

Monsanto

FROM (NAME & LOCATION) L. Schwab - 2Z

PLAINTIFF'S EXHIBIT

MON-2993

DATE May 25, 1982

CC:

SUBJECT Review of Revised P-0121
Use and Control of Hoses

REFERENCE

TO : Members, Plant Manager's Safety Board

The attached safety P-bulletin (Use and Control of Hoses) has been revised by a task force established by SHAC. Please review and direct any comments or suggestions to L. Schwab (2Z) by .

General revisions were made with the objective of simplifying and reducing the size. In addition, the following changes were made:

- Changed hose grouping from Group I thru IV to "Utility," "Marine" and "Chemical"
- Added Breathing Air Hose to procedure
- Made various minor changes in the specified marine and chemical hose records and identification
- Revised the method of indicating inspection of utility hose by incorporating an imprinted colored tape which shows date
- Revised the order of the procedure section to cover the utility hose first
- Revised and reduced the appendix.

L. Schwab
for SHAC

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USE AND CONTROL OF HOSESI. PURPOSE

To minimize hose related safety incidents by providing a procedure for controlling the use of flexible hoses.

II. POLICY

The use of flexible hoses in chemical service is undesirable and should be minimized. Whenever a flexible hose is required, its use must conform to this procedure.

III. SCOPE AND DEFINITIONS

- A. This procedure provides minimum guidelines for controlling the use of flexible hoses. It does not eliminate the more stringent controls that individual departments may require.
- B. This procedure classifies flexible hoses into three groups.
 - 1. Utility - This group consists of all hoses in air, water, nitrogen, or steam service.
 - 2. Marine - This group consists of all hoses which must comply with U. S. Coast Guard regulations.
 - 3. Chemical - This group consists of all other hoses in chemical service within the plant.
- C. Specialized hoses such as those used on vehicles, heavy equipment and in laboratories are not covered by this procedure. Individual departments using these type hoses should establish their own control procedures.
- D. Flexible connections in permanent piping systems (expansion joints, "Chicsan" joints, bellows, etc.) are covered in piping specifications and not in this procedure.

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IV. ResponsibilitiesA. Owning Department

1. Develop and implement departmental hose procedures that meet plant standards.
2. Schedule hose test and maintains adequate records (See Appendix A&B)
3. Identify hose use and application. Eliminates hose use whenever practical.
4. Perform visual inspection of utility hoses and apply inspection color code.
5. Material Handling Department is responsible for Coast Guard regulation compliance relating to hoses.

B. Maintenance Department

1. Conduct and witness annual hydrostatic tests of marine, chemical and ~~in~~ stream hoses scheduled by owning department.
2. Provide appropriate record of test results (marine and chemical) and mark hoses that have passed hydrostatic tests.

C. Materials and Mechanical Technology Section

1. Regulate and control the specification of plant hoses and assist owning department in selection of hose type and materials. Written approval is required.

D. Loss Prevention and Safety Department

1. Review the use of hoses during the ^{tri}ennial safety audits and Project Loss Prevention Reviews with the goal of eliminating such usage whenever practical.

E. Contractors

It is important to recognize the potential hazards that may be involved with the use of hoses by the various specialty contractors. The contractors should be expected to exercise proper judgement in the application, care and maintenance of their hoses. The individuals in the departments or groups most closely associated with the contractor ^{are} ~~is~~ responsible to see that the contractor meets the plant's level of hose safety.

V. ProcedureA. Utility Hose

Utility hoses are used in air, water, nitrogen, or steam service. This group is more frequently used and care must be taken to avoid their service limitations. Where use involves connection to systems containing toxic or flammable materials, the use of hard piping should be considered.

For the purpose of inspection and application of test verification tape, breathing air hose is to be included in this grouping.

1. Rules For Use

- a. Secure all crowfoot connections with safety pins.
- b. The use of Thor to crowfoot adapters can be used only in accordance with a department's written procedure as prescribed in P-0126 (Nitrogen Distribution).
- c. When a utility hose has been contaminated, it must be decontaminated, connections cut off and hose discarded.
- d. Rerack all hoses after use.

2. Inspection

All utility hoses (including breathing air hoses) must be visually inspected semiannually by the Owning department. This should be done in January and July of each year. Use Appendix A (non-metal hose check list) as a guide in performing these inspections.

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2. Inspection (cont'd)

In Addition
Steam hoses are to be hydrostatically tested annually, and scheduled to be done by the end of January. Owning Department must initiate an MRO for Maintenance to perform this test.

what about the hoses
 Record keeping for utility hoses is not required.

3. Hose Inspection Verification

After inspection of utility hose, a verification tape is to be applied to each end of the hose and ^{hose}reracked in proper location.

Steam hoses, which are hydrostatically tested in January, will be taped by Maintenance to indicate proper inspection; at mid-year the steam hose is included in the inspection by the Owning department, and code tape applied to verify results.

Hose that fail the inspection or test are to be disposed of and replaced with new ones with proper inspection verification tape applied.

4. Inspection Verification Tape

The inspection verification tape to be applied to the utility hose will be as follows:

January - Even Year: BLUE (with "1st Half-Even Yr." imprint)-MCC# _____

July - Even Year: WHITE (with "2nd Half-Even Yr." imprint)-MCC# _____

January - Odd Year: RED (with "1st Half-Odd Yr." imprint)-MCC# _____

July - Odd Year: GREEN (with "2nd Half-Odd Yr." imprint)-MCC# _____

This tape is available in 50' rolls in Stores and can be ordered by the MCC# shown.

4. Inspection Verification Tape (cont'd)

Hoses that do not indicate the proper test/inspection verification should not be used. However, having the proper tape indicated on the hose does not insure safe conditions. A good, safe practice is to visually inspect every hose before use.

B. Marine and Chemical Hose

Marine and chemical hoses are used in services where, if failure occurred, a major loss incident, personal injury, or pollution problem could result. These hoses are to be hydrostatically tested, inspected and recorded annually.

Marine hoses must comply with U. S. Coast Guard regulations.

1. Rules For Use

- a. All new or additional Marine and Chemical hose applications must undergo a LP&S review prior to being placed in routine service.
- b. All hoses to be used in non-routine or temporary service must be approved by the Materials and Mechanical Technology section and ^{using dept.} ~~local~~ supervision prior to installation.
- c. All hoses in super-hazardous service, i.e. HCN, ACY, LN and Chlorine, will require backup personnel for connection and disconnection, proper breathing protection and other necessary or prescribed protective equipment.

2. Identification and Record Keepinga. Hose Identification

Marine and chemical hose require identification tag with a unique number assigned to each hose by the Owning Department. The number should include department, service and location.

a. Hose Identification (cont'd)

Example: 50 AA508-1

50 - Dept. 50
AA - Acetic Acid Service
508-1 - 50T508-1 Shoretank Location

Any system understandable by the Owning Department is appropriate.

b. Hose Data Records - The following hose data will be maintained by the Owning Department on each hose (See Appendix A).

- 1) Hose identification number
- 2) Manufacturer and hose description
- 3) Service
- 4) Hose pressure data
 - a) Hose maximum system pressure
 - b) Hose test pressure
 - c) Hose burst pressure
- 5) Hose installation date
- 6) Hose location
- 7) Special restrictions on use or service

c. Hose Identification Tag - An identification tag must be affixed to each hose with information outlined above excluding "hose description", "burst pressure", and "Special restrictions on use or service." (See Appendix B)d. Hose Inspection and Test Certification Sheet Form (Appendix A)

"Hose Inspection and Test Certification" sheet will be issued each time a marine or chemical hose is tested. Maintenance will complete the form and the Owning department will file it (current form kept only).

e. Hose Test Tag - A "Hose Test Tag" (see Appendix B) will be affixed to each hose by Maintenance indicating test date and maintenance person responsible for test. The tag will be bonded on hose along with the identification tag. Blank tags are available in Stores by the MCC# shown in Appendix B.

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3. Testing

a. Frequency of Testing

- 1) New hoses - All new marine and chemical hoses must be tested before installation, unless certified pretesting has been performed.
- 2) Hoses in service - Marine and chemical hoses must be hydrostatically tested at least every 12 months. Hoses not tested within the last 12 months should not be used.

b. Request for Testing - The Owning department is responsible for initiating an MRO to test the hoses and for providing the Maintenance department a list of hoses to include identification numbers, test pressures, and hose locations.

c. Test Procedure - Hose will be inspected and hydrostatically tested by the Maintenance department as per the test procedure in Appendix B.

4. Hose Replacement

- a. Hoses which fail the hose test or fail in service must be discarded and replaced with a new hose.
- b. The Owning department will assign the new hose an identification number. The Maintenance department will install a new hose identification tag and a new hose test tag.

5. Purchasing and Inspection

- a. The purchase order or blanket release should specify that the vendor supply all necessary information and documentation for: 1) hose type and material, 2) manufacturer, 3) maximum working pressure, 4) burst pressure, 5) date of manufacturer, and 6) special restrictions on use or service.
- b. All hoses shall be inspected by MMTS (this shall be specified on the purchase order or release form). Inspection, including hydrotest, will normally be performed at the vendor facility. MMTS has the

5. Purchasing and Inspection

b. (continued)

option to defer inspection and hydrotesting at the vendor facility and conduct inspection at the Texas City Plant.

What is criteria for test pressure of hose?

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