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GEISMAR LOCATION SAFETY STANDARDS

STANDARD

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*Denotes Geismar Version of a Corporate Standard

Revised 6/93

SAFETY STANDARD

BASF Corporation

SUBJECT: TAG-OUT/LINE BREAKING	EFFECTIVE: Aug 89	SHEET 1 OF 10
SECTION: LOCATION	SUPERSEDES: (CORPORATE (JAN 85) & GEISMAR (MAY 89)	
NUMBER: 1	ISSUED BY: J Philley GEISMAR SAFETY & LOSS PREVENTION	

NOTE: People prevent accidents by removing or controlling the hazards, by good communications, by acting with a questioning attitude, and by following established procedures.

HIGHLIGHTS

Operations

- **Supervision authorizes job.**
- **Prepares equipment [removes or controls hazards].**
- **Verifies that it's safe.**
- **Applies red tag and lock.**
- **Initiates tag-out sheet and other appropriate permits.**
- **Warns of special hazards and precautions.**
- **Turns equipment over to Maintenance.**

Maintenance

- **Verifies equipment is safe and de-energized.**
- **Applies yellow tag and lock.**

At Conclusion of Work Period

If job is complete:

- **Maintenance signs "final release" and removes yellow tag and lock.**
- **Operations verifies equipment is safe, removes red tag and lock and clears tag-out sheet.**

If job is incomplete:

- **Maintenance removes lock, [yellow tag remains in place], and returns tag-out sheet.**
- **When work resumes, Operations re-issues tag-out sheet, Maintenance reapplies lock.**

III. PROCEDURE

A. For All Applications

The following procedures apply to all four uses of the permit:

1. The permit is initiated by Operations or in the case of non-operating area by the person having jurisdiction over the area, [i.e., Stores or Office Buildings].

2. Operations will ascertain that all necessary equipment preparations and precautions as listed on the permit have been completed, and will also specify on the permit any special conditions, precautions, or special safety equipment needed.

3. Operations will fill in the location, department, date, description of work to be done, will specify the time interval for which the permit is valid, and the name of the individual to who the permit is issued. In the case of contractor personnel, the name of the company will also be noted. Operations will discuss any special precautions with the person to whom the permit is issued.

4. Operations and the individual to whom the permit is issued will both sign the permit, each retaining a copy, [white for operations, yellow for the work crew].

5. Permits are valid only for the time limit specified on the permit, but not to exceed 12 hours. Permits must be renewed following each work interruption of unusual duration [two hours] or on request. Work will not be resumed or vessel entry made until this has been accomplished. Should conditions change, operations must notify the work crew and an evaluation be made as to revoking, revising, or reissuing of the permit.

6. Should any emergency condition occur in the area, all permits are automatically suspended and must be reinstated or reissued after the all-clear is sounded.

7. Following completion of the job, or expiration of the permit, permits must be returned to the point of issue, with an indication as to the status of the job.

B. For Hot Work Application

1. No person shall perform "hot work" in other than a posted burning area without a valid Safety Checklist Permit.

2. The responsible plant manager, or his designee, must indicate in writing what areas under his responsibility are designated burning areas, and what areas do not require an inspection by the owning department supervisor before a permit is issued.

3. The owning department supervisor must approve all permits issued for wor be performed in his assigned area. In his absence, the next higher level supervision in his department will approve the permit.

4. The permit will be issued to the supervisor of the personnel performing the work.

C. Prior to work beginning, the Maintenance supervisor [or designee] shall ascertain that:

1. The equipment is in a "safe" condition, drained, purged, etc., deenergized, isolated and properly red tagged. The tag shall be secured with a non reuseable, self locking tie wrap.

2. One person designated by the Maintenance supervisor in each work crew will sign, date and hang their yellow tag at the location specified on the Tag-Out Sheet. No Maintenance yellow tag will be placed until a red tag has been placed. For most jobs, the yellow tag and lock will be placed on the electrical switchgear. For those jobs not involving switchgear, Operations supervision will designate the most appropriate location for the maintenance tag.

3. Before beginning work the Maintenance crew must test the local start button. This is an exception to the "do-not operate" concept of the red tag.

4. Each Maintenance "crew" tag is normally accompanied by a Maintenance "crew" lock. The Maintenance lock is hung at the same place as the Operations lock. Maintenance locks are required whenever and wherever there is an Operations lock. If the job does not require an Operations lock, then no Maintenance lock is needed. The Maintenance supervisor is responsible to designate one member of the Maintenance "crew" to affix the lock and to ensure that the Maintenance lock is in place starting work. The Maintenance lock will be painted yellow.

D. Completing the Tag-Out Sheet:

1. Record all red tags according to their number and location.

2. If two or more Tag-Out Sheets are required, the extra sheets will be attached to the first sheet and a note made on each sheet. [Example: Sheet 1 of 3 or such notation.]

3. If more than one crew is involved, see Section III - Multi-crew.

4. Note any special instructions, hazards, or precautions on the Tag-Out Sheet.

5. The approval for work to begin is signed by both Operations and Maintenance.

6. The copies are then separated, yellow copies issued to each Maintenance crew and the white original being retained by Operations, and work now begins.

7. At the conclusion of each Maintenance shift; Maintenance returns their copy;

   - If the job is complete, proceed to clear the tag as described in Step E.
   - If the job is not complete, the yellow Maintenance tag remains in place and the Maintenance lock is removed.

8. When Maintenance work resumes, the Tag-Out Sheet is re-issued by Operations, and the Maintenance lock is re-attached.

2. The tank car and/or tank truck will be prepared for opening and entering depending on the specific contents and type of tank car and/or tank truck. Tanks will be cleaned by washing, neutralizing and purging to eliminate all noxious, toxic, corrosive and flammable materials. Tanks containing flammable vapors shall not be entered under any circumstances.

3. Prior to entry, an air purge must be established.

4. Ladders provided for entry and egress will remain in place at all times personnel are inside a tank.

V. RESPIRATORY EQUIPMENT

The type of respiratory equipment required to enter and perform work in the subject confined space shall be noted on the Permit form. The class of equipment shall be determined by the type of known or potential respiratory hazard. Gas masks with cannisters shall not be allowed to be used for working in a confined space.

A. Class "A" - a full face mask, with appropriate exhalation and inhalation valves and hose fittings, attached to one or more 300 cu. ft. breathing air cylinders.

B. Class "B" - a self contained breathing apparatus [i.e., Scott Air Pak] which shall be used when a toxic respiratory hazard is present or may be created by the work.

IX. SUMMARY OF RESPONSIBILITIES

A. Area Supervision

It shall be the sole responsibility of operating supervision to:

1. Authorize entry into any confined space.
2. Assure that adequate preparations have been made prior to entry, including Tag-Out Procedure.
3. Assure that the required tests have been made.
4. Assure that the required personal protective and rescue equipment is provided and in good condition.
5. Assure proper ladder is available, if required.
6. Provide personnel for initial entry and outside attendant, if required.
7. Assure adequate, approved illumination is provided.

B. Person Making the Initial Entry

1. To carefully check and inspect his respiratory protection, harness and rescue lifeline, and to ensure that all procedures required are completed prior to initial entry.

2. Test for minimum required oxygen concentration [19.5% minimum] at hatchway and by lowering the probe into the manway as far as practical.

3. Test for presence of any explosive gas mixture at the manway and by lowering the probe of the explosivmeter as far into the vessel as practical. Meter results must show 0% explosive.

4. The personnel performing the work have been fully informed of any potential hazards, special safety precautions, location of nearest safety shower/eye wash station and have in use appropriate personal protective equipment.

5. A Safety Checklist/permit has been prepared and issued.

D. MULITCREW

1. Operations

   a. Operations shall issue a copy of the Tag-Out Sheet to each crew. Changes shall be noted on the original Tag-Out Sheet.

   b. Operations shall not un-tag, test, or in any way operated the equipment until all copies have been returned and released.

2. The Work Crew

   a. The supervisor [or designee] of each work crew shall receive a correct copy of the tag-out sheet prior to performing work. Even if additional crews become necessary after work has begun, all crews shall have a corrected copy re-issued to them.

   b. The work crew supervisor must assure that Operations is informed of all crews that are working, including crews added after the initial work has begun. All work crews shall abide by all requirements of this including placing a lock and tag at the designated locations.

E. SYSTEM TAG-OUTS - During turnarounds a special system tag-out procedure may be used. Systems tag-out procedures require prior approval of Operations, Maintenance, and the Safety Department.

F. Maintenance "FORGETS TO CLEAR" - If for some reason the Maintenance tag or lock is not cleared:

1. During normal work hours - [7:30AM - 4PM weekdays] - The appropriate Maintenance supervisor of the area will be contacted by Operations. The Maintenance supervisor will be responsible for clearing the maintenance tag and/or lock after ascertaining that such action is safe and proper.

2. During other times - the on-duty Operations supervisor will first attempt to call out the regular appropriate Maintenance supervisor. If unsuccessful, the Operations supervisor will then contact the shift Maintenance supervisor. If unsuccessful, the Operations supervisor will then call out the on-call Maintenance foreman. In all cases, the Maintenance supervisory personnel must physically come to the plant, verify beyond a reasonable doubt that it is safe to clear the maintenance tag and/or lock. Verbal telephone contact is not sufficient.

present. The attendant shall be knowledgeable of necessary emergency procedures and equipment.

3. Prior to entry, a fresh air breathing rig, or Scott Air Pak with harness and 1/2" rescue line shall be available for emergency rescue. The rescue line shall be firmly attached outside the confined space. This safety equipment must be checked carefully for proper operation prior to entry. The outside attendant shall be knowledgeable in the operation of the equipment.

4. a. Persons making initial entry into a confined space shall wear a rescue harness with tail line attached, except in cases where vessel design or access prohibits its use as a means of rescue.

   b. Initial entry must be made using Class A or Class B respiratory protection as specified in Section V. Once inside the tank the atmosphere must be retested. If the atmosphere has sufficient oxygen and is free of explosive or toxic vapors, the respiratory protection may be downgraded as specified by operating department supervision.

5. When a portable ladder is required to enter confined space, the ladder shall be readily available for exit to anyone in the confined space.

6. Electrical equipment used within a confined space shall be in "safe" physical condition and properly grounded.

7. Gas welding/cutting equipment, when not in actual use, shall be removed from a confined space in which work is being performed.

8. Smoking is prohibited at all times within a confined space. This rule cannot be suspended by a "safe work" or "hot work" permit.

B. There can be no deviation from these minimum requirements without specific, written joint approval of the BASF Supervisor responsible for the job, the Site Safety Department, and the appropriate plant manager or properly owner.

IV. PREPARATIONS

A. A confined space shall be isolated from ALL adjoining piping, including relief headers, drains, and overflow lines, in order to insure that liquid, vapors, or gases will not enter the confined area. A line shall be deemed isolated if one or more of the following steps are taken:

1. A blank or stopper plate has been inserted in the line[s] and Red Tags are affixed to the "blind". These Red Tag numbers shall be listed on the corresponding Tag-out Sheet.

2. The line has a double block and bleed, where two block valves are closed, the bleed is opened and Red Danger Tags are affixed.

SPECIAL NOTE:

The above will not apply to the shell side of the Ethylene Oxide reactors or the TDI Pan Dryers.

7. When detagging has been finished, the originating plant will sign the tagout sheet complete.

8. NOTE: For pipelines between BASF and other companies, the special GAMA Tag-out Procedure is to be followed. This procedure incorporates dual tagging using a unique GAMA Tag-out tag in addition to each company's own tag along with a special written permit. This procedure has been distributed to all units which have pipelines connecting to other companies. Extra tags and copies of this procedure are available through the Safety Department.

IV RESPONSIBILITIES

Operations is responsible to ascertain the equipment is in a "safe" condition; i.e., de-energized, isolated, depressured, drained, cleaned and properly tagged. Maintenance [or the work crew] is responsible to ascertain the equipment is deenergized, isolated and tagged. One individual in each Maintenance crew is responsible for the Maintenance crew tag and lock and to ensure the Tag-out Sheet is properly executed. The individual worker is responsible to assure himself that he is working safely. Any person violating this procedure may subject himself or other people to serious jeopardy, and will subject the individual to disciplinary action.

V TAGS, LOCKS, FORMS

A. Red Danger Tag Form [F-1429]

Used only by Operations for identifying valves, switches and equipment as not to be operated. Installation and removal of red tags is restricted to Operations personnel and may only be installed by or under the authority of the person having supervision over the equipment being "tagged out". No one is to remove, or operate any equipment with a red tag attached, except for the initial test of the local start button by Maintenance prior to beginning work. Operational control tags [white], are used to tag or identify Operations equipment for Operations activity.

B. Maintenance Yellow Tag [Form F-3072]

Used only be Maintenance personnel to indicate that a Maintenance crew is working on the tagged out equipment. Installation and removal of this yellow tag is restricted to Maintenance supervision or his designee. These yellow tags must be signed and dated prior to installation. The yellow tag cannot normally be placed on any equipment which does not have any Operations red tag, except when Maintenance is working on their own equipment and yellow tag is signed by the Maintenance supervisor.

C. Tag-Out Sheet [F-1432]

The Tag-Out Sheet provides:

- A record of all red tags used to isolate equipment.
- A record of all Maintenance tags installed.
- A positive means of control and communication of Maintenance activity being performed on tagged out equipment.
- For positive communication of special safety precautions, safety checklists, and blinding requirements.

D. Locks

Each operating department must keep on hand sufficient padlocks for locking out equipment in its area. Operations padlocks will be color coded. Maintenance will supply their own independently keyed yellow locks. Maintenance master keys are not permitted. Locks are to be removed by the individual who installs them, otherwise they are to cut off as a per Section III F.

GEISMAR TAG-OUT PROCEDURE
SPECIAL INSTRUMENT DEPARTMENT TAGS

X A

is special procedure is used for work on process transmitters, analyzers, or sample system vices, where instrument impulse lines or sample lines containing any form of process terials, water, or air must be blocked and de-pressurized.

Instrument Department personnel must first notify Operations of necessity to remove transmitter or other devices from service.

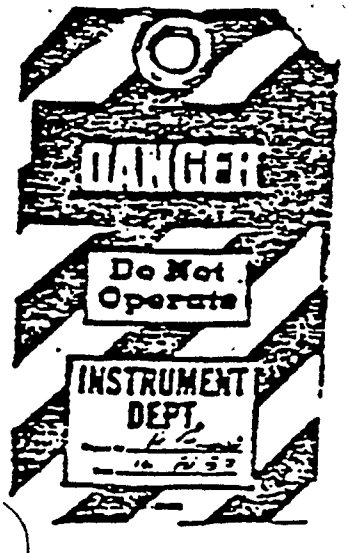
After necessary preparations have been completed, instrument technician will be responsible to close block valve on instrument impulse or sample lines.

Once it has been determined the valves are properly closed, the pressure in the system must be relieved in a safe manner so as not to subject anyone in the area to harmful chemicals or conditions.

Once the pressure has been relieved, the Instrument Department Danger Tag must be attached to the block valve. The tag must be signed and dated by the responsible technician.

transmitter or device may then be safely removed for servicing.

r servicing is completed the transmitter or device may be re-installed, the Instrument Department tag removed and the system pressure re-established. The instrument technician will be responsible to assure safe, leak free conditions existing before notifying operations that service has been completed.



Front



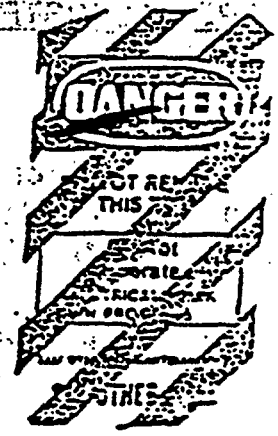
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SPECIAL ELECTRICAL TAGS

APPENDIX B



This special case procedure is for use by qualified electrical personnel doing work requiring the intermittent energizing of a circuit. Such work includes trouble-shooting, repair, testing, and/or new installations.This procedure is restricted to jobs involving a single crew.No other work can be done on the equipment and/or circuit while this special electrical procedure is in effect. If a second crew needs to be involved, then the circuit must be de-energized and the standard tag-out procedure would apply.



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ROCEDURE

. The operations supervisor and work crew supervisor shall review the job scope prior to start of work. If they agree the job should be done under the Special Electrical Tag Procedure, a Safety Checklist Permit noting "Install Special Electrical Tag" is to be prepared . The permit will be issued to and signed by the Supervisor of personnel performing work. No tag-out sheet is necessary.

The work crew will hang the Special Electrical Tag on the switch gear or breaker prior performing work. The tag must be completely filled out by the responsible personne

If the breaker provides power to a piece of equipment with a starting mechanism remote from the switchgear, such as a local start/stop station, a Special Electrical Tag must also be installed on those remote switches to prevent operation of the breaker by anyone other than the electrician while work is in progress. The local start/stop button is to be tested to verify that the circuit is de-energized. The location of any remote switches should be noted on the special precautions line, of the safety/checklist permit including automatic starts such as pressure switches, timer, computer signals, etc.

A maintenance lock should be installed on the breaker in conjunction with Electrical Tag anytime the work is done external to the breaker with the breaker in the OFF position. If work is done inside the switchgear or with the breaker in the ON position, no Lock is required.

After work has been complete, the Special Electrical Tag and maintenance lock are to be removed and the switches left in the position specified by Operations on the Safety Checklist Permit. The Safety Checklist Permit is to be returned to Operations identifying job completely finished, and confirming the position in which the breaker was left.

If the job is not complete at the end of work shift, tags are to be left in place and Safe Checklist Permit returned to Operations identifying that only the day's work activity is concluded, and listing any hazards which would prevent someone from energizing the circuit. The Maintenance Lock should be removed at the end of the shift and reinstalled for the next shift.

SAFETY STANDARD
BASF Corporation

SUBJECT: ENTERING AND WORKING WITHIN CONFINED SPACES	EFFECTIVE: November, 1987	SHEET 1 OF 5
SECTION: LOCATION	SUPERSEDES: Chemical Division Standard Hazard Control Methods #2[Jan 85] & Geismar Location Std #2 [Apr 85]	
NUMBER: 2	ISSUED BY: GEISMAR SAFETY & LOSS PREVENTION	

I. PURPOSE

To establish standard work practices and procedures considered minimum for safe entry and work within confined spaces which have held flammable, explosive, acidic, or toxic materials, or where there may exist noxious odors or oxygen deficiencies. The purpose is to reduce the possibility of injury to personnel making entries into confined spaces from fires, explosions, chemical burns, toxic poisoning and asphyxiation.

II. DEFINITION AND FORMS

A. Confined Space - any storage tank, tank truck, tank car, vessel, vault, pit, sewer, ditch, manhole, or other enclosed structure or area with restricted means of egress.

B. Entry - defined as any part of the body entering beyond the outside edge of an access point.

C. Area Supervision - a person designated by the manager of the owning department, who is authorized to permit Confined Space work in the department where the work is to be done.

D. Safety Checklist Permit shall be used in all situations where these procedures are applied.

III. PROCEDURE

A. General rules applying to entry of confined spaces are as follows:

1. No person or persons shall enter any confined space coming within the scope of this procedure without prior expressed approval of the Area Supervisor. A Safety Checklist Permit shall be issued by the Area Supervisor. The permit shall be issued and signed only after he is personally satisfied with vessel preparation, precautions to be taken, procedures to be followed, and safety equipment to be used. The permit is valid until the end of the work crew shift or operation's shift, whichever occurs first.

2. When personnel are within a confined space, an attendant will be immediately outside the vessel so that warning may be made if required. The attendant shall be provided with a two-way radio and/or audible alarm device. At the owning department supervisor's discretion, the attendant may be from the work crew or operations. The attendant shall not enter the confined space or attempt rescue unless additional personnel are

G. RAILROAD TRACK AREAS

Whenever maintenance work is done on or within the rails in an operating unit, the operating unit will initiate a normal tag-out procedure. The locks and tags will be placed on the BLUE FLAG device.

H. INTERDEPARTMENT Tag-outs

The basic tag-out procedure is followed with a few special procedures added for pipelines shared by more than one plant.

1. The plant originating the work will fill out the tagout sheet and will retain ownership of the entire line until the work is complete.

2. Prepping the line such as washing, purging and/or depressurizing will be coordinated between the plants involved. The originating plant will direct this activity.

3. Piping or equipment to be tagged will be done under the direction of the originating plant but by the plant that has this piping or equipment located in its own area. The originating plant is ultimately responsible to verify that the entire line is isolated, prepped, and tagged.Representatives of both the originating plant and second plant will be present in the second to mutually hang the red tags.

4. Red tag numbers will be communicated to the originating plant to place on the tagout sheet. Once these tags are placed, only the originating plant can authorize their removal.

5. The originating plant will initiate and issue the tagout sheet for the work involved. One yellow work crew copy of the tag-out sheet will be issued to the work crew as usual. In addition, a separate yellow work crew copy of the tag-out sheet will be physically issued to the other plant (or plants) involved. In other words, the other plant will be treated as a separate work crew, thus providing positive communications.

6. Upon completion of the work activity, the second plant will sign their work crew copy in the final release section and return their work crew copy to the originating plant. Telephone contact alone is not sufficient. When all copies have been finally released the clearing of the red tags will begin.
The originating plant will then clear all red tags. The second plant will provide assistance in removal of the tags in their area. Representatives of both plants are expected to be physically present for the removal of the tags in the second plant.

B. If the confined space contains internal power driven mechanism, such as agitators, all fuses or safety jacks must first be pulled and all switchgear and other power sources "tagged out" in conformity with the existing Tag-Out Procedure. The key for the lock on the switchgear shall be kept by the person within-the confined space.

C. Confined spaces and any inter-connecting equipment not isolated shall be cleaned by washing, neutralizing, or purging to eliminate noxious, poisonous, or flammable materials, gases, or vapors. Confined spaces containing flammable vapors shall not be entered under any circumstances.

D. After blanking and purging, vessels shall be tested for oxygen deficiency, flammable vapors, and toxic gases, in that order. Wash water shall be tested for neutrality, where applicable. Oxygen content in the confined space must be between 19.5% minimum and 22% maximum. Threshold limit values for toxic gases shall not be exceeded. Re-testing shall be performed each shift or more often if necessary.

E. Necessary provisions shall be made to ensure adequate air supply to persons working in the confined space. General plant air shall not be considered adequate, however, and air hose shall be available for emergency use.

F. Adequate illumination shall be provided, using vapor proof flashlights or approved low voltage illumination units. [12 volts maximum]

G. When deemed necessary by Area or Operating Supervision, additional equipment at the job site shall include extra rope, harnesses, fire suit, fire extinguisher, and self-contained breathing equipment.

H. Atmospheric testing equipment:

For confined space entry activity, continuous monitoring for oxygen content and flammability is required whenever a person is within the confined space. The attendant at the opening to the confined space shall monitor the unit using an extension sample line into the work area.

I. The work crew copy of the Safety Checklist Permit shall be posted in a semi-permanent manner, near the entry point of the confined space.

J. Nuclear devices shall be rendered inoperative and properly shielded by an authorized instrument department technician only. Exception: The nuclear level indicators on the Pan Dryers in the TDI Plant. Verification of these being in a safe condition may be made by the operation's supervisor of the TDI 400 area.

K. For tank car or tank truck entry, the following extra precautions are required:

1. Prior to commencing tank car and/or tank truck preparation, the tank car or tank truck must be secured. For tank cars, derails must be set, track signs [blue flag] set, and wheels chocked. Tank trucks must have wheels chocked and hand brakes set.

9. If testing or checking is required during the course of the work, all Maintenance tags and locks will be cleared by all Maintenance crews and both copies of the T Out Sheet will be signed "for testing" and returned to Operations. The system this point belongs to Operations. Red tags must be removed from those items necessary to conduct the test. No device can be operated with a red tag on it, except for the initial test of the red tagged local start button by maintenance prior to maintenance work beginning.

10. If test is satisfactory and no further work is required, Maintenance will sign the "final release".

11. If the test is unsatisfactory and further work is required, the equipment must be retagged and relocked by Maintenance and the Tag-Out Sheet re-issued.

E. At the completion of the work, the Maintenance supervisor [or designee] will ascertain:

1. The job is complete and the equipment is safe to be cleared.
2. Maintenance tag and lock are removed.
3. Maintenance signs "final release" and returns it to Operations.

F. After verification that Maintenance has cleared their tag and lock, the Operations supervisor [or his designee] will: verify the equipment is safe to be cleared, remove the operations lock and tags, verify the tag numbers against the tag-out sheet a then complete the tag-out sheet.

III SPECIAL CASES

A. 480 VOLTS & ABOVE - For electrical circuits at or above 480 volts, operations supervision is to proceed as per Maintenance Department Procedure #15.

B. ELECTRICAL HOT WORK - See site safety procedure #10.

C. LINE BREAKING ACTIVITY - For initial opening of piping or process equipment which may have contained hazardous material or been under pressure, the operating supervisor [or designee] and the Maintenance supervisor [or designee] shall ascertain that:

1. The lines and sources of flow or pressure have been traced to verify that lines or equipment are isolated.

2. Wherever possible, verification of de-pressurization and absence of material will be done by opening vents and drains. Where present, pressure gauges will be checked for pressure. Lines that have contained flammable material will be, te by explosivemeters.

3. For elevated work the area below will be barricaded and splash pans provided as needed. Signs will be posted warning of overhead work. JOP JUL 89

4. Upon initial entry, the oxygen and explosive gas tests, [toxic gas test where appropriate, chlorine for example], must be repeated at the base of the ladder and each end of the area.

5. Prior to entry, an air hose must be present for emergency use. If plant air stations are not available, bottled breathing air with hose shall be used.

6. Initial entry must be made using the respiratory and rescue equipment as specified.

7. No person shall be required to make a confined space entry until:

   a. He has been trained on the proper use and inspection of the respiratory protective equipment provided.

   b. Been properly indoctrinated as to the specific hazards of oxygen deficient atmosphere, the hazards of nitrogen, and the hazards of the specific chemical which was contained in the confined spaces.

C. Outside Attendant

It shall be the responsibility of the outside attendant to:

1. Be familiar with emergency procedures, equipment, alarms and rescue procedures.

2. Check his rescue gear for proper operation prior to any entry.

3. Maintain constant surveillance at manway at all times while entry is in progress.

4. Immediately sound the alarm and summon help should an emergency occur.

5. Initiate rescue operations as specific in Number 6.

6. If an emergency occurs inside the tank, the attendant is responsible to immediately call for assistance and must NOT UNDER ANY CIRCUMSTANCES, attempt a rescue without using Scott Air Pak or air line equipment.

Area Supervision Respons.

8. Retain all confined space entry permits for one year.

9. Review the permit-required confined space program using the canceled. retained permits.

JOPhilley/11-87

SAFETY STANDARD
BASF Corporation

OBJECT: SAFETY CHECKLIST PERMIT	EFFECTIVE: November, 1987	SHEET 1 OF 3
SECTION: LOCATION	SUPERSEDES: Geismar version Jul 87 & replaces Chem Division Standards for permits	
NUMBER: 3	ISSUED BY: GEISMAR SAFETY & LOSS PREVENTION	

I. PURPOSE

Provides a minimum consistent practice for the Geismar Safety Checklist Permit, and provides positive communications of potential hazards and precautions.

II. SCOPE

The permit is a document. It in itself does not make a job "safe". The permit is a checklist of precautions which have been taken or need to be maintained, as well as a positive communication of potential or existing hazards. The safety checklist/permit is required for four general categories of activity.

A. All jobs involving a TAG-OUT. This would included CONFINED SPACE ENTRY and LINE BREAKING.

B. All jobs involving HOT WORK.

C. Whenever requested by maintenance or operation. If operations requires a permit, it is their responsibility to notify the work crew that a permit is needed. Example: a routine job which due to unusual circumstances presents non-routine hazards and/or where special precautions are necessary.

D. Contractor Jobs - All contractor jobs normally require a safety checklist/permit. However, if no hot work or tag-out is involved, the plant manager has the authority to grant exceptions. For non-operating areas the appropriate department head of the office or area is responsible for determining possible exceptions.

E. In EVERY case the work crew is required to contact operations, or the owning department, prior to work starting and operations will be given the opportunity to decide if a permit is needed or not.

This procedure supplements, but does not replace any other safety precautions required by unit or site safety standards. For clarification purposes, line-by-line instruction for applying the permit, are found in the appendix.

I SCOPE

A. This procedures applies in all instances of: Repair and/or revision of equipment, and initial opening of piping, vessels, or equipment which may have contained hazardous materials or may have been under pressure.

B. This procedure should not be considered an assurance the equipment to be worked on is in fact completely "safe". All reasonable steps should be taken by personnel to assure themselves that the job is "safe". This includes, but is not limited to, wearing protective equipment, trying start buttons, checking drain valves, and taking a defensive position when line breaking, etc.

C. This procedure does NOT apply when: Activity is totally within a department, (as when the department works on its own equipment with no involvement from any other department) or when superseded by a "system tag-out" procedure used during turnarounds.

D. Exceptions to this policy regarding working on red-tagged valves require mutual prior agreement of Operations and Maintenance supervision.

II. PROCEDURE

A. No person shall perform work on any equipment without the prior approval of operating supervision [or other person having jurisdiction over the equipment].

B. Before releasing the equipment to Maintenance, operating supervision shall ascertain that:

1. The equipment has been shutdown in accordance with prescribed area procedures.

2. The equipment is isolated with all power, steam, and process material sources secured.

3. The equipment is prepared as far as possible by draining, depressuring, purging, flushing, cleaning, etc.

4. All devices controlling power, steam and process material have been placed in "safe" position, tested at the local start button to verify that the circuit is de-energized, and tagged. For electrical circuits below 480 volts, the switchgear is to be deenergized, locked, tested and tagged. For circuits of 480 volts and above operations supervision is to proceed as per Maintenance Procedure #15.

5. The Tag-Out Sheet shall be properly completed including any special instructions, and where applicable, the Safety Checklist Permit and Blinding Sheet will be attached to the Tag-Out Sheet.

6. The location for the Maintenance yellow tag must be specified on the Tag-Out Sheet.

5. Direct supervision of the workers involved in "hot work" will be the responsibility of the involved workers' supervisor. However, in any area where materials are known to be present which are especially hazardous when exposed to heat, sparks, open flame, or hot slag, direct observation by the owning department shall be provided.

6. Any special precautions related to the "hot work" will be noted on the permit. These precautions will be passed on verbally to the persons performing the work, as well as in writing on the permit.

7. Sparks, slag and other hot materials, shall be contained within practical limits. In those instances where hot materials may fall from one level to another, approved fire blankets shall be used and the area below will be roped off and a fire watch will be utilized. Signs will be placed around the hazardous area warning of welding or cutting overhead.

8. Where gas tests are required, they will be taken at the frequency specified or at least every four hours. Any additional test results will be recorded under the Special Precautions heading of the permit. Flammability percentages above zero shall cause the work to cease.

9. Gas test must be made of all sewer openings and/or deep wells before burning or welding is done in the immediate vicinity.

10. Continuous monitoring shall be utilized for work performed on piping which normally contains flammable materials.

11. This permit does not authorize smoking in designated "NO SMOKING" areas.

12. Definitions for Hot Work Permit:

    a. DEPARTMENT SUPERVISOR - A person, designated by the manager of the owning department, who is authorized to permit "Hot Works" in the department where the work is to be done.

    b. HOT WORK - All stations where welding, cutting, burning, brazing, grinding, drilling, use of open flames in areas as designated by operations where explosive vapors may be present. Also the use of spark producing tools or equipment [jackhammers, grinders, electric drills, etc.], in electrically classified hazardous areas. The use of electric tools or electronic equipment not approved for use within a classified area shall be considered hot work.

    c. FIRE WATCH - A fire watch has the responsibility and authority to immediately shut down the hot work if hazardous conditions arise. His primary job is prevention of fire. He should be constantly on the watch for changing conditions, flammable and combustibles, spark containment and for any abnormal event. He must be familiar with the area and potential hazards and know how to obtain assistance in an emergency. Operations specifies if a fire watch is needed and who should supply the fire watch. Normally a fire watch is required for all hot work in processing areas.

Safety and Loss Prevention		
Subject: RESPIRATOR POLICY	Effective: February, 1993	Sheet 1 Of 1
Section: LOCATION	Supersedes: OCTOBER, 1988	
Number: 4	Issued By: Geismar Safety & Loss Prevention Department	

I. PURPOSE AND SCOPE

To prescribe the minimum respiratory protection POLICY for all personnel at the Geismar Site and to supplement the Corporate Standard.

II. PROCEDURE

A. It is the intent of BASF to utilize feasible engineering measures to control and prevent release of harmful materials.

B. 1. Emergency escape respirators are required for all personnel on the Geismar Site, including contractors and visitors. Each person is responsible for the inspection and maintenance of their personal escape respirator. All personnel are required to have an emergency escape respirator available at all times in all areas of the Site from the time they initially reach their work station until they leave at the end of the workday. This includes break periods and lunch periods.

2. Escape respirators are to be clearly and conspicuously marked with the expiration date, which is six months from the original commissioning date. If an escape respiration is used for actual emergency escape, it must be replaced immediately. These are single use cartridges. If after six months it has not been used, then it is to be discarded and replaced with a fresh cartridge.

C. The person issuing the respirator is responsible to ensure that the receiver understands the proper use and limitations of the device. In the case of visitors and truck drivers, this responsibility rests with the Security Department.

D. For BASF employees, no facial hair is allowed which would contact the sealing surface of a respiratory protection device which that employee would have occasion to use. The application of this "beard policy" for all non-BASF personnel is determined by a case-by-case evaluation based on the exposure conditions. Contract maintenance personnel are required to comply with the same facial hair standards as BASF personnel.

E. Each department, including Maintenance, Quality Assurance and Utilities/Services, is responsible to establish and maintain a complete specific departmental respiratory protection program. Requirements for these programs are available from the Industrial Hygiene Department.

Safety and
Health Standards

BASF Corporation Chemicals Division

BASF

Safety and Loss Prevention

Subject: MISCELLANEOUS SAFETY PRECAUTIONS	Effective: JUNE, 1992	Sheet 1 OF 1
Section: LOCATION	Supersedes: NOVEMBER, 1987	
Number: 5	Issued By: Geismar Safety & Loss Prevention Department	

I. Whenever a local unit emergency alarm is activated, All non-operating personnel are expected to immediately and automatically evacuate the process areas of the affected unit. Non-operating personnel are expected to remain out of the unit until an official "all clear" is issued, unless specifically requested back in by the operating unit.

II. Electrical extension cords passing through metal doorways must be protected by chocking the door or guarding the cord with a sleeve type guard.

III. Electrical extension cords or pressurized hoses crossing roadways must be protected with crossover devices or else the roads must be barricaded.

IV. All crane pendant switch buttons in the Geismar Works shall be covered with standard rubber covers unless the button is constructed of a non-conductive material.

V. Smoking is prohibited in all areas of the Geismar Site unless specifically posted as a designated smoking area. The No Smoking rule applies also inside of vehicles.

VI. Personnel engaged in checking specific gravity on batteries must wear a full face shield. Two persons must be present when checking specific gravity of batteries. No Smoking is permitted in the vicinity of the batteries.

VII. Fire water system is for fires and emergencies only. All other uses require PRIOR JOINT APPROVAL of the Utilities and Safety Departments.

VIII. Breathing air header and stations shall be painted purple. In addition, all stations will be labeled and connections provided with a Hansen fitting.

IX. Wearing unmodified finger rings is prohibited in production, maintenance or laboratory areas while climbing, using tools, or otherwise working with hands. This applies to all employees and contractors. Routine clerical work is excluded. Visitors and truck drivers are also excluded. "Modified" means notching the rings to the National Safety Council Recommendations.

Revised 6/92

BASF GEISMAR WORKS

SAFETY CHECKLIST/PERMIT

Expires at end of shift

Issued to: _____ Date: _____

Location: _____ From: _____

Equipment to be worked: _____ Time: To: _____

Work to be done: _____ No of Employees assigned: _____

☐ GENERAL ☐ HOT WORK ☐ LINE BREAKING ☐ CONFINED SPACE ENTRY

Extra safety equipment necessary to do this job:

☐ Working Respirator ☐ Goggles ☐ Slicker Suit
☐ Full Face Mask w/Cannister ☐ Face Shield ☐ Special Boots
☐ Fresh Air Rig ☐ Gloves (Specify Type _____) ☐ Safety Harness Belt

☐ Other: _____

☐ Special Precautions: _____

	YES	RESPONSIBILITY: OPERATIONS	RESPONSIBILITY: WORK CREW
A. Work crew informed of:			
1. area alarms, evacuation and emergency procedures	☐	X	
2. location of nearest fire extinguisher	☐	X	
3. location of nearest safety shower-eye-wash	☐	X	
4. location of MSD sheet (if chemicals involved)	☐	X	
5. any unique or special hazards and/or precautions	☐	X	
6. possible material in equipment (type _____)	☐	X	
B. Unrestricted vehicle access is allowed	YES ☐	☐ NO	
C. [illegible] obstructed temporarily, barricade established, communications made	☐		☐
D. [illegible] roped off, signs posted, hydroblasting, overhead lifting or overhead work	☐		☐
E. [illegible] equipment to be used is proper type for area	☐		☐
F. Equipment isolated, drained, emptied, cleaned, washed, purged	☐		☐
G. Purge/ventilation needed continuously (type _____)	☐		☐
H. Electrical power isolated, deenergized, locked and tagged	☐		☐
I. All valves in proper "safe" position and tagged	☐		☐
J. Fuses pulled	☐		☐
K. Tag out sheet # _____ properly completed and issued	☐		☐
L. Standby fire extinguisher immediately available	☐		☐
M. Sparks containment necessary	☐		☐
N. Adjacent sewers covered	☐		☐
O. Water hose immediately available	☐		☐
P. Area wet down	☐		☐
Q. Fire watch assigned	☐		☐
R. Gas test required (oxygen, flammability, toxics)	☐		☐
S. Explosive meter has current calibration tag	☐	X	
T. Confined space isolated by blinding, disconnect or double block and bleed	☐	X	
U. Confined space entry attendant properly trained in emergency procedures	☐		☐
V. Emergency communications device available and tested	☐		☐
W. Radioactive devices made safe (Instrument Form Initials _____)	☐		☐
X. Railcar or tanktruck, wheels chocked, signs in place	☐		☐

	CHEMICAL	TIME	RESULTS	TIME	RESULTS	TIME	RESULTS
Oxygen 19.5% to 22%							
Toxic Chemical							

OPERATION: _____

APPROVAL FOR WORK TO BEGIN:

WORK CREW REP. _____

RETURNED BY: _____

CONCLUSION STATUS: ☐ JOB COMPLETELY FINISHED. ☐ WORK ACTIVITY CONCLUDED.

Safety and
Health Standards

BASF Corporation Chemicals Division

BASF

Safety and Loss Prevention

Subject: GENERAL RULES FOR CONTRACTORS	Effective: JANUARY, 1993	Sheet 1 of 5
Section: LOCATION	Supersedes: DECEMBER, 1992	
Number: 6	Issued By: Geismar Safety & Loss Prevention Department	

The following general rules will be adhered to by all contractors and their subcontractors while working on BASF Corportion's premises.

Before commencing work, all contractors are required to personally meet BASF's designated representative and discuss safety regulations in regard to his particular job. All contractors will comply with federal and state safety and health regulations The Contractor shall designate, to the BASF Construction Representative, a named Safety Representative. This Safety Representative, in conjunction with the Contractor's Project Superintendent, will be responsible for ensuring that a safe working environment is provided, that operations and work procedures are performed in a safe manner and that applicable safety and health regulations are followed. He is to assure that each employee is provided initial indoctrination and such continuing instruction as will enable him to conduct his work in a safe manner. Initial indoctrination shall include instruction in safe practices reporting all accident, availability of medial care and individual responsibility work accident-free operations. In the event the BASF Representative observes unsafe practices or conditions, which in his opinion constitute imminent danger, he shall have the authority to cause the activity to cease. The work shall not resume until the unsafe condition is corrected to the satisfaction of the BASF representative.

Following this initial orientation, the Contractor's Representative will be required to sign a document verifying receipt of the orientation materials, and acknowledging *that it is the contractor's responsibility to fully brief all of his employees and subcontractors as to BASF's safety hazards, precautions, and procedures.*

MEDICAL

1. Except for exposure to chemicals, the Contractor shall be responsible for administering medical treatment for employees under their control. In the event of any serious injury, BASF will assist in emergency medical services and if required, transport personnel to hospital as directed by the Contractor. The request a BASF ambulance or emergency medical assistance, call Extension 555 on any BASF telephone.

2.. *All* persons exposed to chemical inhalations, [phosgene and/or chlorine] or skin contact with chemicals, must report to BASF Medical for evaluation.

SAFETY

1. All personnel within the Geismar Site operating areas will wear approved hard hats and safety glasses. Metal hard hats are not permitted. Soft-sided goggles are required to be work in all posted areas of the Site.

2. All work performed by contractor personnel in any of the existing operating areas will require, where applicable, observance of the exiting BASF Tag-Out Procedure, Vessel Entry Procedure and Safety Checklist Permits. These permits or tags will be issued by the operating supervision in the area where the work is to be performed.

NOTE: It is the responsibility of the contractor to obtain a Safety Checklist Permit from the operating supervision who has jurisdiction over the particular work area. ***This must be done daily before work begins.***

3. All safety equipment in existing plant areas, such as fire extinguisher, stretchers, safety showers, etc., are plainly marked and must be kept free of obstruction for emergency use. Contractor personnel are not permitted to open any hose house or use the fire equipment inside, except for actual emergencies. Fire water shall not be used without the permission of the Safety and Utilities Departments.

4. All electrical equipment used by contractor personnel, while engaged in work in any of the existing plant areas, must be the type approved by Underwriters' Laboratories or Factory Mutual and equipped with provisions for grounding. The contractor will consult with the designated BASF Representative as to the electrical classification of the area in which the work is to be performed. *No* electrical cords will be allowed to pass through doorways unless the door is restrained from closing on the cord. Also, electrical cords must not be allowed to run across roadways where vehicles may pass without having suitable protective crossovers.

5. When compressed gas cylinders are stored or used, they must be fastened securely away from any source of heat or flame. Acetylene and oxygen cylinders cannot be stored together, [empty or full]. They must be separated by a minimum distance of twenty [20] feet or by a non-combustible barrier five [5] feet high and having a fire resistance rating on one-half hour. Acetylene cylinders must be stored in an upright position.

6. Job clean-up will be performed as a continuous operation throughout the job to prevent hazardous accumulation of debris.

7. Smoking is prohibited in all areas except where signs permit.

8. *Horseplay* is not allowed at any time.

9. Gambling, reporting for work while under the influence of alcohol or drugs, possession or drinking of intoxicants, fighting, stealing, carrying of firearms, or other weapons in the plant, sleeping on the job, the use of threatening or abusive language and the willful misuse or defacing of property will be sufficient grounds for eviction from the job.

10. Signal codes for plant emergency alarm signals are posted throughout the plant.

11. Any alarms and/or signals or radio equipment to be used by the Contractor for any purpose, will be cleared as for type, sound and usage with BASF Safety Department before being put in use.

12. All contractors and subcontractor personnel will remain in the vicinity of their construction area. Any personnel required to perform work outside their construction area will be required to obtain approval from the BASF Corporation's Construction Engineering Department *prior to starting any work*. Contractors must check with BASF operating supervision prior to starting work in any operating area. ***This must be done on a daily basis.***

13. Should the contractor require, for performance of his work, an interruption of electric, lighting, steam or other service to any area of a plant, he shall first contact the designated BASF Representative to schedule and supervise the temporary or permanent discontinuance of service. The contractor must have the approval from operations supervisor before hooking up to any utility

station [H_2O, Air, N_2, Steam] or operating any equipment.

14. Pressurized hose lines carrying water, air, steam or nitrogen *will not* be permitted to run across any roadway where vehicles may pass unless the hose line[s] are protected by suitable protective crossovers or the road is barricaded.

15. When work above grade, in piperacks or any area where persons may pass beneath, the area must be roped off and tags hung [indicating the hazard] if any welding, burning, sandblasting, etc., is to be performed. This will alert and deter personnel from passing through the area.

16. All scaffolding must meet minimum BASF and OSHA Standards, i.e. toeboards, guardrails, etc.

17. No metal ladders are permitted in motor control centers or transformer yards. All extension ladders must be tied off before working on them.

18. All holes, trenches, open platforms, walkways, etc., must be barricaded to prevent persons from walking or falling into them.

19. Phosgene exposure dose badges are required for all contractors in TDI and MDI. *If any color change* is noted, the person *must* report to BASF Medical for evaluation.

20. Emergency escape respirators are required for *all* personnel on the Geismar Site, including contractors and visitors. Each person is responsible for the inspection and maintenance of his or her personal escape respirator. All personnel are required to have an emergency escape respirator available at all times in all areas of the Site from the time they initially reach their work station until they leave at the end of the workday. This includes break and lunch periods.

    For BASF employees, no facial hair is allowed which would contact the sealing surface of a respiratory protection device which that employee will have occasion to use. The application of this *beard policy* for all non-BASF personnel is determined by a case-by-case evaluation based on the exposure conditions. m Contract Maintenance personnel are required to comply with the same facial hair standards as BASF personnel.

21. To report a fire, gas release or other emergency, dial Extension 555 on any regular BASF telephone. State your location and the nature of the emergency, then remain on the line, if possible, to repeat the message or give additional information.

22. Plants may require an additional contractor safety orientation which must be completed prior to contractors beginning work in the plant.

23. Hearing protection must be work in specified areas.

24. No person shall be permitted to enter a confined space [tank, vessel, manhole, etc.] without first obtaining a permit from the operating supervisor.

25. <u>HAZARD COMMUNICATION</u>

    The BASF Corporation's Geismar Site operates in compliance with the OSHA Hazard Communication Regulation Complete compliance with this regulation requires that BASF inform all contractors working at the Geismar Site of the hazards they may encounter. To accomplish this, a member of contractor management will be trained as follows:

A. Management will be advised of the hazards of the chemicals present in the area[s] in which they will be working, and personal protective equipment, and/or work practices necessary to protect their employees from the hazards.

B. In-plant hazard warning labels found on dedicated process equipment, and the existence of the plant equipment list for unlabeled equipment will be discussed with contractor management.

C. The Occupational Health Manual [OHM], with particular attention to the hazardous chemical list and Material Safety Data Sheets, will be discussed. The contractor will also be informed of the locations of plant's OHMs.

D. A Hazard Communication Handbook will be distributed for each contractor employee. It is then the responsibility of contractor management to train their employees on the BASF Hazard Communication Program and to document that the training was conducted.

At the Geismar Site, Hazard Communication information is conveyed to the contractor management as follows:

1. Maintenance Contractors - Contractor supervision is trained by the Site Safety Manager and/or a representative from the Maintenance Department. The Contractor supervisor is then responsible for training their employees.

2. Construction Contractors - Contractor supervision is trained by plant management. The contractor supervisor is then responsible for training their employees.

3. Operations/Plant Contractors - Contractor supervision is trained by plant management. The contractor supervisor is then responsible for training their employees.

Contractor management whose firms do repeat work at the Geismar Site will be trained annually at a minimum, unless a process change or material substitution changes the hazards.

CONTRACTOR SAFETY BRIEFING FORM

I, _____ WITH _____
[NAME OF CONTRACTOR SUPERVISOR] [NAME OF CONTRACTOR FIRM]

HAVE RECEIVED A COPY AND HAVE BEEN BRIEFED ON BASF'S GENERAL SAFETY ORIENTATION PACKAGE FOR CONTRACTOR PERSONNEL BY A BASF REPRESENTATIVE.

I UNDERSTAND ALL THE RULES WHICH I HAVE BEEN BRIEFED ON AND REALIZE IT WILL BE MY RESPONSIBILITY TO BRIEF ALL PERSONS UNDER MY SUPERVISION ON THIS INFORMATION.

IT WILL ALSO BE SOLELY MY RESPONSIBILITY TO ENFORCE ALL BASF/OSHA SAFETY AND HEALTH REGULATIONS ON MY JOB.

_____
CONTRACTOR REPRESENTATIVE

_____
BASF REPRESENTATIVE

_____
DATE

Copies: Safety
Purchasing
Construction Representative

Safety and Loss Prevention		
Subject: COOLING TOWER ENTRY PROCEDURE	Effective: JUNE, 1992	Sheet 1 Of 1
Section: LOCATION	Supersedes: APRIL, 1985	
Number: 7	Issued By: Geismar Safety & Loss Prevention Department	

I. PURPOSE

To reduce injuries by establishing minimum precautions for entry and/or work inside cooling towers.

II. PROCEDURE

1. Prior approval of operating supervision is required for cooling tower entry. A Safety Checklist\Permit shall be issued.

2. Fans must be properly locked out, tagged, fuses pulled and one blade secured from movement when any work is performed on the fan or inside the cell within 10 feet of the fan. The work crew shall try to start the fan with the ON/OFF switch prior to beginning work.

3. Cooling towers shall be tested for flammable vapors and toxic gases and a Safety Checklist/Permit issued prior to entry.

4. Persons performing work or inspections inside cooling towers, and personnel performing work inside the fan shroud, shall have an outside attendant equipped with an emergency pager or two-way radio.

5. No smoking or open flames are permitted in, on, or within 50 feet of the cooling tower.

6. Prior to performing work on fans and fan gear reducers, the inside area of the fan shroud shall be decked with an acceptable scaffold material, to the fullest extent possible.

7. No crane lifts shall be made inside the fan shroud after dark without permission from the Operation's Supervisor and the Area Plant Maintenance Engineer, [or a designee]. Due to lack of normal sufficient lighting, lifts should be avoided after dark.

8. The fire protection system shall remain in service unless approval is obtained from the Operation's Supervisor to block in the system. No Hot Work shall be performed when the system is out of service.

9. Dust mask required for Cooling Tower entry.

Safety and Health Standards

BASF Corporation Chemicals Division

BASF

Safety and Loss Prevention		
Subject: EYE WASH AND SAFETY SHOWERS	Effective: APRIL, 1993	Sheet 1 Of 2
Section: LOCATION	Supersedes: OCTOBER, 1992	
Number: 8	Issued By: Geismar Safety & Loss Prevention Department	

I. SCOPE:

This standard will apply to all eye wash and safety showers installed after January 1, 1989. Any deviations from this standard will require written approval from the Geismar Safety & Loss Prevention Department.

II. OBJECTIVES:

A. To provide an effective and reliable first aid for eyes and body in the event of a chemical splash.
B. To provide a uniform standard for the design and installation of eye wash and safety showers.
C. To provide for the availability of repair parts for the maintenance of this equipment.
D. To comply with OSHA Standard 1910 Subpart K and ANSI Z-358.

III. GENERAL GUIDELINES:

A. Eye wash and/or safety showers shall be provided where persons are exposed to materials which may cause injury to eyes or body.
B. Eye wash and safety showers shall be located in accessible locations that require no more than 10 seconds to reach and a maximum travel distance of 100 feet.
C. Showers and eye wash shall not be located near the hazard as to interfere with their intended purpose.
D. Potable water shall be used to supply eye wash and showers. The water temperature shall be maintained between 60°F and 95°F.

IV. EYE WASH:

A. Eye wash shall be designed to deliver no less than 3.5 GPM of water at a minimum flowing pressure of 30 PSIG.
B. Eye wash and bowl assembly with self draining valve and strainer shall be Encon Model 01-0300003-1 w/o wall bracket or Model 021-0304-1 with wall bracket.
C. Replacement parts see Appendix A.

V. SAFETY SHOWERS:

A. Safety showers shall be designed to deliver no less than 20 GPM of water at a minimum flowing pressure of 30 PSIG.
B. Safety shower shall be ECON Model 01-0502-00.
C. Replacement parts see Appendix A.

VI. EYE WASH AND SHOWER COMBINATION

A. Combination piped units shall be Econ Model 502-303 with strainer.
B. Pre-insulated and electrically heat traced units shall be Econ Model 33-0130-50.
C. Replacement parts see Appendix A.

VII. THERMAL PROTECTION:

A. Eye wash, safety shower and supply piping shall be insulated and electrical heat traced to prevent freezing.
B. Where electrical heat tracing is not available, freeze protection valves shall be provided for both the shower and eye wash. The valve shall be a Therm-Omega, Therm-O-Tech Hat valve

[Stores Stock #510220].

C. Where overheating of the supply water is possible above 100°F, a high temperature protection valve shall be provided. The valve shall be a Therm-Omega, Therm-O-Tech Hat/RT valve.

VIII. IDENTIFICATION:

A. The area around the eye wash and safety shower shall be lighted.

B. The location shall be conspicuously identified using a Sikora Sign Company style triangular fiberglass marker with orange and white stripes.

IX. REFERENCE DRAWINGS:

A. Eye Wash: Econ Drawing No. 50-0023-09.

B. Safety Shower: Econ Drawing No. 01-0502-00.

C. Combination Piped: Econ Drawing No. 55-005-58.

D. Combination Pre-Insulated: Econ Drawing No. 55-0005-58.

E. Drawings can be obtained from the Geismar Safety and Loss Prevention Department.

APPENDIX A

EYE WASH PARTS LIST	
DESCRIPTION	ECON PART NUMBER
EYE WASH HEAD	01-0521-23
FLOAT-OFF COVER	01-0521-13
STRAINER ASSEMBLY	01-0502-98
STRAINER TEE	01-1100-52
STRAINER O-RING	00-0135-11
STRAINER SCREEN	01-1100-54
STRAINER TEE NUT	01-1100-53
SELF DRAINING BALL VALVE	00-0110-37
BOWL	01-1104-62
PUSH ROD AND DECAL	01-1100-16

SAFETY SHOWER PARTS LIST	
DESCRIPTION	ECON PART NUMBER
SHOWER HEAD	01-0504-03
SHOWER VALVE	00-0110-01
ACTUATOR ARM	01-1100-10
PULL ROD AND DECAL	01-0520-01
PLUGGED NIPPLE	01-1100-38

PRE-INSULATED PARTS LIST	
DESCRIPTION	ENCON PART NUMBER
SHOWER HEAD VALVE ASSEMBLY	01-0540-03
EYE WASH VALVE ASSEMBLY	35-0522-09
SHOWER HEAD	01-0540-03
EYE WASH HEAD	01-0521-23

SAFETY STANDARD
BASF Corporation

SUBJECT: EXPLOSIVEMETERS	EFFECTIVE: APRIL, 1989	SHEET 1 OF 1
SECTION: LOCATION	SUPERSEDES: APRIL, 1988	
NUMBER: 9	ISSUED BY: GEISMAR SAFETY & LOSS PREVENTION	

Selection and application of portable explosivemeters for the Geismar Works has been adopted.

1. For normal vessel entry activity the MSA Model 261 instrument will be used. This is a continuous combination (oxygen and explosive gas) unit.
2. For general use explosive gas testing the MSA Model 2A instrument will be used. This standard model currently used in most areas of the Works.
3. All portable explosivemeters and oxygen analyzers shall be used, stored, calibrated and recharged in accordance with the minimum requirements specified in Chemical Division Safety & Health Manual. Section: Hazard Control Equipment, Standard #14 (Dec 88).

These meters are not approved for use in oxygen enriched atmospheres. The standard applies to all new purchases and replacement purchases of portable explosivemeters. It is necessary to secure prior approval of the Safety Department before the purchase order is issued for any other type explosivemeter.

MAINTENANCE

The Instrument Department has initiated a formal PM, calibration and inspection program. It is required that each meter receive a monthly PM and a more thorough yearly inspection. Monthly is interpreted as "calendar month". Any meter PM'ed during one month will be considered OK until the end of the following month, as far as PM requirements. As a minimum, the following is required:

MONTHLY

1. Battery Check
2. Calibration using the Official MSA Test Kit. (MSA Part #454308) which is stocked in Geismar Stores.
3. Check for obvious defects such as cracked case, loose wires, defective aspirator bulb, or any "temporary" modifications or substitutions.

YEARLY

1. Battery replacement
2. Calibration
3. Replace Filter
4. Check Flow regulating orifice
5. Check flow rate
6. Check flashback arrestors
7. Replace detector unit
8. Check ballast lamp
9. Check structural integrity, loose wires, "temporary" modifications or substitutions
10. Check aspirator bulb and probe

BASF Corporation

SUBJECT: PERFORMING WORK ON ENERGIZED ELECTRICAL EQUIPMENT	EFFECTIVE: MAY 89	SHEET 1 OF 2
TION: LOCATION	SUPERSEDES: APR 85	
NUMBER: 10	ISSUED BY: GEISMAR SAFETY & LOSS PREVENTION	

I. PURPOSE AND SCOPE

The Geismar standard is that working on energized electrical equipment is not permitted. It is recognized, however, that some infrequent energized work is necessary. This procedure establishes conditions under which testing or repairing of energized electrical equipment may be conducted. This procedure is intended to apply to those situations wherein direct contact may be made on an energized conductor with parts of the body or metallic tools.

It is recognized that tests must be performed frequently on energized equipment in order to diagnose a problem. This procedure is not intended to preclude such normal testing as long as the testing involves the use of appropriate test equipment and does not require contact of hands or uninsulated metallic tools directly on the energized equipment.

II. DEFINITIONS:

	Low Voltage	Medium Voltage	High Voltage
	Up to 120 V	121 V to 599 V	600 V & above

Hot Work: Any condition in which energized terminals, lugs, stabs, fuse clips, etc., are exposed to accidental contact while performing required repairs or inspections.

Testing: Any condition in which energized terminals, lugs, stabs, fuse clips, etc., are used as a force for data collection with electrical test equipment (voltmeter, amp meter, phase meter, etc.) to diagnose a problem.

III. POLICY

Work on energized circuits in the medium or high voltage range shall not be routinely conducted. Normally, such equipment shall be de-energized and locked out prior to handling, touching, repairing or connecting. It is recognized, however, that special conditions may require working on energized equipment.

IV. PROCEDURE

If work is required on equipment of medium or high voltage which, according to operations personnel cannot be de-energized and made safe, this shall be confirmed by the appropriate plant manager or the assistant plant manager. One of the following people must review the job, in person, to determine that all appropriate safety precautions are taking place:

Maintenance	Works Engineering	Corporate Engineering
Supt. E&I Shops	Sr. Construction Eng.	Mgr. of Construction
Mfg. Maintenance	Engineering Super	Sr. Const. Engineer
General Manager	General Manager	Supt. E&I Shops
On-Call Manager	On-Call Manager	Manager Maintenance

(OVER)

Safety and
Health Standards

BASF Corporation Chemicals Division

BASF

Safety and Loss Prevention

Subject: GEISMAR VEHICLE SAFETY POLICY	Effective: October, 1992	Sheet 1 Of 1
Section: LOCATION	Supersedes: August, 1992	
Number: 11	Issued By: Geismar Safety & Loss Prevention Department	

1. All vehicles are to be operated and maintained safely.
2. All state and federal vehicle regulations apply within the Geismar Site.
3. Bicycles are considered vehicles and should not be ridden on sidewalks or other normal pedestrian walkways.
4. The owner or owning department is responsible for the safe operation and maintenance of vehicles. Defective vehicles must be taken out of service until repaired.
5. The maintenance department will provide an inspection service program for all motorized vehicles.
6. Anytime a BASF vehicle is operated off the Geismar Site, seat belts must be worn. Seat belt use is mandatory in all vehicles within the Geismar Site.
7. Mounting or dismounting must be accomplished only while the vehicle is stationery.
8. Passengers are not allowed on forklifts and similar vehicles.
9. Engines must be shut down during fueling and when the driver is out of the driver's position. [NOTE: Exceptions to this policy are 18 wheel diesel transport trucks at weigh scales.]
10. When riding in the back of pickup trucks, personnel must be seated. Riding on running boards is prohibited. Personnel are not allowed to sit on the top or the sides of a pickup truck bed while the vehicle is in motion.
11. Drivers must comply with all posted signs, signals, lights or other warning devices. The driver shall slow down to ensure the safety of his passengers when traveling over rough or uneven terrain when operating in tight quarters or when crossing railroad tracks.
12. Warning beacon lights have been provided at the perimeter of all operating areas. Vehicles may not enter the units when these lights are flashing without specific permission.
13. Pedestrian crossing streets or walking on road shoulders will be given right of way by all vehicle operators.
14. In order to prevent a serious accident, your cooperation is expected. Failure to observe these traffic regulations represents a hazard to your fellow employee and can result in disciplinary action.

Safety and Loss Prevention		
Subject: IMPAIRMENTS OF FIRE PROTECTION EQUIPMENT	Effective: AUGUST, 1992	Sheet 1 Of 1
Section: LOCATION	Supersedes: MAY 1, 1983	
Number: 12	Issued By: Geismar Safety & Loss Prevention Department	

I. PURPOSE

To provide a policy for reporting and monitoring impairments to fixed fire protection equipment in order to minimize the temporary fire protection deficiencies.

II. SCOPE

This policy will include impairments to water spray systems, sprinkler systems, halon systems, monitors, hydrants, fire water mains, fire pumps, fire alarm systems, foam systems or any other fixed fire protection systems.

III. OBJECTIVES

A. To minimize the fire exposure to BASF personnel and assets.

B. To comply with BASF fire insurance requirements.

C. To comply with OSHA Standard 1910 Sub Part L

IV. PROCEDURE

A. Any fire protection system that is impaired shall be tagged out in accordance with the Tag-Out Procedure. Testing of fire protection equipment will not be considered impaired.

B. The Safety Department shall be notified immediately of all impairments. During off hours, the on-call Safety/IH person shall be notified.

C. The Safety Department will maintain a log of all impairments and notify the insurance carrier when necessary.

D. Alternate fire protection may be required during the impairment.

E. The Safety Department will be notified when the protection is restored.

Safety and Health Standards

BASF Corporation Chemicals Division

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Safety and Loss Prevention		
Subject: GENERAL SAFETY COMMITTEE	Effective: MAY, 1993	Sheet 1 Of 2
Section: LOCATION	Supersedes: DECEMBER, 1992	
Number: 13	Issued By: Geismar Safety & Loss Prevention Department	

I. PURPOSE

The purpose of the General Safety Committee is to assist in reducing accidents and injuries by providing a joint management-union forum for discussing and resolving safety and health problems. It is the intent that all safety and health items be discussed and resolved at the department level whenever possible and that the General Safety Committee would normally only become involved if a satisfactory solutions were not achieved at the department level.

II. MEMBERSHIP

Membership of the committee shall be established as set forth in the current labor agreement. The Site Safety Manager and/or designee will act as Chairman. The Safety Department will serve as Secretary.

III. OPERATION

A. Meeting

The committee shall normally meet monthly at a regularly scheduled time.

B. Notice of Meetings and Agenda

Except for emergency meetings, the Secretary will send out a written meeting notice and agenda one week prior to the meeting. Emergency meetings can be called by the Chairman at any time.

C. Order of Business

The meeting shall be conducted according to the generally accepted rules of order. The following shall be the general outline of the order of business which may be deviated from when, in the discretion of the Chairman, such is necessary.

1. Call to Order - the meetings will be called to order promptly at the appointed time.
2. Roll Call by the Secretary - Names of members and others present will be recorded. Members who cannot attend should notify the Secretary in advance.
3. Introduction of visitors, if any.
4. Minutes of the previous meeting will be corrected, if necessary.
5. Industrial Hygiene - The Industrial Hygiene Department will present the results of the monthly area and personnel, sampling and will discuss an special problems, policies, and programs pertaining to Industrial Hygiene.
6. Unfinished Business - All matters on which definite decisions have not been made are to be brought up for re-consideration unless temporarily waived.
7. Review of Accidents and Statistics - Causes of the accidents will be discussed. Responsibility will be determined for all major accidents and incidents which have occurred since the last meeting and preventive measures reviewed.

Subject: GENERAL SAFETY COMMITTEE	No. 13	Effective: December, 1992	Sheet 2 Of 2

8. New Business - Each member will be given the opportunity to discuss new safety or health questions or problems. If the item has been discussed at the department level without a satisfactory solution being reached, the committee member may request that the item be entered as a formal agenda item. If the item has not been discussed at the department and handled at that level.

D. Minutes

Minutes will be prepared by the Secretary and will show attendance, summary of safety performance, status of old and new agenda items and summary of general discussions. The minutes will be reviewed by the Chairman prior to issue, then mailed to all committee members and posted on bulletin boards. Any committee member may submit corrects and/or additions to the minutes to the Chairman.

Safety and Loss Prevention

Subject: SHOT-GUN VALVES	Effective: AUGUST, 1992	Sheet 1 Of 1
Section: LOCATION	Supersedes: MAY, 1989	
Number: 14	Issued By: Geismar Safety & Loss Prevention Department	

PURPOSE

To minimize injuries from discharges of permanently installed valves.

DEFINITION

1. A shot-gun valve is any valve in hazardous service which discharges;
   a. seven feet or less above the walking surface pointing up or horizontal
   b. between seven feet and four feet pointing downward

2. Hazardous service includes anything toxic, flammable, corrosive, hot [above 60° C/140°F], or cold [below 0° C/32°F].

PROCEDURE

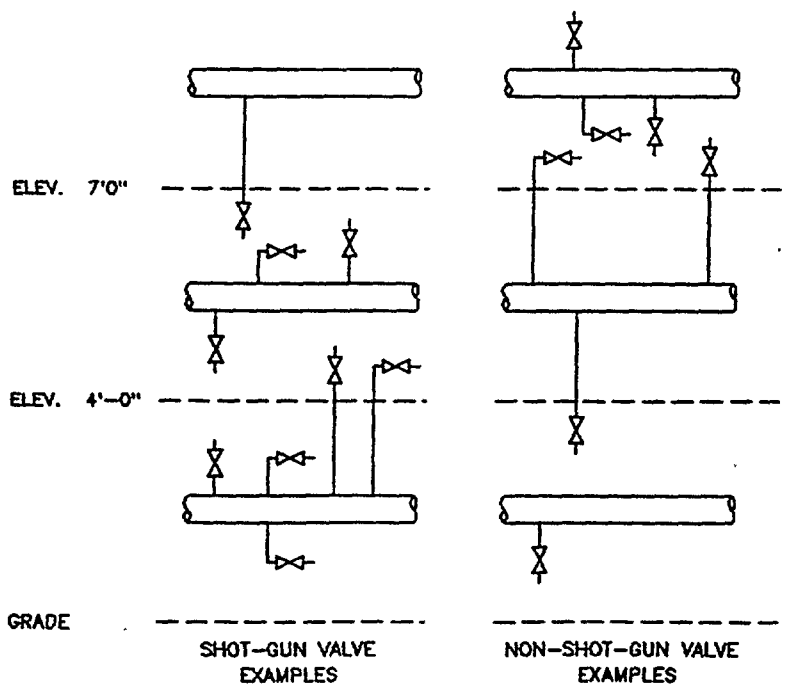
Shot-gun valves in hazardous service shall be eliminated by blinding, capping, plugging, or repiping the discharge to a safe elevation and direction.

EXEMPTIONS

All utility service drop stations [steam, air, water and nitrogen] are excluded.

Any valve in non-hazardous service is excluded.

Anything above 7 feet is excluded. Any valve below 4 feet which points down is excluded.



Safety and
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Safety and Loss Prevention

Subject: RAIL SWITCHING POLICY	Effective: October, 1992	Sheet 1 Of 2
Section: LOCATION	Supersedes: MAY, 1989	
Number: 15	Issued By: Geismar Safety & Loss Prevention Department	

I. POLICY

The official policy of the Geismar Site is that the switchman and the trackmobile driver must remain in continuous visual contact whenever the trackmobile is moving cars. Any exceptions must comply with Section III of this procedure.

II. RAILCAR MOVEMENT

A. The trackmobile driver must stop immediately and sound his horn if:
- he loses visual contact with his switchman, or
- he is unclear of the message signal from the switchman, or
- he is in any way unsure of switchman's location.

B. The switchman will not walk on or cross over an active track when the trackmobile is in motion.

C. The trackmobile driver obeys signals from his switchman only, unless he sees someone waving violently in the area In such cases the trackmobile driver is to stop immediately and determine the cause.

D. If the trackmobile driver leaves the cab, he must shut down the trackmobile.

E. Riding on railcars is prohibited. Riding inside the trackmobile cab is permitted.

III. EXCEPTIONS

Any and all exceptions to the Geismar policy [Section I] must meet the following criteria:

A. Exceptions must be written and must be approved by both Operating Plant Management and the Site Safety Department.

B. The Safety Department will provide an annual notice to the Site General Manager specifically listing all established exceptions [bind zones] to continuous visual contact.

C. All departments' written exception will require:

1. If visual contact is lost during switching, the trackmobile driver is not to proceed until continuous radio or visual contact is reestablished.

2. The radio frequency used for this continuous radio contact is not to be shared with any other activity during trackmobile movement.

3. While not in visual contact, the switchman is not to move or change position unless specifically authorized to do so by the trackmobile driver.

4. Continuous radio contact is defined as continuous conversations/exchanges between the switchman and trackmobile driver, or when the switchman keeps his radio continuous keyed. In no case would there be more than one second of radio silence. If the trackmobile driver needs to interrupt such periods of continuous keying, then the trackmobile driver is to blow his horn in a series of rapid short bursts to alert the switchman to listen to the radio.

5. The department's written exception will include an exact description and sketch of known blind zones.

6. Boundaries of blind zones will be marked to remind/and notify personnel that "visual contact is required beyond this point".

Safety and
Health Standards

BASF Corporation Chemicals Division

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Safety and Loss Prevention

Subject: GENERAL SAFETY RULES	Effective: MARCH, 1993	Sheet 1 Of 1
Section: LOCATION	Supersedes: JANUARY, 1985	
Number: 16	Issued By: Geismar Safety & Loss Prevention Department	

The following safety rules are established for the protection of all employees and visitors:

1. All personnel must wear industrial safety glasses when in designated plant areas.
2. All personnel must wear hard hats when in designated plant areas.
3. All personnel must wear the specified personal protective equipment when working with corrosive, toxic, hot or other dangerous materials.
4. Work clothing in plant areas shall be, as a minimum, a shirt with sleeves and trousers.
5. Any individual sustaining an injury on company property must report it promptly to their supervisor.
6. All accidents or incidents involving loss of company asset must be reported promptly to supervision.
7. Unsafe acts or conditions observed by any person on company property or involving corporate assets must be reported promptly to supervision for corrective action.
8. Alcoholic beverages, narcotics, hallucinogenic and other illegal drugs are not permitted on company property. Reporting for work under the influence of any of these substances will not be allowed.
9. Firearms are not permitted on company property.
10. Horseplay, fighting and running are not permitted on company property.
11. Machinery and moving equipment must not be operated without the proper safety guards in place.
12. Danger areas must be roped off, barricaded or otherwise marked.
13. Only properly trained and authorized personnel are permitted to operate machines and equipment.
14. In addition to these rules, specific safety rules established by Site and Unit, as well as those outlined in Safety Standards, must be observed.

Any employee who knowingly violates an established safety rule will be subject to disciplinary action. Visitors in violation will be removed from company property.

Safety and
Health Standards

BASF Corporation Chemicals Division

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Safety and Loss Prevention		
Subject: GAMA TAGOUT PROCEDURE	Effective: April, 1993	Sheet 1 of 1
Section: LOCATION	Supersedes:	
Number: 17	Issued By: Geismar Safety & Loss Prevention Department	

GENERAL

The member plants of the Geismar Area Mutual Aid Association have a large complex system of interconnecting pipelines. Occasionally, it becomes necessary for preventive maintenance or repair work to be done on one or more of these common lines. All possible precautions must be taken to assure that proper preparation of the equipment is carried out in order to prevent injuries and/or damage. In order to facilitate coordination between the affected plants, the following procedure will be utilized.
This procedure is intended as a supplement and not a substitute for each plant's existing tag out system.

TAGGING PROCEDURE

1. The plant responsible for the maintenance will initiate the procedure.
2. On those jobs which involve lines which are common to two or more plants, such lines or equipment which are to be isolated will have the isolation valves, plug cocks, or line blinds marked with tags. Process lines must be blinded. Double block and bleed can be used only by mutual consent.
3. Each plant performing maintenance work will attach their own tags at their plant site and a GAMA tag at the other plant sites affected by the tag out. [Attachment 1]
4. A Hazardous Work Authorization form will be filled out by personnel from the plant initiating the procedure and copies will be maintained at each affected plant. This form contains the following information: [Attachment 2]
    1. Identification of the plants involved.
    2. Identification of the common equipment and its contents.
    3. The type of work to be authorized.
    4. A description of the preparations which have been made to prepare the equipment.
        a. Isolation of equipment i.e. blinds, etc.
        b. Personal protective equipment required.
        c. The results of gas tests, if required.
5. Name of individuals placing tags and their phone numbers
6. Signed release by authorized personnel from both sides.

TAG REMOVAL

1. tags will be removed only after work is complete and the release section of the Hazardous Work Authorization has been signed by authorized personnel from both plants.
2. The release section can only be signed:
    a. By the individual who placed the tag if he is in the plant. [If originator is not in the plant, the tag will be removed by an appointee of the person in charge of the plant at that time.]
    b. After satisfactory completion of applicable test and preparatory procedures, i.e. leak test, hydrostatic test, nitrogen purging, etc.
    c. Blinds are removed and the line is ready for service.

Attachment 2 - 3 part form titled "Intraplant Hazardous Work Authorization
Form Number 13552

GEISMAR AREA MUTUAL AID

Intraplant Hazardous Work Authorization

Date:_____ Time:_____ AM PM

1. Companies Involved:

   A._____

   B._____

   C._____

2. Equipment Involved:

   A._____

   B._____

   C._____

3. Work To Be Done:_____

   _____

   _____

4. Preparations: (purges, tests, lockouts, etc.)

Plant A	Plant B	Plant C
a._____	a._____	a._____
_____	_____	_____
b._____	b._____	b._____
_____	_____	_____
c._____	c._____	c._____
_____	_____	_____

5. Individuals Authorizing Tags:

	Name	Phone Number	Position
Plant A	_____	_____	_____
Plant B	_____	_____	_____
Plant C	_____	_____	_____

6. Work Complete Release:

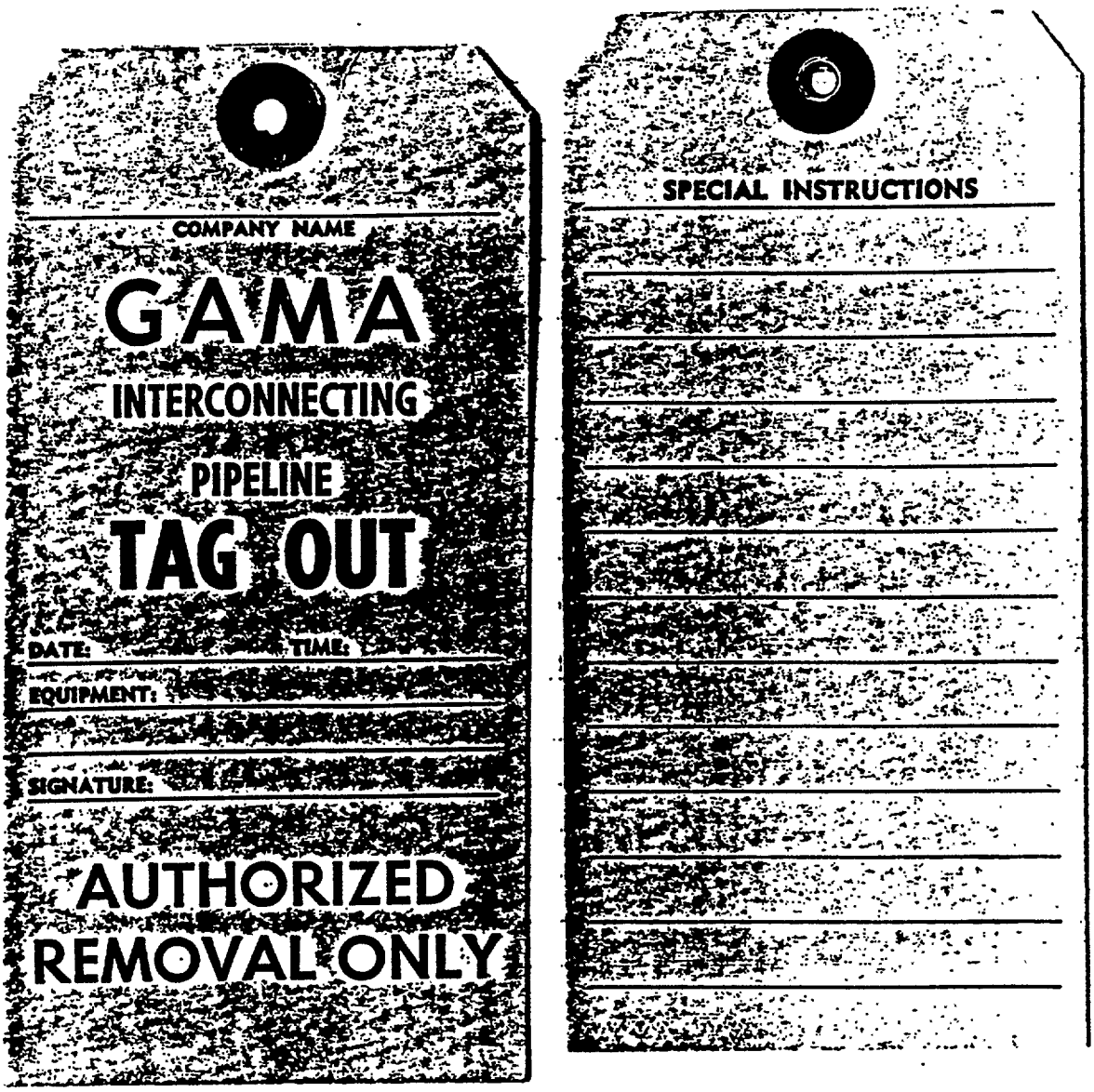
   A._____ B._____ C._____

BPB/sbk
1/22/80

AVAILABLE IN THE SAFETY DEPARTMENT

Bourque 13552
Baton Rouge, La

Attachment 1 - 2 sided Orange GAMA Tag w/string tie attached.



AVAILABLE IN THE SAFETY DEPARTMENT

Safety and Health Standards

BASF Corporation Chemicals Division

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Safety and Loss Prevention		
Subject: RAILROAD SAFETY STANDARD	Effective: JUNE, 1993	Sheet 1 Of 1
Section : LOCATION	Supersedes:	
Number: 18	Issued By: Geismar Safety & Loss Prevention Department	

The following Safety Rules apply to Railroad Safety of the Geismar Site.

1. No portion of any parked railcar shall extend inside the yellow marks painted on the rails at intersections, walkways, or switch areas.

2. When cars are spotted for loading/unloading, derails will be put in place, blue flags posted, wheels chocked, and railcar brakes set.

3. Switching Operations:
   a. Railcars will not be left parked across intersections or crosswalks. This will ensure unimpeded egress during emergency situations.

   b. A signal person is required when pushing cars through a crosswalk or intersection.

   c. When pulling cars through intersections and crosswalks, standard rules of the road apply, i.e., sounding of the train whistle at a reasonable distance. No signal person is required in this case.

   d. Switches will be aligned to the main line when switching operations are complete.

4. When an emergency condition exists in or near a plant area where a rail crew is operating, all equipment, including engines, are to be shutdown immediately upon notification by the Safety/Security Departments.

5. The MAXIMUM rail speed limit within BASF's Geismar Site is five [5] miles per hour.