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To: All Safety and Health Manual Holders

From: K. L. Fogg
Date: December 8, 1987

Interoffice Communication

Subject: SCAFFOLD SAFETY RULES AND PROCEDURES, VSP 004
RESPIRATORY PROTECTION, VSP 005

VISTA

Attached are the referenced procedures for your Safety and Health Manual.

Please communicate these procedures or train your personnel as you deem necessary.

Kent L. Fogg

K. L. Fogg
Safety Director

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ABERDEEN CHEMICAL PLANT SAFETY AND HEALTH MANUAL
ABERDEEN, MISSISSIPPI

SUBJECT: Scaffold Safety Rules and Practices

EFFECTIVE DATE: 1/1/88

PREPARED BY: Kevin L. Tuggle SAFETY DIRECTOR

APPROVED BY: John Travis PLANT MANAGER

VISTA

I. Purpose

The purpose of the procedure is to describe the safety requirements for construction and use of all scaffolds within the plant.

II. Scope

This procedure applies to all scaffolding erected at the Vista Aberdeen Plant, whether tubular scaffold structures, or special scaffolds erected in unique shapes and supported from plant structures or in process vessel or tanks.

III. Responsibility

It is the responsibility of the Vista Maintenance Supervisor or Vista Supervisor responsible for the job to see that all scaffolds meet these standards. It is the responsibility of each person erecting and/or using these scaffolds to inspect all material used and make sure that it is of good quality and that scaffold construction is in compliance with the requirements outlined in this procedure.

IV. Procedure

The following safety guidelines for erecting and/or using scaffolds are provided:

A. Inspect all materials for constructing scaffolds for defects. Repair or discard all defective material. The strength of rusted material is unknown.

B. Scaffolds must be built large enough to provide space for personnel to perform all required work safely.

IV. Procedure - Continued

C. Adequate sills and base plates must be used, especially in areas that are not concrete.

D. Keep scaffolds plumb and level at all times. Do not force braces to fit. Level scaffold until all braces fit easily and securely.

E. Use adjusting screws instead of blocks for adjusting scaffolds on uneven grades. Do not extend over twelve inches.

F. Scaffolds must be provided with a safe means of access (built-in ladders, attached ladders) or access from adjoining platforms or landings.

G. Scaffold decks must be fully decked. All scaffold boards must be cleated on each end to prevent slipping. All scaffold boards on scaffold platform must be in place. Scaffold boards should be used only on scaffolds. Boards shall not extend over their end supports more than eighteen inches nor less than six inches. Scaffold boards shall be fastened to the scaffold. Personnel assembling or working from a scaffold are required to wear a safety belt if they are not working from a completed platform.

H. DO NOT USE ladders or makeshift devices to increase scaffold height.

I. Power lines near scaffolds are dangerous. Use caution when it is necessary to erect scaffolds in this area.

J. DO NOT climb across braces on scaffolds.

K. DO NOT OVERLOAD SCAFFOLDS. Scaffolds should be capable of supporting at least four times the maximum intended load.

1. Platforms and scaffolds which stand six feet or more above the ground shall be provided with guard rails, top and center.

2. Platforms and scaffolds which stand over one 6 ft. section or more above the floor or ground shall be provided with guard rails (top and center) and toe boards at least four inches on all open sides of the platform or scaffold. Top rail shall be no less than thirty-six inches or more than forty-two inches above the scaffold deck.

3. Toe boards are not designed for supporting weight. Do not climb onto scaffolds or come down by supporting yourself on the toe board.

IV. Procedure - Continued

L. Where persons are required to pass under the platform or scaffold, the scaffold shall be provided with a screen (½" mesh or smaller) between the toe board and the guard rail extending the full length of the opening or the area below the scaffold will be barricaded off at least six feet from the base of the scaffold. No entry into this area is allowed.

M. Horizontal bracing must be used to prevent racking of scaffolds in excess of twenty-five feet in height.

N. Horizontal stiff leg bracing must be used at the bottom, top and at intermediate levels of twenty-five feet on scaffold higher than twenty-five feet.

O. DO NOT ATTEMPT to use scaffolds as material hoist points.

P. Care must be exercised to insure that all bolts, wing nuts, and clamps are properly installed and tightened.

Q. If work is being performed above a scaffold, overhead protection for workers on scaffold must be provided.

R. DO NOT extend adjusting screws the full length.

S. All caster brakes MUST be applied when not in motion.

T. DO NOT RIDE rolling scaffolds while in motion.

U. Removal of all material and equipment from platforms should be accomplished when work is complete. Loose items should be put in a container on the deck while work is in progress.

V. DO NOT attempt to move a rolling scaffold without sufficient help. Watch for overhead obstructions and holes in pads.

W. Drawings and specifications for all frame scaffolds over 125 feet in height above the base plates shall be designed by a Registered Professional Engineer.

X. All planking shall be scaffold grade quality lumber.

Y. Scaffolds over twenty-five feet will be tied to a permanent structure and at every ten feet interval thereafter.

Z. A Vista maintenance supervisor or his alterante will inspect the scaffold storage area quarterly for damaged or unsafe items and order replacements. People building or removing scaffolding shall inspect scaffold components for damage and notify their supervisor of damaged components.

IV. Procedure - Continued

AA. Scaffold boards must not be used for any other use than scaffolding.

BB. Material being hoisted onto a scaffold shall have a tag line.

CC. Employees shall not work on scaffolds during storms or high winds.

DD. Scaffolding should be removed as soon as practical after the completion of the job.

EE. Further explanation of Safety Rules may be found in OSHA Regulations 1910.28.

As in any written procedure, every situation cannot be covered. Each person must inspect each situation to make sure all safety hazards have been corrected.

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ABERDEEN CHEMICAL PLANT SAFETY AND HEALTH MANUAL
ABERDEEN, MISSISSIPPI

SUBJECT: Respiratory Protection

EFFECTIVE DATE: 1/1/88

PREPARED BY: Keith L. Fuss SAFETY DIRECTOR

APPROVED BY: John Travis PLANT MANAGER

VISTA

I. PURPOSE

The purpose of this procedure is to establish the respiratory protection policy at the Vista Aberdeen Plant. This policy will set the standard for the selection, maintenance, training, inspection and use of respiratory protective equipment at this facility.

II. SCOPE

This procedure covers the selection and use of respiratory protective equipment which would be used for normal and emergency situations. This includes dust masks, 3M airhats, air line respirators, and self-contained breathing air.

III. POLICY

It is the policy of this facility that employee exposure to airborne contaminants such as harmful gases, dusts, and fumes will be controlled primarily by feasible engineering controls and good work practices. When these controls are not feasible, while they are being initiated, or during emergency situations, appropriate respiratory protection equipment will be used.

IV. RESPONSIBILITIES

Management Responsibilities:

A. Vista will provide the required respiratory protective equipment to protect the health of the employee.

B. Training in the use, limitations, maintenance, and inspection of respiratory protection equipment will be provided.

IV. RESPONSIBILITIES - Continued

C. Respirator fit testing will be provided for those employees who may be required to use respiratory protective equipment.

D. A periodic audit of the program will be performed by the Safety Department

Employee Responsibility

A. The employee shall use the respiratory protective equipment provided in accordance with instructions and training received.

B. He/she will guard that equipment against damage and report any malfunction or defect of that equipment to his/her supervisor. He/she will inspect the respirator for defects before each use.

C. The user must test the respirator seal in the prescribed manner each time it is put on.

D. The user must advise his/her supervisor or the Safety Department should any question arise concerning the proper use of or limitation of any of the described equipment.

V. SELECTION OF RESPIRATORY PROTECTIVE EQUIPMENT

A. General

1. The chemical properties, physical properties, toxicity, and concentration of hazardous material shall be considered before respiratory equipment is selected.

NOTE: Any deviation from procedure in the selection of respiratory protective equipment shall be toward greater degree of protection.

2. Each employee who uses a respirator shall become familiar with the various types of respiratory protective equipment and their limitations, as the conditions encountered may range from nuisance odors or irritation to those which are immediately hazardous to health.

3. Each employee who uses a respirator shall be responsible for selecting the proper respiratory protective equipment. When uncertainty exists as to the nature or concentration of the contaminant present, or what type of protection is needed, the employee's supervisor or the Safety Department shall be contacted.

V. SELECTION OF RESPIRATORY PROTECTIVE EQUIPMENT - Continued

A. General - continued

4. A guide to aid in the proper selection of equipment for the most common substances and materials is shown in Appendix A. The equipment listed (or equipment giving a higher degree of protection, if desired) shall be used. Questions concerning unusual circumstances should be referred to the Safety Department.

B. Nature of Hazard

The following is a general guide for non-emergency rescue situations. For atmosphere containing specific contaminants, see Appendix A.

1. Atmospheres Immediately Dangerous to Life and Health (IDLH)

Entry into atmospheres which are immediately hazardous to life or health will not be routinely permitted. Alternate methods of decontaminating that environment will be pursued. Any entry into an immediately hazardous atmosphere will require detail written plans and the written approval of the Plant Manager.

2. Oxygen-Deficient Atmospheres (IDLH)

For the purpose of this procedure, any atmosphere that tests lower than the normal 19.5% of oxygen is considered to be oxygen-deficient. Non-emergency (plannable situations) entry into oxygen-deficient atmospheres will not be permitted without the written approval of the Plant Manager. Where this situation occurs, alternate means of performing the task should be found.

3. Contaminated Areas - Not Immediately Hazardous to Life and Health Atmospheres

Air line respirators or SCBA (self-contained breathing apparatus) shall be used for gaseous contaminants. Mechanical filter respirators shall be worn as protection against particulate matter. Respirators must be selected based on the contaminant present and the concentration at which it exists.

C. Work Conditions and Requirements

The selection of appropriate respiratory protective equipment can only be made after it has been determined what work must be performed, what length of time it will require, what chemicals are present, and in what concentrations, oxygen levels, and under what conditions the work is to be performed.

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VI. USE OF RESPIRATORY PROTECTIVE EQUIPMENT

A. Face Mask Sealing Standard

1. Respiratory protection equipment will not be worn when any condition prevents a good face to mask seal. Such conditions may include anything that contacts the sealing surface or that could interfere with the mask's valve function. Specifically, these conditions will be caused by facial hair (beards), long sideburns, absence of dentures, or temple pieces on glasses. Any condition which prevents getting an effective seal must be corrected before a respirator can be worn.

   As a matter of policy, ALL Vista plant employees may be required to use self-contained or other respirators either in the course of their normal job duties or in an emergency. Therefore, no Aberdeen Plant employee will be permitted to have facial hair (beards) or other hair that could come in contact with the sealing surfaces of a respirator.

   Contractors, service companies and visitors who have their employees working in the Aberdeen Plant must see to it that all those employees do not have facial hair or other hair that could come in contact with the sealing surfaces of a respirator if they are required to wear a respirator while in the plant. Contract employees performing entries into confined spaces are requested to be clean shaven. Exception to this policy requires Plant Manager's approval.

   No glasses with temple pieces that pass through the sealing surfaces will be worn with full face respirators.

2. Vessel entry is not permitted, even with appropriate respiratory equipment, in atmospheres that tests show contain flammable materials as tested by the combustible gas detector.

3. Entry into confined spaces is not permitted where that confined space contains less than 19.5% oxygen. The only exception to this is by written approval from the Plant Manager.

4. Employees who are required to wear a respirator will be medically certified to do so.

VI. USE OF RESPIRATORY PROTECTIVE EQUIPMENT - Continued

B. Training

1. For the safe use of any respiratory protective equipment, it is essential that the user be properly instructed in its selection, use and maintenance.

2. Users shall receive fitting instructions which include:

   a. Demonstrations and practice in how the respiratory protective equipment should be worn.

   b. How to adjust the equipment.

   c. How to determine if it fits properly.

   d. Wearing it in normal air and in a test atmosphere for familiarity purposes.

3. When evaluating whether the employee is wearing the respirator as it was originally designed, all of the following shall be considered:

   a. The respirator and all functional parts, including straps, must be in place and worn in the appropriate positions.

   b. All straps shall be secure.

   c. Modification to the respirator or straps shall not be evident.

4. Employee shall be made aware of the capabilities and limitations of respiratory protective equipment that they will be required to use, including how to determine when equipment is expended or out of date.

5. Supervisor shall be responsible for assuring that all employees assigned to their respective areas are properly instructed in the use of self-contained breathing air respirators kept in that area.

6. Respirator protection training will occur annually.

VI. USE OF RESPIRATORY PROTECTIVE EQUIPMENT - Continued

B. Training - continued

7. Fit Testing: By non-OSHA standards, two fit test methods have been developed to satisfy the OSHA Test Atmosphere Requirement. These are:

Qualitative Fit Test: Tests the quality of the fit and conform of the face piece. It is a subjective test relying on the detection of a specific odor inside the face piece.

Quantitative Fit Test: Quantifies the actual leakage of a respirator seal by measuring level of contamination inside the face mask.

Respirator Fit Test Practice: On a routine frequency of two years, employees who may be required to use respirators will be given a quantitative respirator fit test.

As an interim measure, all new employees will be given a qualitative fit test using an acceptable test protocol in the plant. This will be done on both temporary and permanent personnel who may be required to wear a respirator.

C. Types of Respiratory Protective Equipment

1. Dust, fume, and mist respirators:

a. Mechanical filter respirators offer protection against airborne particulate matter including dusts, mists, metal fumes and smoke.

b. Mechanical filter respirators DO NOT provide protection against gases, vapors, or oxygen-deficiency.

2. Air Line Respirators

a. Only continuous flow air line respirators will be used at this site.

b. A respirator belt should be worn to clip to the respirator hose. This prevents the respirator from being pulled off the face.

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VI. USE OF PROTECTIVE RESPIRATORY EQUIPMENT - Continued

C. Types of Respiratory Protective Equipment - continued

4. Self-Contained Breathing Apparatus (SCBA)

a. Self-contained breathing apparatus utilizes compressed breathing air and will provide protection in any atmosphere regardless of contamination or oxygen deficiency. Other protection may be required for the skin, depending on circumstances. Consideration must be given to atmospheres which may be flammable.

b. When anticipating the use of this apparatus, consideration shall be given to the service life of the air cylinders. Although this equipment should provide breathing air for approximately thirty minutes, exertion or emotional strain may reduce the rated time.

c. Users of this equipment shall immediately begin exiting the hazardous atmosphere when the low pressure alarm sounds.

d. Whenever self-contained breathing air is used in an atmosphere immediately dangerous to life, a lifeline shall be attached to the person using the apparatus and a standby person shall be present in a safe location with suitable rescue equipment.

VII. MAINTENANCE AND CARE OF RESPIRATORY PROTECTIVE EQUIPMENT

A. Inspection for Defects

1. All respiratory protective equipment shall be inspected routinely before use by the person who will use the respirator.

2. Routine inspection of SCBA is the responsibility of the Safety Department.

3. Breathing air cylinders (SCBA) shall be maintained at a minimum of 1900 pounds pressure except while being depleted during use. The regulator and any warning device shall be tested during inspections to determine if they function properly. This will be done during the monthly inspection by the Safety Inspector.

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VI. USE OF RESPIRATORY PROTECTIVE EQUIPMENT - Continued

A. Inspection for Defects - continued

4. In addition, the monthly inspection will include a check of the tightness of connections and the condition of the facepieces, headbands, valves connecting tubes, hoses and regulators. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. SCBA low air alarms will be inspected after each use.

Safety Inspector - The Safety Inspector will conduct documented, monthly inspections of:

1. All Scott Air Paks and Sling Paks
2. Air-line Respirators
3. Bullard System 999 Supplied Air Respirators

The inspection will be for cleanliness, operation and repair needs, including the tightness and condition of all components.

B. Storage and Cleaning of Respirators

Cleaning

Routine respirator cleaning is to be done by a Building Attendant or Compound employees who have 3M airhats permanently assigned to them. Under this program, the job responsibilities of the Building Attendant are:

1. Daily retrieval of used respirators from the respirator collection points, which are:

a. Compound Supervisor's office area
b. Maintenance shop
c. North of old vinyl control room
d. Northwest corner of the new reactor area
e. South of VCM tank farm unloading racks
f. First floor, V-11 dryer building

VII. MAINTENANCE AND CARE OF RESPIRATORY PROTECTIVE EQUIPMENT - Cont.

B. Storage and Cleaning of Respirators - continued

Cleaning - continued

2. Disassembly, cleaning, and disinfecting of all used respirators.

3. Routine inspection of respirators for obvious defects and replacement of damaged components per instructions by the Safety Inspector.

4. Placing clean respirators inside plastic bags for re-issue.

5. Distribution of clean, packaged respirators to the distribution points, in the types and amounts specified by the Safety Inspector:

   a. Compound Supervisor's office area
   b. Maintenance shop
   c. North of the old vinyl control room
   d. Northwest corner of the new reactor area
   e. South of VCM tank farm unloading racks
   f. First floor, V-11 Dryer building

6. Maintaining the respirator cleaning room in a clean, orderly condition.

7. Monthly inspection, maintenance and cleaning of 3M airhats.

C. User Care of Respirators

The normal use cycle for all fresh-air-type respirators is one shift. At the end of the shift of use, these respirators will be returned to the designated collection points. During their shift, employees are expected to take care of their respirators and to prevent unnecessary contamination of facepieces and air hoses with foreign materials, including oils and greases.

3M airhats are assigned for use on an individual basis. Each person assigned an airhat must perform daily airflow checks and limited maintenance and cleaning, including filter changes as needed. They must also place their airhat inside their assigned airhat storage cabinet when it is not in actual use and at the end of the work period. Each airhat must also be turned in monthly for thorough inspection, maintenance, and cleaning by the Building Attendant.

VII. MAINTENANCE AND CARE OF RESPIRATORY PROTECTIVE EQUIPMENT - Cont.

C. User Care of Respirators - continued

Respiratory protective equipment shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.

Respirator protective equipment placed in work ares shall be stored in clearly marked compartment which are quickly accessible at all times.

Respiratory protective equipment shall be stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer becoming set in an abnormal position.

VIII. BREATHING AIR QUALITY

A. Breathing air supplied from cylinders or breathing air compressors must be grade "D" (or better) per "Compressed Gas Association Commodity Specification G-7.1, 1973," as follows:

Oxygen content	19.5 - 23% by volume
Hydrocarbons (condensed)	5 mg. per cubic meter max.
Carbon monoxide	20 ppm, max.
Carbon dioxide	1,000 ppm, max.

B. Pure oxygen will not be used as breathing air.

C. Scott Air Pak and Sling Pak bottles may be charged only by or under the direction of the Safety Department.

D. Breathing Air Sampling

1. Each 300 cubic foot breathing air cylinder will be tested for oxygen contents by the Safety Inspector upon receipt. Testing will be done using the combustible gas/oxygen detector.

E. Breathing Air Compressors

The plant breathing air will be maintained such that the following criteria are met:

1. The compressors will be breathing air types.

2. The inlet air charcoal filter will be changed out when air sampling results indicate the presence of VCM.

VII. MAINTENANCE AND CARE OF RESPIRATORY PROTECTIVE EQUIPMENT - Cont.

E. Breathing Air Compressors - continued

3. The alarm which indicates compressor failure will be maintained functional. This alarm is a local alarm provided at the compressors.

4. All air-line couplings and connections will be kept incompatible with couplings and connections for all other piping.

The compressors will be checked daily by the Utility Technicians for proper operation. Any malfunction that is found should be handled as follows:

1. Isolate the problem.

2. Take corrective action, including contacting these people using the system, turning in of work orders, or other actions as appropriate.

To insure an effective respiratory protection program, both supervision and the Safety Department will periodically monitor and evaluate various operations to assure that respiratory protective equipment is properly selected, used, cleaned and maintained. This evaluation will be used to determine the effectiveness of the respiratory protection training program, and shall be recorded.

APPENDIX A

APPROVED RESPIRATORY EQUIPMENT

1. Scott Presur-Pak IIa Part No. 9001401 Referred to as "Scott Air Pak"	A pressure-demand, self-contained breathing apparatus. Used where self-contained air supply is mandatory. In VCM environments, it is to be used in concentrations above 1,000 ppm or unknown.
2. Scott Presur-Pak 2.2	Same as Scott Presur-Pak II except unit is pressure-demand only.
3. Scott Sling Pak IIa	A lightweight, 15-minute duration version of Scott Presur-Pak IIa.
4. Mine Safety Appliance Co. Constant Flow Airline Respirator Part No. 460865 Referred to as "Air Line Respirator"	A constant flow, supplied-air respirator. Used in VCM atmospheres of up to 1,000 ppm VCM.
5. Scott Zephyrair Hoseline	A constant flow, supplied-air respirator. Used in VCM atmospheres of up to 1,000 ppm VCM.
6. Bullard System 999 Supplied-Air Respirator	A constant flow, supplied-air hood-type respirator. For use during dust collector entry.
7. 3M Airhat Part No. W-316	A powered, air-purifying device using a high efficiency composite filter. For use during work involving lead dusts, asbestos, and all blender charging.
8. Mine Safety Appliance Co. Dustfoe 66 Respirator Part No. 46183 (Complete) No. 457486 & 457485 (Filters)	An air-purifying device using particulate filters. For non-hazardous situations of convienence; e.g: cold air, elective overprotection against minor dusting, etc.