Does the employee check the respirator for proper fit after putting it on? 1910.134 (e) (5) (i)	___	___
45. Are provisions made for people who wear corrective glasses and also use a respirator? 1910.134 (e) (5) (ii)	___	___
46. Are employees instructed not to wear contact lenses with a respirator? 1910.134 (e) (5) (ii)	___	___
47. Are self-contained breathing apparatuses inspected monthly? 1910.134 (f) (2) (ii)	___	___
48. Is a record maintained of inspection dates and findings for emergency use? 1910.134 (f) (2) (iv)	___	___
49. Is replacement or repair of respirators accomplished only by experienced people with designated parts? 1910.134 (f)(4)	___	___
50. Are reducing or admission valves or regulators adjusted or repaired by the manufacturer or a trained technician? 1910.134 (f) (4)	___	___
51. Are employees instructed in the correct way to store respirators? 1910.134 (f) (5) (iii)	___	___
52. Is the location of all respirators to be used in emergencies clearly marked? 1910.134 (f) (5)	___	___
53. Are checks made to insure that employees are not storing respirators in tool boxes or lockers without first placing them in proper containers? 1910.134 (f) (5) (i)	___	___
54. Are respirators stored or packed so that the facepiece and exhalation valve rests in a normal position? 1910.134 (f) (5) (ii)	___	___

YES NO

55. Does the person who issues gas masks insure that they are properly labeled and color coded? 1910.134 (g) (1) ___ ___

56. Does the person who issues gas masks insure that the label and color code is maintained until the canisters have completely served their purpose? 1910.134 (g) (2) ___ ___

57. Is the following phrase printed in bold letters on each canister? 1910.134 (g) (3) (i) ___ ___

Canister for _____
Name for atmosphere contaminant

or

Type N Gas Mask Canister

58. In addition, does the following wording appear beneath the appropriate phrase on the canister? 1910.134 (g) (3) (ii) ___ ___

"For respiratory protection in atmospheres containing not more than _____ percent by volume of _____
(Name of atmospheric contaminant)

59. Do canisters having a special high efficiency filter for protection against radionuclides and other highly toxic particulates have a label with a statement of the type and degree of protection afforded by the filter? 1910.134 (g) (4) ___ ___

60. Is the label affixed to the neck end of, or to the gray strip which is around and near the top of the canister? 1910.134 (g) (4) ___ ___

61. Does each gas mask canister have a label warning that the gas mask should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume)? 1910.134 (g) (5) ___ ___

62. Is each gas mask canister painted a distinctive color or combination of colors in accordance with Table 1-1? 1910.134 (g) (6) ___ ___

SUBPART E - PERSONAL PROTECTIVE AND LIFE SAVING EQUIPMENT

1926.103 RESPIRATORY PROTECTION	YES	NO
1. In emergencies, are respiratory protective devices provided and used? 1926.103 (a) (1)	____	____
2. When controls required by Subpart D either fail or are inadequate, are appropriate respiratory protective devices provided and used? 1926.103 (a) (1)	____	____
3. Are the respirators approved by the U.S. Bureau of Mines or the National Institute for Occupational Safety and Health for the specific contaminant to which the employee is exposed? 1926.103	____	____
4. Are the chemical and physical properties, as well as the toxicity and concentration of the contaminant considered in the selection of the respirator? 1926.103 (b) (1)	____	____
5. Are employees who are required to wear respirators in atmospheres not immediately dangerous to life thoroughly trained in their use? 1926.103 (c) (1)	____	____
6. Do employees who are required to wear respirators in atmospheres not immediately dangerous to health receive instructions in their use? 1916.103 (c) (1)	____	____
7. Is respiratory protective equipment inspected regularly and maintained in good conditions? 1926.103 (c) (2)	____	____
8. Are gas mask canisters and chemical cartridges replaced when necessary? 1926.103 (c) (2)	____	____
9. Are mechanical filters cleaned or replaced when resistance to breathing becomes difficult? 1926.103 (c) (2)	____	____
10. Is respiratory protective equipment cleaned and disinfected before issuance to a different employee? 1926.103 (c) (3)	____	____
11. Is emergency rescue equipment cleaned and disinfected immediately after use? 1926.103 (c) (3)	____	____
12. Are all applicable standards in Part 1910.134 complied with?	____	____

SAMPLE WRITTEN PROCEDURES

Company Name _____

Address _____

_____

I. Selection of Respirators

We have the following operations where respirators are used on a routine basis.

_____

_____

_____

In these areas the following chemicals or hazards exist:

Area	Chemical or Hazard
_____	_____
_____	_____
_____	_____

Additionally, we have an area(s) where an emergency condition could exist.

This(those) area(s) is/are _____

_____

_____

_____

II. Use of respirators

The employees have received training in the use of the respirators. This training was conducted by _____. Attached is an outline of training. We also provided training to employees who might be associated with an emergency condition. Attached is a list of all employees who have received training and the dates they received the training.

There is a random inspection of areas where respirators are used to see that the employees are using the respirators properly and have not developed any conditions that interfere with the function of the respirator.

Inspections are made on a monthly basis of respirators used for emergency conditions. A record is maintained of the date and the findings.