116

PPG INDUSTRIES, INC.

CHEMICAL DIVISION - U.S.

LAKE CHARLES, LA

TRAINING MANUAL FOR THE POSITION OF

LEAD OPERATOR IN PLANT B

CONFIDENTIAL;
Subject to Protective Order
Of 14th Judicial District Court
No. 91-1145

Developed and compiled by:

J. E. DOYLE, Training Specialist

Operations Training

Date

Approved by: General Foreman

Operations Representative

8/4/55

Date

SL 007837

OBJECTIVE

UPON COMPLETION OF THE TRAINING AS SPECIFIED IN THIS MANUAL, THE TRAINEE WILL HAVE THE KNOWLEDGE, SKILLS AND ABILITIES NECESSARY TO PERFORM AS A PROFESSIONAL OPERATOR IN PLANT B.

PREFACE

PPG - Lake Charles utilizes on-the-job training for operators. This training manual is provided for use in conjunction with the on-the-job program. The content of the manual was compiled with cooperation and assistance from operators and unit supervisors. It is intended to be used as a guide in learning the general skills associated with the job.

The training technique used in the manual is a step-by-step building block approach. The building blocks are training modules which contain the tasks that must be learned to perform the job safely and efficiently. Although the modules are arranged in logical sequence for learning, the order may be changed depending on operating conditions.

Each module contains a learning exercise in the following form:

OBJECTIVE - A statement outlining the intended results of the module.

RATIONALE - An introductory section explaining why you need to learn each task and how the task applies to the job.

LEARNING ACTIVITIES - Exercises that tell what to do in order to learn that part of the job. They include information that must be read and learned.

PROGRESS CHECK - An informal examination designed to aid you and the on-the-job trainer or supervisor in determining your progress in learning the individual facets of the job.

TASK DETAILING - A reference list of the subtasks necessary to perform the tasks in the module.

YOUR ON-THE-JOB TRAINER, LEAD OPERATOR AND SUPERVISOR WILL ASSIST YOU DURING YOUR TRAINING PERIOD. HOWEVER, YOU ARE THE PERSON MOST RESPONSIBLE FOR YOUR LEARNING.

Read the Objective and Rationale. If you have any questions about the task or why it is done, ask your on-the-job trainer or supervisor. Once the task and the reasons you perform it are clear to you, go on to the learning activities.

The first part of the Learning Activities will provide you with or refer you to information that must be learned in order to correctly and safely perform the task. Your on-the-job trainer will help you with the second part which is the practical application of the information to the job.

When you become confident that you can perform the task, ask your trainer for the Progress Check. The on-the-job trainer will assist you in completing the check, but it is your responsibility to know the material required to perform it. If the results are not satisfactory to you or the trainer, the Progress Check may be repeated after additional study. When the progress check is completed, the trainer or supervisor

will sign the form. The signature means simply that the Progress Check has been completed. It should not be interpreted as an endorsement of your performance. You will sign the Progress Check form as an indication that you have completed it.

Qualification Standards for this job are listed in the last section of the training manual. Your job performance will be measured using these standards as a guide. You must meet these standards to qualify for this job.

The final evaluation of your performance will include several items, the most important of which will be your performance on the test given at the completion of your training.

THIS MANUAL IS NOT INTENDED TO COVER EACH AND EVERY ASPECT OF THE JOB. IT CONTAINS THE BASICS OF THE JOB AND WILL BE MODIFIED AS NECESSARY.

NOTE:

The generic pronoun "he" is used throughout this manual for the sake of convenience. There is no intent to discriminate by sex.

CONCERNS FOR YOUR FUTURE

Three important concerns for your future are Safety, Environmental Control and Energy Conservation. How you handle them directly affects PPG's profitability.

SAFETY is the personal responsibility of each employee. He has a responsibility to his family, to his fellow workers, and to his employer by whom he is paid to work safely. In the performance of his duties, he will be expected to observe safe practice rules as well as instructions relating to the efficient handling of his work.

ENVIRONMENTAL CONTROL is both an important national consideration and a serious concern of PPG Industries. In order to maintain an environment that is healthy and in compliance with government requirements, all PPG employees must assume a personal responsibility for preventing spills and emissions, which would contaminate the environment.

ENERGY is not only an exhaustible natural resource, it is a major and ever-increasing expense to PPG. It increases in cost with consumption such that each unit of energy used increases the cost of all our energy. All employees are expected to recognize and take steps to eliminate waste and use efficiently that energy necessary to properly and efficiently complete his assigned task.

These concerns can be managed successfully with the full cooperation of every employee.

CONTENTS

			Page
1.	Introduction to Major Job Responsibilities		1
2.	Training Modules including Task Detailing:		
2.1	Module #1:	Learning Your Way Around	4
2.2	Module #2:	Lock and Tag Procedures	8
2.3	Module #3:	Safety Alarms	28
2.4	Module #4:	Environmental Procedures.	39
2.5	Module #5:	Overseeing.	63
2.6	Module #6:	Listening	73
2.7	Module #7:	Communicating Expectations.	76
2.8	Module #8:	Giving Credit	81
2.9	Module #9:	Correcting	93
2.10	Module #10:	Resolving Conflict	97
2.11	Module #11:	Training	100
2.12	Module #12:	Instrument Air Compressors.	102
2.13	Module #13:	O_2-N_2 Metering Station.	113
3.	Qualification Standards		122

INTRODUCTION

In your years of experience as an operator at PPG Industries, Lake Charles Complex you have become familiar to a great degree with our various processes. In your previous experience as an operator, your jobs have been primarily task oriented. You were responsible for performing a series of extremely significant, important tasks. In your job as a Lead Operator, your basic orientation will be to the total job. You will be responsible for coordinating the individual tasks of the operators on your shift in such a way that the total job runs smoothly.

Because of your responsibility as a Lead Operator to oversee the entire job, it is necessary that your specific duties be well defined. As the title implies, your position is one of leadership. You have responsibilities in overseeing or leading the activities in the area as well as certain hands-on tasks you will be required to perform. Your promotion to Lead Operator indicates a good degree of skill and ability as an operator. However, the leadership aspects of your job, the people part of your job, may be new to you. The concept of total job responsibility may also be new to you.

Your job responsibilities will include the overseeing of the unit, product specifications, personnel safety, energy conservation, environmental protection and to a great degree, you will have an influence upon our product cost, equipment life and ultimately the profitability of our operations. Some of your responsibilities will be carried out through other people. Your responsibilities with people will include such

things as overseeing, leading, delegating, motivating, task assignments, communications, personnel safety, job coaching and the coordination and following of certain maintenance activities.

There are some modules in this manual for particular lead operator jobs. These modules are #12 and #13; Module 12 is for the EC-HCl Lead Operator job and Module #13 is for the Per-Tri Lead Operator job. You will not be held responsible for the information in these modules if it is not a part of your job. Reading the modules could be beneficial to you in that it could give you a better understanding of these functions.

This manual is designed to give you the training, ability and self-confidence that you will need to meet these new tasks.

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

TRAINING MODULES

The following pages are a series of modules designed to aid you in learning your job. These modules are arranged in a logical order to help you learn. There will be occasions when, because of varying operating conditions, you will want to change the sequence of the modules. In the event these conditions occur, it may be beneficial to go to the module that pertains to the situation. If this becomes the case, please do so.

MODULE #1

LEARNING YOUR WAY AROUND

Time required to complete this module will vary with the experience that you had in this unit.

OBJECTIVE

Upon completion of this module, you will be able to perform all of the tasks related to the jobs of the operators assigned to the area for which you are responsible, in time of upset or emergency.

RATIONALE

As a Lead Operator, you will be responsible for some process equipment which you do not operate personally. You will be responsible for all of the process equipment in your areas. From time to time the operators assigned to your area will need help with their process equipment. This help could include troubleshooting, or actual hands-on assistance with some of the equipment. Because you share with them the responsibility for this equipment, it will be necessary for you to know the process equipment assigned to the operators in your area.

In order to establish and maintain your proficiency in operating the equipment assigned to you, it will be necessary for you to read the material that the company has provided for you in the operating manuals, SOP manuals and training manuals related to other operating jobs in your

area of responsibility. Because critical incidents do occur from time to time, it is absolutely necessary that operating personnel develop and maintain the highest degree of proficiency possible.

LEARNING ACTIVITIES

1. Ask your trainer to point out for you those publications, such as operating manuals, SOPs, instruction books and training manuals, located in your control room that pertain to the operation of the units.

2. Briefly look over these documents, read the table of contents, and become familiar with the way in which material is organized.

3. Discuss with your trainer the content of the materials which were pointed out to you in Learning Activity #1.

4. Equipment layout and location is discussed in each of the training manuals provided for the B, C and D level operators in your area. Ask your supervisor for a copy of the manuals and go through them reading and performing the Learning Activities and Progress Checks placed therein. NOTE: If you have recently worked these jobs you may ask your supervisor for permission to skip this Learning Activity.

5. Due to the nature of the panel board at TE II and VCM II, ask the trainer to show you how to operate the panel board. This applies if you are training on the TE II or VCM II Lead Operator jobs.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #1

Ask your trainer or supervisor to check your response to the following:

1. Point out for your trainer the various publications in your control room that pertain to operations and list for him the basic subjects covered in each of these publications.

2. Perform all the Progress Checks in the Training Manuals for the operators in your responsibility area.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

MODULE #2

LOCK AND TAG PROCEDURES

Time required to complete this module should be approximately one day.

OBJECTIVE

Upon completion of this module, you will be able to follow the company lock and tag procedures.

RATIONALE

Safety is a major concern in the Lake Charles Complex. In order to prevent the unsafe and inappropriate operating of equipment, a tag out and lock out procedure has been devised which will help insure the safety of people working on equipment. This procedure includes isolating equipment at control points, identifying the control points with tags and in some cases locking the control point. Control points may be defined as any point at which electricity or material might be put into a piece of equipment. This would include electrical breakers, valves, steam lines, instrument air lines, and product lines. By using a series of tags and locks to prevent these control points from being operated we can insure a great degree of safety. This is a major part of your responsibility as a Lead Operator.

An important part of the lock and tag procedure is to insure that a vessel or other piece of equipment is cleared properly before tagging.

This means that the vessel should be completely evacuated, air swept, drain lines open (check for flow of air or water), water washed or whatever is required in order to render the equipment safe for maintenance work. All energy sources, including instrument air, to keep a valve from being stroked for example, hydraulic valves on hydraulic systems and compressed springs must be tagged. Also blinds are considered control points and must be tagged.

As Lead Operator, assuring the safety of those individuals in your area is an extremely important part of your work. Failure to follow the prescribed safety procedures, which are well thought out, can result in injury to people and serious damage to equipment.

LEARNING ACTIVITIES

1. Read the LOCK AND TAG PROCEDURE in the Task Detailing of this module.

2. Read Safety Bulletin No. 10 in the Task Detailing of this module.

3. If you have any questions about this procedure that you have just read, discuss them with your trainer or supervisor. If at this time or any future point, there is something about this procedure that is not clear to you, do not hesitate to contact your supervisor or Plant Safety Coordinator/Safety Supervisor.

4. Describe to your trainer the lock and tag procedures.

5. Now that you understand the procedure, ask your trainer to point out the various starter houses and other control points on the major pieces of equipment that you might be tagging. Because it is impossible to commit all of these control points to memory, particularly in your early days on the job, it will be necessary for you to trace the piping and closely examine each piece of equipment that you tag.

6. In the tagging procedure, it is extremely important to understand that the owner's tag and or locks go on first and come off last. Personal tags go on last and come off first. Your personal tags must be placed on any vessel you may enter or work on personally to prevent untagging by another operator. Simulate tagging a vessel you will enter.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #2

Ask your trainer or supervisor to check your response to the following:

1. Describe for your trainer the lock and tag procedures.

2. Whose tag and/or lock goes on first and comes off last?

3. Whose tags go on last and come off first?

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

3. _____

SL 007854

TASK DETAILING

LOCK AND TAG PROCEDURE

Purpose

The Lock and Tag Procedure is a safety system used to prevent accidents and injury. The purposes of the system are: To establish and maintain safe conditions for a particular job or situation, and to clearly determine the end of the job or situation.

Definitions

1. Owner - As used in this procedure, the word signifies the department which controls and operates the equipment or device in question. Usually, this is the Operations Department, but can also include Laboratory, Maintenance, or any other department that owns, operates, and controls equipment. Owner's representative is a Supervisor, Lead Operator, or equivalent person in the department controlling the equipment.

2. Control Point - The device which controls the energy source to the device being worked on. Normally, an electric switch, but can also include air switch or actuators, valves, blinds, and similar devices.

3. Safety Lock - A padlock used by equipment owner to lock switches and electrical controllers. These locks shall be keyed alike for each plant and keys maintained at each control room or work station.

4. Construction Safety Lock - A padlock used by Construction Field Engineers or Project Engineers to lock switches and/or control points in areas under construction where electrically-driven equipment has been energized, but has not been turned over to an Operations Department. These locks will all be keyed alike, but different from standard safety locks. These locks and keys will be maintained by Field Engineering.

5. Locking Bar - A device that fits in the lockout hole of a switch and prevents the working of the switch or controller once a lock has been placed on the bar.

6. Do Not Operate Tag - This tag is to be used by equipment owner only. It is used to clear and isolate equipment and must be in place before Personal Tag or Supervisor's Clearance Tags are placed.

7. Personal Tag (Blue and White "Candy Stripe") - This tag is for the personal protection of Service Mechanics, Apprentices, Laborers, or any other non-supervisory personnel.

8. Personal Tag (Red) - This tag is used for the personal protection of supervisory personnel. It is not to be used to clear a job for work.

9. Instrument Shut-Off Tag - This white, cardboard tag is used primarily to indicate that an instrument is out-of-service. It may also

be used to protect the worker in the field who may be injured if a valve is stroked or other instrument operations occur. It must be signed by the Mechanic and the Lead Operator.

10. Maintenance Supervisor's Clearance Tag (Blue) - A blue tag with white letters. This tag must be attached by the Maintenance Supervisor to all control points tagged by equipment owner before work begins by the Maintenance Department personnel. It will be signed and dated with a pager or telephone number listed.

11. Field Engineer's Clearance Tag (Orange) - This is an orange tag with black letters and is used by Field Engineering to protect Construction personnel. When work is done in an operating unit, this tag will be attached after equipment "owner" locks and tags.

12. Unit Clearance Tag (Yellow) - This tag is used by owner's representative to isolate and clear specific sections of a unit or train of equipment. This tag is always hung in conjunction with an approved checklist of isolation points.

13. Boil Out Tag - These are yellow plastic tags with the words "BOIL OUT". They are used in Plant A and C Caustic Departments to isolate a specific portion of equipment. This tag is hung by an Operations representative with a Maintenance Supervisor after each item on a boil out checklist has been cleared.

The standard Lock and Tag Procedure to be followed in all cases is outlined as follows:

Procedure

1. This procedure applies to all equipment being worked on except spare equipment in storage areas or shops. The "owner" shall shut down, de-energize, drain, purge, and otherwise make safe the equipment to be worked on.

2. The "owner" shall place all control points in the "safe" position. He will first lock-out all electrical starters, switches, etc., and then attach a "DO NOT OPERATE" tag on the lock-out bar. This tag must be signed and dated. The "owner" will then tag out all other (non-electrical) control points. Each starter switch must be tested by actually attempting to start the pump, agitator, etc., before "releasing" the equipment to Maintenance "as safe".

   Should it be required to actually remove the wiring to a motor, an electrician must make a voltage test on the motor leads prior to disconnecting them. This test is in addition to the starter switch test.

3. The Maintenance Supervisor responsible for the work to be performed will then inspect and attach a Maintenance Supervisor Clearance Tag to each control point locked and/or tagged by equipment "owner".

4. After the Maintenance Supervisor Tag is in place, each repairman tags with his own Personal Tag in all locations locked and/or tagged by equipment "owner". He then attempts to "start" any locked out electrical equipment. Before attempting to start any electrical equipment as a test, the person who is going to press the start button must be absolutely certain that no one is in a position where he can be injured if the equipment in question does start. For example: If an attempt is made to start the agitator within a vessel, the person who is going to make that test must be positive that no people are inside the vessel and take steps to prevent anyone from entering the vessel until the test is complete.

5. Under no circumstances may the pushbutton or control switch be locked and tagged as a substitute for locking the control points.

6. Since Personal Tags signify that an individual is actually working on the cleared job, each individual must remove his Personal Tags when he changes jobs, or leaves at the end of the working day. Incomplete jobs will be indicated by the presence of the Maintenance Supervisor Clearance Tag.

7. Equipment "owner" cannot remove any locks or "DO NOT OPERATE" Tags until <u>all</u> Personal Tags and Maintenance Supervisor Clearance Tags have been removed.

Note: This rule specifically applies to testing work done as a

part of the job. For example: If motor rotation is to be checked before coupling to a pump, all locks and tags must be removed by the responsible parties before energizing the circuit even momentarily.

IN EVERY CASE, THE OWNER'S LOCK GOES ON FIRST AND COMES OFF LAST. .

8. One employee shall not hang or remove another employee's Personal Tag.

9. When the job is complete, all Personal Tags must be removed. The Maintenance Supervisor Clearance Tag cannot be removed until all Personal Tags have been removed and all personnel accounted for.

10. This Lock and Tag Procedure applies to all jobs, including routine work, log book, and work done by Shift Repairmen.

11. DO NOT OPERATE Tags can be hung and removed only by an owner's representative, such as a Supervisor, Lead Operator, or equivalent.

12. Maintenance Supervisor Clearance Tags or Field Engineer Clearance Tags may be removed by another person with the same job responsibility after it has been determined that it is safe to do so.

SPECIAL CASES

1. When it is not feasible to lock out electrical equipment, an alternate procedure will be approved by both the "owner's" representative and the Maintenance Department General Foreman or Field Engineer.

2. Trouble-shooting and diagnostic work, by its very nature, may require the system to be energized for testing. Work such as checks with volt meters, circuits to ground, current checks, and similar determinations made by Electricians to locate the source and nature of an electrical malfunction will not require electrical lockout. When the work requires a "dead" circuit and the Electrician is out of sight of the main disconnect, the lockout procedure must be observed.

3. There are areas which do not have clearly defined "owners", such as Administration Building, Cafeteria, Employee Relations Building, temporary offices, and similar installations. These areas will each have "owner" designated by the responsible division head to function for the purposes of this procedure. The Safety Department will maintain the list of designated "owners" and provide copies to all Maintenance Planners and Shift Superintendents. For situations arising outside of regular hours, or where the designated "owner" is unavailable, the Shift Superintendent will act as "owner" and place locks and tags on control points.

4. Emergency Restoration To Service - Equipment which has been left locked and/or tagged may be returned to service only after adequate precautions are taken to assure no injury to personnel or damage to equipment.

   a. Maintenance Department or other repairmen Personal Tags may be removed by the appropriate Maintenance Shift Supervisor after he has personally determined no persons are working on the equipment.

   b. Operations locks and tags may be removed by the appropriate Operations Shift Supervisor after he has inspected the equipment to determine its operational readiness.

   c. Each such incident shall be reported in narrative form by the Shift Superintendent outlining the steps taken. Copies of this report shall be sent to the Maintenance Superintendent, "Owners" Department Superintendent, and Manager of Safety and Health.

5. This procedure applies to all plant electrical equipment 69KV and below, but does not include 110 volt lighting and instrument control circuit breaker panels. In the case of 110 volt lighting and instrument controls, the minimum standard requires tagging by only the mechanic involved.

6. When repairs to an instrument require that a process line be opened, the standard Tagging Procedure shall be followed.

7. The Tagging Procedure for routine work performed on (a) flow and pressure transmitters, and (b) field mounted controller impulse lines shall be as follows:

   The white, Instrument Shut Off Tag will be used to isolate this equipment. One tag will be placed on the control board near the controller/indicator, and another will be placed on the field instrument by the equipment "owner". Each tag will be signed by both the equipment "owner" and the workman.

   Any impulse line or instrument air supply lines to a specific piece of equipment under the control of the workman will be tagged with an employee's Personal Tag while the job is in progress and removed when the equipment is returned to service.

   The Instrument Shut Off Tag which is hung in the field will be removed by the workman and returned to equipment owner when the job is complete. As in all cases, when a question exists as to application of this or any other safety procedure, contact your supervisor for Job Safety Instruction (JSI).

8. For work performed at the Sulphur or Starks Brine Fields, a Brine Field Supervisor shall hang the required Clearance Tag (Blue for Maintenance job; Orange for Construction job). All other elements

of the standard Lock and Tag Procedure shall be followed as written.

UNIT CLEARANCE PROCEDURE

For large, repetitive jobs where many tags must be hung, the Unit Clearance Procedure has been developed. The main parts of the procedure are:

1. Pre-planned checklist of lock and/or tag points. The checklist must include a concise writeup and/or sketch which specifically defines the scope and intent of that particular unit clearance procedure and lists the specific equipment on which it is safe to work.

2. Unit Clearance Tag

3. Maintenance Supervisor Clearance Tag

4. Tag Ring

5. Personal Tag

6. Annual Review and Update

This procedure has limited application, and its use must be approved and reviewed annually by the "owner" General Foreman, Maintenance General

Foreman, and the Plant Safety Coordinator. This group must also approve any changes in the scope or checklist. Minutes of these review meetings must be distributed to the participants, the "owner" Superintendent, and to the Manager of Safety and Health.

Currently approved locations are:

1. Per-Tri Reactor Outage

2. OHC II Reactor Outage

3. VCM OHC Reactor Outage

Procedure

1. "Owners" representative clears equipment using the prepared checklist. Each item on the list is checked off and initialed. Then, the checklist is signed and dated. Owner's representative locks out equipment where appropriate and hangs a Unit Clearance Tag on each control point.

2. The owner's representative will post the checklist and the tag ring in a prominent place at the job site.

3. Maintenance Supervisor, accompanied by the Operations Supervisor, reviews the checklist, initialing each point, hangs a Maintenance

Supervisor's Clearance Tag on each control point, and signs and dates the checklist.

4. Repairmen who begin work will each hang a Personal Tag on the tag ring. Having done this, he is clear to work on any equipment isolated by Unit Clearance Tags and Maintenance Supervisor's Clearance Tags. All rules relative to Personal Tags (such as the requirement to pull them when changing jobs or leaving at the end of the day) apply to Unit Clearance Tagging.

NOTE: Unit Clearance Tag is equivalent to owner's DO NOT OPERATE Tag. A repairman may, if he chooses, tag any control point which is already tagged with Unit Clearance Tag and Maintenance Supervisor's Clearance Tag. Control points which are not tagged must be tagged by owner's representative and Maintenance Supervisor before repairmen hang Personal Tags and begin work.

Example 1

A control valve is to be removed. The repairman hangs his Personal Tag on the Tag Ring and then finds the block valves isolating the control valve are already tagged with Unit Clearance Tags and Maintenance Supervisor Clearance Tags. The repairman is clear to begin work on the control valve without any additional tagging.

Example 2

A pump is to be repacked. The repairman hangs his Personal Tag on the Tag Ring, but finds no tags on the block valves isolating the pump. Under these circumstances, the repairman must refer to the unit clearance checklist to see if that pump is included. If not, the standard tagging procedures must be followed. (The owner's representative and the Maintenance Supervisor must clear the pump, lock and tag control points, then the repairman may hang his Personal Tag and begin work.)

5. For unit clearance jobs of more than 24 hours duration, the Operations Supervisor and the Maintenance Foreman shall review the situation every 24 hours to verify that no changes have occurred which would render the system unsafe and shall so signify by initialling and dating the checklist.

Basic principles in this procedure are these:

a. Hanging a Personal Tag on the Tag Ring is to indicate an individual is working within the unit clearance area.

b. Even though clearance procedures are in use, equipment that bears no tag is not approved for work. Standard tagging procedure must be followed in these cases.

c. While unit clearance procedures are in use, "owner" may not change conditions by purging, flushing, valving equipment, or similar actions which affect the "cleared area".

d. Maintenance Supervisor may not remove any of the tags until all Personal Tags have been removed from the Tag Ring by individuals.

e. "Owner" may not remove Unit Clearance Tags and put any portion of the unit in service until Maintenance Supervisor's Clearance Tags have been removed and the Maintenance Supervisor has signed the checklist indicating completion.

RELATED PROCEDURES

This Lock and Tag Procedure does not remove any requirement outlined in other safety procedures, such as Burning and Welding Permits or Tank Entry Permits. In cases of overlap, the requirements of each applicable procedure must be satisfied. If a question exists, contact the job supervisor for proper Job Safety Instructions (JSI).

SAFETY BULLETIN NO. 10

OPENING VESSELS TO ATMOSPHERE

Purpose

These guidelines are designed to prevent the mixing of air with flammables in a confined space, as when a process vessel is opened. It is assumed that ignition sources will be available, therefore, flammable mixtures inside tanks and vessels under maintenance or repair are to be avoided.

Scope

These guidelines apply to process vessels in Plant B, and to similar equipment in other parts of the Lake Charles Complex, where, in the judgement of the owner General Foreman, they are appropriate.

Exceptions

Vessels covered by other procedures are exempted from these guidelines. Examples are Caustic evaporators (boil-out procedure) and vessels where Tank Entry Permits are to be issued.

Guidelines

1. Drain all flammable liquids from the vessel.

2. All lines containing flammables that connect to the vessel must be blocked and tagged.

3. Nitrogen purge the vessel before any flanges, valves, etc. are opened to the atmosphere and maintain a nitrogen flow to the vessel at all times, sufficient to keep air from entering.

4. If the requirements in Item 3 cannot be met, the vessel must be nitrogen purged to remove flammables, and all lines connecting to the vessel which are sources of flammables must be blinded. The vessel must then be air purged and tested to insure that the contents are not flammable. Warning: Checking the vessel without an air purge could give a false flammability reading. Air should be present to give a true reading.

MODULE #3

SAFETY ALARMS

Time required to complete this module should be approximately 1/2 day.

OBJECTIVE

Upon completion of this module, you will be able to operate the safety alarms in your unit and react properly to safety alarms operated by others.

RATIONALE

Some risk is involved in every area of life. At times risk of danger to both people and equipment is greater than at other times. In order to minimize exposure of personnel in our complex to greater than normal risk, certain safety alarm devices have been installed. These devices have been designed to warn of increasing potential hazard. These alarms are both auditory and/or visual.

Safety alarms are activated in control rooms. When activated, they indicate all non-operating personnel should evacuate the area immediately. As a Lead Operator, you are responsible not only for proper operation of these alarms, but to insure personnel in the area heed these alarms. Alarms which affect your area are listed in the Learning Activities of this module along with the proper response to the alarms. As

you read these Learning Activities and perform the activities suggested therein, be aware of the extreme importance of these alarms.

LEARNING ACTIVITIES

1. Evacuation horns are located throughout the plant. These horns are designed to evacuate an entire plant area and should be activated when hazardous conditions exist in a geographical area that is larger than your immediate unit. Plant evacuation alarms may be activated by switches located in control rooms in Plant B, in Plant A South Liquefaction control room, Plant C Chlorine control room and the Main Guard station. The official company policy concerning the use of evacuation horns is found in safety bulletin #7 which is located in the Task Detailing of this module. Read this Task Detailing.

2. A description of all four evacuation horn signals is printed on the back cover of the plant telephone book as well as posted on most telephones throughout the plant. Ask your trainer to point out these evacuation signals and read them carefully.

3. Read the evacuation signals on the back of the plant telephone book or sticker on a plant telephone to your trainer.

4. Read the evacuation procedure on the back cover of the plant telephone book.

5. Discuss this evacuation procedure with your trainer.

6. Unit sirens are designed to evacuate a particular unit. Switches for unit sirens are located throughout the various units. Company policy relating to sirens is contained in Safety Bulletin #7. Read and discuss with your trainer the section of Safety Bulletin #7 which pertains to unit sirens.

7. Switches for these sirens are located throughout your unit. Ask your trainer to point out the various locations of siren switches in your area.

8. Point out to your trainer the location of unit siren switches.

9. It is extremely important for you to understand that unit siren alarms require the evacuation of non-operating personnel only. In event it is necessary to use the unit evacuation siren, you should check the area to insure all operating personnel are accounted for as well as all non-operating personnel have left the area. As a Lead Operator, it is your responsibility to make decisions as to when to sound the unit evacuation alarm. In making this decision, there are two considerations, first of all there is consideration of maximum safety of employees. When there is a real or potential danger, do not hesitate to sound this alarm. When you evacuate an area, all the people in the area leave their jobs and leave the area. The other consideration is cost. This costs the company money, therefore, we do not want to sound this alarm unnecessarily.

If it is difficult to make the decision as to whether or not to sound the alarm, remember it is better to be safe than sorry, therefore, sound the alarm. Discuss with your trainer circumstances under which the alarm should and should not be sounded. Once a unit evacuation siren is sounded, it should not be turned off until the hazard is cleared or a suitable barricade is established. Turning off the siren is a signal to those people that have evacuated that it is safe to return to the area. Remember, unit evacuation voids all safety permits, they must be reissued. Discuss with your trainer the criteria for the use of unit sirens.

10. Read the following paragraphs about the red phone system. After you have read these paragraphs, ask your trainer to go over the red phone system with you.

A Group Alerting call is made as follows: The originator goes to the red telephone and picks up the hand set. (No dial tone is present.) He should lift the white exclusion key on the switch hook (dial tone is now present). He dials the alert code for the desired group. The Group Alert is now activated. Automatic cut-thru at other stations in the group will engage the loud speakers. The originator can immediately begin to describe the alert and be heard at the various stations over the loud speakers. The alerted station users can reply only by using the push-to-talk on their hand set. Note: The white exclusion key DOES NOT have to be lifted at the alerted station. The originator alone must do this. Care must be exercised by the originator, however, not to

depress the white exclusion key (manually or by hanging up the hand set) as this will terminate the alert.

Station to station calls (within the red phone system using the private line) can be made without blocking the alerting paths. The originator uses the same method described above in making a Group Alert, except a station number is dialed instead of an alert. Automatic cut-thru does not occur at the receiving station. The red phone will continue to ring until the receiving station picks up the hand set and lifts the white exclusion key. The push-to-talk feature is still required. Should an alert occur while two parties are using the private line, they should immediately hang up and listen for the alert message.

The red phones are tied to an "Emergency Power" source in each control room. Loss of this power source will not prohibit the receiving of an alert but will prohibit the initiating of an alert. A receiving station will hear the phone ring once and will have to pick up the hand set to communicate as automatic cut-thru to the loud speakers will not occur.

11. Ask the trainer to show you the location of the fire protection equipment in your responsibility area. This equipment includes vapor detector system, sprinkler system and, in some areas, the Halon system.

12. Ask the trainer to show you the location of the critical block valves at the unit battery limits.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #3

Ask your trainer or supervisor to check your response to the following:

1. Point out to your trainer the location of safety alarm switches in your area.

2. State the criteria by which these alarms are to be activated.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

SL 007877

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

TASK DETAILING

SAFETY BULLETIN NO. 7

Purpose

To establish a uniform way of using evacuation horns, unit sirens and strobe lights to indicate different types of potential emergencies within operating units, and to set forth a testing schedule.

1. Evacuation Horn

   a. Policy - The horns will be tripped under the guidance of a lead operator or supervisor whenever a real or potential danger exists that would involve a hazardous condition in areas outside the immediate process area. The switches may be tripped by the control room switch or by calling the main guard station.

      The horns sound for two minutes and are then to be turned off by the guard. The guard will sound an "all clear" only when instructed by the Shift Superintendent or Emergency Control Coordinator.

   b. Location - The switches are located in control rooms and the main guard station.

   c. Testing - The horns are tested on a weekly basis each Sunday morning at 10:30 AM coordinated by the security guard office.

General evacuation horn audibilities, as well as, observations on specific horn locations are made. Specific horn observations are made on a rotating basis by security/safety so that each general plant horn is monitored at least monthly for proper operation.

Horns or buzzers installed inside buildings will be considered the individual departments responsibility.

A report of this test, along with any functional problems, is made by the guard on duty, and a copy given to the Shift Safety Coordinator for inclusion with the Sunday log sheets.

2. Sirens

a. Policy - When an abnormal operating condition poses a real or potential hazard within the process area, a siren will be tripped. The siren will remain on until the hazard has cleared or suitable barricades have been established to prevent accidental entrance to the affected area. The Lead Operator is responsible for turning off the siren after checking the area. All non-essential personnel leave the unit area while siren is on.

b. Location - Siren trip switches are normally located in the control room. Where the control room is remote or is not

readily identifiable from the area, then a remote control switch(s) can be used.

3. Road Lights (Stroboscopic)

a. Policy - The lights are to be turned on under the guidance of the lead operator whenever any harmful material may affect a road directly or via the sewer system. Any spills into the Plant B sewer system have the potential to be released at locations distant from the source of the spill.

The road lights should come on automatically whenever the Plant B evacuation is sounded.

Lights are to be left on until the hazard no longer exists. The lights will be turned off when approval has been received from the Shift Superintendent.

b. Location - The switches for the road lights are located in the control rooms of units that have a potential to feed hazardous material into the sewers or are located near non-controlled roads.

c. Testing - The Shift Supervisor of Plant BI and BII will conduct strobe light tests on the 11 to 7 shift each Sunday. The report sheet will be completed by the Shift Supervisor and

forwarded to the Shift Safety Coordinator for inclusion with Sunday log sheets.

4. Start-Up Lights

a. These lights are used to keep parts of units isolated during potentially hazardous times; i.e., OHC, P/T, H_2 compressors, etc. The lights are turned on and off under the guidance of the lead operator. The areas are checked for personnel before the lights are turned on and will remain on until the system is lined out in a stable condition. Lights and/or barricades are to be located so accidental entrance cannot occur.

b. Testing - Since these lights are not emergency devices, documented testing is not required.

MODULE #4

ENVIRONMENTAL PROCEDURES

Time required to complete this module should be approximately 1/2 day.

OBJECTIVE

Upon completion of this module, you will be able to handle an environmental upset according to the accepted procedure.

RATIONALE

Protection of the environment has a high priority. Federal and state law decrees environmental protection. It is PPG's policy to operate within guidelines acceptable to federal and state agencies.

As part of this compliance, you will be responsible for proper action in the event of a release. When certain materials are released to the environment, a health and safety hazard can exist. It is imperative that action be taken to reduce releases and when they occur, report them to supervision.

LEARNING ACTIVITIES

1. Read the procedure in this module for incinerator loss.
2. Read the "Spill Reporting Procedure" in this module.

3. Read Safety Bulletin No. 12 in the Task Detailing of this module. This Safety Bulletin pertains to PCBs.

4. Read the Guidelines For Environmental Incidents. These guidelines were issued to Plant B supervision.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #4

Ask your trainer or supervisor to check your response to the following:

1. In your own words, give the action to be taken in the event you cannot send vents to the incinerator.

2. In your own words, give the "Spill Reporting Procedure."

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

TASK DETAILING

SPILL REPORTING PROCEDURES

1. Why should releases of chemicals or oils be reported?

   A. So that corrective action can be taken to eliminate or minimize unnecessary exposure to employees and/or citizens outside the plant.

   B. Federal regulations require the notification of the Coast Guard's National Response Center upon visual sighting of an oil spill or hazardous/toxic release into environment (air, water, surface, or subsurface.)

      NOTE Federal regulations require that employees of a facility be informed of the BMP (Best Management Practice) and environmental upset reporting rules.

2. BMP (Best Management Practices)

   Best Management Practices are the most practical effective measures or combinations of measures which will prevent or minimize the potential for releases of oils and hazardous and toxic chemicals to the environment. Practical measures include general programs such as training, security, preventive maintenance, etc. Practical measures would also include physical structures such as dikes, curbs, level indicators, pressure gauges, etc. Overall, the Lake Charles complex meets these BMP requirements.

3. Who should report an environmental upset to the National Response Center?

   The Environmental Control Department personnel have been designated as the individuals responsible for contacting the National Response Center.

4. What is the reporting procedure for an employee sighting an environmental upset?

   The employee sighting a release is required to notify his immediate supervisor, Production Lead Operator, or Shift Superintendent. It is also the responsibility of the employee to take the necessary safest action to prevent or reduce the amount of spilled material reaching the waterways. Maintenance supervisors, in addition to taking appropriate action to abate the spill, will report the occurrence to the affected Operations supervisor and assist in the preparation of written report forms.

5. What information should be given when reporting an environmental upset?

   A. What chemical was released (if known).
   B. Approximately how much was released (if known).
   C. What is being done to clean up or contain the release.

(TASK DETAILING)

INCINERATOR LOSS

The Louisiana Department of Environmental Quality (DEQ) has taken over the regulatory function from the Federal EPA as far as VCM vent trips are concerned. Under the new guidelines, we no longer have the 40-minute grace period to restore vents after a trip. The DEQ is looking at the number of trips we experience, the pounds of VCM emitted, and the overall percentage of time the vents are in the incinerators.

Since each VCM containing vent trip is now a 'reportable' incident, we must do our best to keep these vents in the incinerators.

1. Make changes in the vent system gradually, if possible. Don't surge the system with rich vents or nitrogen. Warn WTU that something is coming their way.
2. Record all vent trips on the new sheets provided for the VC-I, TE-II, VCM-II and WTU areas. This will help in our record-keeping for the quarterly reports to the State and will help to identify problem areas.
3. Report any vent trips over one hour long to supervision (Shift Supervisors on back shifts). These must be reported to the State immediately.
4. In the event of a long-term vent loss, a management decision will be required as to whether or not we'll shut down; i.e., we

are not required to start an orderly shutdown after 40 minutes under the new guidelines.

5. Restore the vents as quickly as possible after a trip. Delays will count against us in the categories of pounds emitted and time of incineration.
6. Anything such as transfers or clearing of vessels that can be put off until later should not be done.

Generally, for non-VCM/VDCM vents, when vents cannot be incinerated, operations should take the following steps:

1. The supervisor on duty (foreman/shift supervisor) should be informed immediately of by-passes expected to exceed one hour's time or resulting from significant operating problems.
2. Operators at WTU must be informed immediately of incinerator by-passes.
3. Operators should take every available step to reduce by-pass time. This does not include rate reductions unless instructed by supervision.

TASK DETAILING

PCBs (POLY-CHLORINATED BIPHENYLS)

WORK PRACTICES AND TRAINING GUIDE

PURPOSE:

The purpose of this safety bulletin is to explain what hazards are associated with occupational exposure to poly-chlorinated biphenyls (PCBs) and the proper work practices and protective equipment needed for employee protection while working with materials contaminated with PCBs.

PCBs At Lake Charles Plant

PCBs are present at Lake Charles only as low-level contaminants in some insulating oils, and as trace impurities in some Plant B bottoms materials (VCM tars). We do not have any locations or equipment which contains pure PCBs, or that are highly contaminated with PCBs.

PCBs In General

1. What are PCBs?

"PCBs" is short for polychlorinated biphenyls. PCBs are produced by attaching one or more chlorine atoms to a biphenyl molecule. In pure or high concentration, PCBs have a heavy, liquid, oil-like consistency. Some of the properties which make them useful include: a high degree of chemical stability, low solubility in water, low vapor pressure, low flammability; high heat capacity and low electrical conductivity.

2. Why are PCBs harmful to the environment and to human health?

PCBs are harmful to the environment because they do not easily break apart into new chemical arrangements, or in other words, they are not 'bio-degradable', as most chemicals are. Instead, they tend to bio-accumulate in the body tissues of fish, birds, and other animals through the food chain. This can become a health problem for humans if they eat quantities of animals that have PCBs concentrated in their flesh.

Documented tests in laboratory animals have shown that PCBs can cause: reproductive failures, gastric and nerve disorders, skin sores, tumors and other health effects.

Occupational contact should also be avoided. While most health effects occur because of ingesting (eating) materials heavily contaminated with PCBs, they can enter the body in other ways. Inhaling vapors or mists which are heavily contaminated with PCBs is the major cause of occupational exposure. Skin contact must also be avoided.

3. Legislation involving PCBs.

The U. S. Environmental Protection Agency is the group most responsible for laws and rules concerning PCBs. The EPA has banned further production of PCBs. They also regulate how PCBs and PCB contaminated materials may be handled and disposed of.

Work Practices For PCB Contaminated Equipment

While there are neither pure PCBs nor materials highly contaminated with PCBs at Lake Charles, the following protective practices must be observed when handling contaminated insulating oils or VCM bottoms materials.

1. General

   a) Skin contact should be avoided. If it does occur, the affected area should promptly be washed with soap and warm water.

   b) In case of spill, oily clothing should be removed promptly, placed in a bag, and given to the employee's supervisor. The supervisor will then determine the appropriate course of action depending on the amount of soiling present (i.e., whether to have the clothes laundered or replaced--Note that leather which has become soiled cannot be cleaned adequately and must be replaced.) For assistance with this determination contact the Plant Industrial Hygienist (Ext. 4881).

   c) Tobacco products and food stuffs must not be allowed to become contaminated with PCB-contaminated materials.

2. Personal Protective Equipment

   a) Eye Protection - Standard safety glasses for all routine work. Chemical goggles must be worn for any work which entails risk of splash or spray. This material is an eye hazard. Immediate flushing with water and prompt medical attention is required should eye contact occur.

   b) Hand Protection - PVC chemical gloves-must be worn. Neoprene, leather, or cotton gloves do not provide adequate protection and therefore are prohibited.

c) Foot Protection - Normal safety shoes are adequate for routine work. Where spills or splashes are anticipated, disposable latex boot covers must be worn (available from safety repair shops). Boot coverings are also required where large leaks/spills result in standing in contaminated oil or tars, or whenever impervious body clothing is required. Do not use Neoprene boots or shoes.

d) Skin Protection - For small jobs which may entail seeps or drips of contaminated oil, or VCM tars--hand protection)PVC gloves) should suffice. For jobs which may entail splash of contaminated materials, entry into transformer cases, handling cooling fins or other electrical service equipment which may be oil soaked, or VCM tag buggy equipment which may be contaminated--impervious clothing and boot covers must be worn.

Approved impervious clothing is Polyethylene laminated Tyvek disposable coveralls -- available from safety repair. Standard Tyvek coveralls from the warehouse ARE NOT suitable. Neither are neoprene slicker suits.

e) Respiratory Protection - When working with contaminated transformer or insulating oil--for routine work in open, well-ventilated areas and the oil is at ambient temperature, no respiratory protection is required. When working in confined areas such as within a transformer at ambient temperature, adequate ventilation must be provided and full-face organic vapor cartridge respirators (MSA-'Ultra Twin') must be worn.

Where ventilation cannot be provided, or where oil temperature is above 122°F (50°C) air line respirators must be worn.

When working with VCM tag buggy contents-organic vapor cartridge respirators must be worn, and employees should position themselves upwind of the work when possible.

3. Disposal and Clean Up Of PCB Contaminated Material

a) Personal Protective Equipment - Contaminated gloves, boot coverings, overalls, clean-up rags, etc., should be placed in a double plastic bag (with top tied). Notify the Environmental Control Department (Ext. 4831) for instructions on proper disposal.

b) Contaminated Tools - Tools should be cleaned using a solvent wetted rag. Persons doing this must wear gloves. When finished, both rags and gloves should be disposed of as above (a). If tools must be soaked in a solvent bath, the contaminated solvent must not be used for anything else and must be promptly disposed of in special drums (call Environmental Control for instructions).

c) Questions concerning disposal of other contaminated equipment or material should be directed to the Environmental Control Department (Ext. 4831).

TASK DETAILING

ENVIRONMENTAL INCIDENTS

The following procedures will be followed by all in the event a release occurs on back shifts and weekends.

1. Any release (as defined below) will be verbally reported to the Shift Superintendent who will report it to the Environmental Department. Indicate on the written report who in the Environmental Department the Shift Superintendent contacted.

   Critical Points:

   a. If the release occurs in an area covered by the VCM regulations, then the Environmental Department must notify the DEQ within three (3) hours.
   b. It is critical that all possible chemical components in the release be reported to the Environmental Department.
   c. It is very important that a good estimate of the quantity of each component released be provided to the Environmental Department.
   d. If there is any question or doubt, call the Unit Foreman or duty man immediately.

2. The Environmental Department will make the decision on whether an incident is reportable to the regulatory agencies. Therefore, all

release incidents that fit the definitions given below must be reported to the Environmental Department.

3. A written Environmental Incident Report will be prepared on all incidents that fit the definition of a release given below regardless of whether or not they are believed to be reportable to regulatory agencies.

Procedure: Two copies of the report will be made and routed to the Shift Supervisor. Use the routing slip to assure that each copy follows correct route and can be easily identified.

1) One copy, labeled preliminary, is routed to the Production Superintendent, Operations Superintendent, and Plant Manager. It must be on the Plant Manager's desk by 12:00 noon on the day following an incident.
2) The second copy (which will be the final copy) should be delivered to the Unit General Foreman or duty man at 7:30 AM on the morning following an incident.

4. Finalization and verification of the components and quantities will begin by 7:30 AM on the morning following any incident that occurs after 4:00 PM any day of the week. The duty man should be contacted on weekends. He will come out and perform this task.

Critical Point:

If any error is found in the preliminary report, notify the Environmental Department immediately.

5. The final report must be prepared by the Unit Foreman and approved by the General Foreman. All follow-up information and calculations should be attached to the final report. The final report must be submitted to the Environmental Department by 4:00 PM on the 4th day following the incident.

The following procedures will be followed by all in the event a release occurs on Monday-Friday days.

1. Any release (as identified below) will be verbally reported to the Environmental Department by the Unit Foreman involved. On weekends, weekdays and at night the Shift Supervisor should be notified.

Critical Point:

a. If the release occurs in an area covered by the VCM regulations, then the Environmental Department must notify the DEQ within three (3) hours.
b. It is critical that all possible chemical components in the release be reported to the Environmental Department.
c. It is very important that a good estimate of the quantity of each component released be provided to the Environmental Department.

2. The Environmental Department will make the decision on whether an incident is reportable to the regulatory agencies. Therefore, all release incidents that fit the definitions given below must be reported to the Environmental Department.

Procedure: Two copies of the report will be made and routed by the Unit Foreman.

1) One copy, labeled preliminary, is routed to the Production Superintendent, Operations Superintendent, and Plant Manager. It must be on the Plant Manager's desk by 4:00 PM on the day of the incident.
2) A second copy (which will be the final copy) should be prepared by the Unit Foreman and approved by the General Foreman.
3) Use the routing slip to assure that each copy follows correct route and can be easily identified.
4) The preliminary copy can be eliminated if the final copy can be prepared by the 4:00 PM deadline on the day of the incident.

4. If any errors are found during final report preparation, notify the Environmental Department immediately.

5. The final report must be prepared by the Unit Foreman and approved by the General Foreman. All follow-up information and calculations should be attached to the final report. The final report must be

submitted to the Environmental Department by 4:00 PM on the 4th day following the incident.

On the following pages you will find a new Environmental Incident Report Form, a new routing form for preliminary and final reports, definitions of a release including PPG internal reportable quantities, and definitions of units and SRVs covered by the vinyl regulations.

RELEASES WHICH MUST BE REPORTED TO THE ENVIRONMENTAL DEPARTMENT IF THE QUANTITY INVOLVED EXCEEDS THE AMOUNT GIVEN ON THE REPORTABLE AMOUNTS LIST.

1. A spill of any liquid organics or oil on the ground.

2. A spill of any liquid chemicals such as cooling tower treatment chemicals, Dowtherm, or still aids on the ground.

   It is not a reportable release if a dry solid (such as catalyst) is spilled on the ground, however, it must be cleaned up since rain could cause a reportable release.

3. A spill of any liquid volatile organics even if to a contained concrete pad. In this case, volatile is defined as anything with a boiling point below Trichloroethane (TCE).

   It is not a reportable release if a non-volatile liquid is spilled to a contained concrete pad such as those that drain to the lift stations and go to the WTU.

4. The bypassing or the anticipated bypassing of the primary environmental control device for more than four (4) hours for any organic, HCl or chlorine gas or vent streams. The primary control device could be, for example, the incinerator, scrubber, or a refrigerated vent condenser.

5. The release of any organics, HCl or chlorine from an SRV, a rupture disk, a leak (for example, due to corrosion or equipment failure) or improper opening of a line, valve or vessel.

6. Any incident which results in visible and/or odorous emissions which could escape the Complex fence line.

IN ADDITION TO THE ABOVE, THE FOLLOWING ARE DEFINED AS RELEASES WHICH MUST BE REPORTED TO THE ENVIRONMENTAL DEPARTMENT FOR THOSE UNITS COVERED BY THE VCM REGULATIONS.

1. Non-incineration of the vents from any of the units covered by the VCM regulations for greater than one hour.

2. Bypassing of the CSS or failure of the CSS to remove VCM to less than 10 ppm in the effluent.

3. Any release from an SRV in vinyl service.

4. The escape of VCM due to sudden piping or equipment failure (line or vessel rupture/failure as opposed to non-sudden failure, e.g., drips).

   It is not reportable by us if it is picked up by fixed point monitor or leak patrol.

REPORTABLE AMOUNTS

A release of any amount into the environment of material containing any of the following components:

1. Chlorine
2. 1,2 Trans-Dichloroethylene
3. 1,1-Dichloroethane
4. Ethyl Chloride
5. Hexachloroethane
6. Methylene Chloride
7. Perchloroethylene
8. Tetrachloroethane (sym and unsym)
9. 1,1,2-Trichloroethane
10. 1,1,1-Trichloroethane
11. Vinyl Chloride
12. Freon 12

A release of 100 pounds into the environment of any other chemical.

PREPARED BY _____

ENVIRONMENTAL UPSET
CHEMICAL RELEASE

PLANT B ENVIRONMENTAL INCIDENT REPORT

DATE & TIME OF INCIDENT _____

SPECIFIC LOCATION _____

DESCRIPTION OF INCIDENT _____

WAS THERE A RELEASE? _____ IF SO,	WHAT COMPONENT?	QUANTITY?		AIR/GROUND/WATER?
IF VC RELEASE, WAS IT DETECTED BY MONITOR OR LEAK PATROL?			LBS	
			LBS	
			LBS	
			LBS	
TOTAL			LBS	

DESCRIPTION/SOURCE, CAUSE & DURATION _____

WEATHER CONDITIONS(Circle One): Clear Partly Cloudy Cloudy Rain

WIND SPEED & DIRECTION (if a gas release) _____ mph _____

IMMEDIATE ACTIONS TAKEN: _____

NOTIFICATIONS (Who & When)

Shift Superintendent _____ (Name) _____ (Date & Time)

Environmental _____ (Name) _____ (Date & Time)

Other _____ (Name) _____ (Date & Time)

1. Attach action plans to prevent recurrence and/or follow-up plans to final copy.
2. Attach release calculations to final copy.

FOR USE BY ENVIRONMENTAL DEPARTMENT ONLY

NOTIFICATIONS MADE (Agency, Name, Time): _____

REASON REPORTED/NOT REPORTED: _____

OTHER COMMENTS: _____

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

SL 007902

ROUTING

PREPARED BY: _____

PRELIMINARY

ENVIRONMENTAL INCIDENT REPORT

SHIFT SUPERINTENDENT CONTACTED ? _____
EVE/NIGHTS/WKND-BY SHIFT SUPERVISOR DATE/TIME/INIT.

ENVIRONMENTAL CONTACTED ? _____
DAYS-BY FORMAN EVE/NIGHTS/WKND-BY SHIFT SUPT. DATE/TIME/INIT.

FINAL COPY BEING PREPARED ? _____
DATE/TIME/INIT.

SHIFT SUPERVISOR GIVE DATE/TIME COPY DELIVERED TO GEN.FORMAN (MUST BE BY 7:30 A.M. MORNING FOLLOWING INCIDENT-- CALL DUTY MAN ON WEEKENDS)

UPON COMPLETION OF ABOVE QUESTIONS ATTACH REPORT AND DELIVER TO PRODUCTION SUPT.-PLACE IN SECRETARY'S ENVIR. INCIDENT BOX

COPY TO ENVIRONMENTAL FOREMAN(BY SECRETARY)? _____
DATE/TIME/INIT.

PRODUCTION SUPT. APPROVAL _____

OPERATIONS SUPT. APPROVAL _____

COPY TO PLANT MANAGER BY 4:00 PM ON DAYS
COPY TO PLANT MANAGER BY 12:00 NOON ON DAY FOLLOWING
IF AFTER 4:00PM OR 12:00 NOON ON MONDAY FOR WEEKENDS

COPY TO ENVIRONMENTAL DEPT. BY SECRETARY AFTER APPROVAL

PREPARED BY: _____

ROUTING

ENVIRONMENTAL INCIDENT REPORT

FINAL COPY

SHIFT SUPERINTENDENT CONTACTED ? _____
EVE/NIGHTS/WKND-BY SHIFT SUPERVISOR DATE/TIME/INIT.

ENVIRONMENTAL CONTACTED ? _____
DAYS-BY FOREMAN EVE/NIGHTS/WKND-BY SHIFT SUPT. DATE/TIME/INIT.

PRELIMINARY COPY TO PRODUCTION SUPT. ? _____
DATE/TIME/INIT.

SHIFT SUPERVISOR: UPON COMPLETION OF ABOVE QUESTIONS DELIVER TO UNIT FOREMAN BY 7:30AM ON MORNING FOLLOWING INCIDENT

GENERAL FOREMAN APPROVAL _____

PRODUCTION SUPT. APPROVAL _____

OPERATIONS SUPT. APPROVAL _____

PLANT MANAGER _____

ENVIRONMENTAL _____

FINAL COPY MUST BE DELIVERED TO ENVIRONMENTAL DEPT. BY 4:00 P.M. ON THE FOURTH DAY FOLLOWING THE INCIDENT.

SL 007904

UNITS COVERED BY VCM REGULATIONS

1. All of VCM II (including VC unit, OHC unit, purification and VC storage area)

2. Central Steam Stripper

3. Tri-Ethane II (from inlet to cracker to overhead of vinyl stripper)

TRI-ETHANE II VINY SERVICE SRVs	VCM II VINYL SERVICE SRVs
Quench Tower	HCl Knockout Drum
Quench Liquor Tank (86-301)	Quench Liquor Drum
Quench Liquor Tank (86-329)	Stripper
VC-HCl Still (86-302)	Product Still Feed Drum
VC-HCl Still (86-328)	Product Still Reflux Drum
VC-HCl Reflux Drum (86-304)	Product Still
VC-HCl Reflux Drum (86-309)	Humidifier
VC-HCl Reflux Dryer	#1 Neutralizer
VC Stripper (86-320)	#2 Neutralizer
VC Stripper (86-327)	#3 Neutralizer
VC Stripper Reflux Drum (86-323)	Neutralizer Drain Drum
VC Stripper Reflux Drum (86-331)	Casutic Storage Vessel
VC Stripper Reflux Dryer	Waste Storage Drum
	VCM Bullet No. 1
	VCM Bullet No. 2
	VCM Bullet No. 3
	VCM Bullet No. 4
	VCM Bullet No. 5
	VCM Compressor Suction Drum
	VCM High Pressure Condensate Receiver
	No. 1 Quench Dopp Kettle
	No. 2 Quench Dopp Kettle
	Quench Tower
	Absorber
	Low Temperature Storage Tank No. 1
	Low Temperature Storage Tank No. 2
	Vaporizer
	Deriming Dryer
	Dryer Water Drain
	VCM Condensate Tank
	Deriming Surge Drum
	VCM Product To Docks
	VCM Recirculation
	VCM From S-1, S-2

MODULE #5

OVERSEEING

Time required to complete this module should be approximately 1 day.

OBJECTIVE

Upon completion of this module you will be able to quickly implement proper task assignment to individuals on your crew.

RATIONALE

As suggested by your job title, "Lead Operator", you will provide leadership for your crew. To lead is to guide by going first, or to give direction to. There will be times when you will be required to work with others in your crew and then you will lead by going first. Other times you will only need to give direction.

The function of a LEADER is to change opportunities and demands into strategies and goals. As you coordinate the activities of your crew, keep in mind the opportunities to improve efficiency, safety and make everyone's job more pleasant through smooth operation. You should set goals for yourself and thereby lead your crew to set high standards for their personal job performances. You should also show them the best methods for getting the job done. Because you are accountable for the operations on your shift, monitoring the process is important.

Delegation

To delegate is to employ the aid of another by assigning responsibility or authority. In your job as Lead Operator you are responsible for all operation in your area during your shift. To aid you in this responsibility the company has published Operating Manuals, S.O.P.s, and your supervisors will give you both written and oral instructions from time to time. These instructions become your responsibility. Many of the tasks assigned in these instructions will be performed by other operators on your crew. There is a sense in which you have delegated this responsibility to them, in that they will be performing the task for which you are responsible. You should follow up on all work in the area. This follow up could range from asking simple questions to determine if work is done, to very close observation and/or more detailed instructions.

Delegation also includes assignment of authority. You have the authority to direct the operations on your shift and to make recommendations to supervision.

Directing the operation means you should make operating decisions within the scope of the instructions given by supervision. This authority can be delegated to others on your crew by letting them make decisions pertaining to their particular job. Examples of this can include such things as when to quit fighting a bad instrument and call an instrument mechanic, or at what time during the shift should major equipment be switched. Because you are responsible, you may need to have some input into decisions made by others on your crew. An example of this may be that an automatic valve is not working properly and after several

attempts to control on manual and switch back to automatic control have failed, and you and others have made a complete observation of the equipment involved, you might say, "should we call an instrument man now or try one more time?" You have delegated some authority while maintaining reasonable control of the situation.

You will hold your crew responsible for their operations and should also delegate to them reasonable corresponding authority. Most men will work better if they feel they are more than an extension of a machine. You should use delegation as a tool to help, and allow your crew to feel they are an important part of a big team. This will tend to improve job attitudes and efficiency.

A third element in delegation is accountability. When you assign a task to a member of your crew, that individual becomes accountable for the performance of that task. It is important to remember that your accountability to your supervisors can NOT be delegated. In delegation new accountability is created. Any previous accountability cannot be altered.

It is important for a leader to be informed. One who is able to answer questions will usually be looked to for leadership. Giving accurate information establishes authority and ability in the minds of others.

Delegation is a part of the bigger concept of coordination. Before delegation, you should be sure that you have collected enough information to know how this will effect other aspects of the operations.

You should reread all Job Training Material for all jobs in your area. The responsibility for all operations in your area during the shift is yours. It will be necessary for you to be informed as to what is happening in your area.

You must be familiar with the instructions given by supervision to each and every operator on your shift. This will require that you read all operating instructions, S.O.P.s, and operating logs in your area each shift and monitor the entries made by your crew during the shift.

Communications

Communications are a NECESSARY part of your job. The following rules and aids will be helpful.

1. All communications have a single basic purpose --- establishing or improving understanding between you and someone else. If you keep this in mind you'll avoid the most serious pitfalls.
2. The acceptance of your communications will always stand or fall by the sincerity of your actions.

Aids for Sender

1. Be sure of what you want to say. Put things in logical order.

2. Become aware of thoughts and feelings. Feel comfortable in expressing your feelings.

3. Be aware of the receiver.

Draw on your experience with the person receiving. Try to catch receivers in a frame of mind to listen. Try to find common ground. Talk to him in his language. Watch for and accept his feelings.

4. Focus on the message -- ask for feedback. Feedback is facial expressions, questions and other things that tell you the clarity of the message.

Aids for Receivers

1. Be tuned in.

   Don't start planning your reply before it is time.

   Pay attention.

2. Interpret and evaluate.

   Avoid preconceptions, be aware of sender, be aware of your own feelings - possible barriers. Your preconceptions and feelings could prevent a message being received.

   Be aware of any underlying message.

3. Interact with Sender.

   If sending is interrupted, make arrangements to get it all.

   Ask for clarification when needed. Ask questions if not clear.

4. React - give feedback.

   Paraphrase or ask questions to be sure you understand full message.

Rewarding and Correcting

As the leader of your crew there will be times when you will find it necessary to reward or correct one or more members of your crew. Rewards for work well done can build morale and improve attitudes. If given properly, correction can reduce improper behavior, including bad operating habits.

There are right and wrong ways to give both rewards and corrections. The following guidelines can make a big difference in attitude and performance of your crew.

Rewards - As a Lead Operator your ability to reward a member of your crew verbally is important. When a member of your crew does a good job, let him know. The following guidelines will be helpful:

1. Make the reward fit the act.
2. Reward publicly.
3. Be sincere.
4. Be sure that good work comes to the attention of the area and shift supervisors.
5. Reward immediately after the good deed.
6. DO NOT ignore good work or treat it as expected.
7. Be specific and focus on behavior.

Correcting

When a worker does not do his job properly, corrective action may be necessary.

The following guidelines will be helpful:

1. Don't overdo it. It is not always necessary to correct a person every time a mistake is made.
2. Get the facts before taking action.
3. Focus on future behavior.
4. Be constructive.
5. Don't correct in front of others.
6. Don't get emotional.
7. Concentrate on actions, not persons.
8. Don't imply intentional mistakes.
9. Don't stand solely on authority.
10. End on a positive note.
11. Don't wait, always let your people know where they stand.
12. Be specific, take one thing at a time.

General

In addition to the responsibility for the actions of personnel on your shift, you may be required to perform some of the duties of the subordinate operators on your shift in time of an emergency. These emergencies can be things such as loss of power, feed or major equipment.

Don't over operate. Take time to find out what is happening. Don't be indecisive. Let crew members participate in decisions when practical. Make decisions promptly. Don't be afraid to shut something down.

NOTE: The material in this module is introductory to much you will learn in the next six modules of this manual. After you complete this

module, proceed to the next module. You may want to refer to this module from time to time.

LEARNING ACTIVITIES

1. Ask your foreman to discuss with you his ideas about your role as a coordinator and over-seer of the area. As he talks to you take some notes and ask questions to be sure that you understand his ideas. Write a statement expressing your ideas about your relationship to the other members of your crew. Ask your foreman to check your statement to see if it is consistent with the rationale in this module.

2. Ask yourself what attitude you would want someone to have when asking you to do something.

3. Authority is a necessary element in organization. Without authority disorganization is a probable result. As the Leader of the crew you will find your personal attitude toward authority will have an effect on the attitudes of your crew toward authority. Attitudes are learned and therefore can be relearned. If your attitude toward authority is negative, give some time to positive thinking about authority on the job, focusing on the need for authority and your role as a Leader.

4. As overseer/coordinator it will be necessary at times for you to make job assignments. Simulate an emergency and list the job assignments necessary:

5. Leadership is a job for a mature person. Maturity, among other things, is the ability to see things the way other people see them. As you deal with people on your job, make a strong effort to understand how they see the job situation. Discuss these efforts with your trainer.

6. In the rationale of this module, there are communication aids for senders and receivers. Reread and discuss these aids with your trainer. Start using them now in all of your communications.

7. Reread and discuss with your trainer the Rewards and Corrections section of the Rationale.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #5

Ask your trainer or supervisor to check your response to the following:

1. List the guide line for Rewarding and Correcting.

2. List job assignments necessary for a specific task in your area.

3. State the element of maturity in Learning Activity #6.

4. Why can attitudes be relearned?

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

3. _____

4. _____

MODULE #6

LISTENING

Time required to complete this module will be approximately 1/2 day of classroom training and one week of on-the-job practice.

OBJECTIVE

Upon completion of this module, you will be able to engage in active listening and be able to use confirming and clarifying skills appropriately.

RATIONALE

This is the first module of several where you will learn or improve your skills in handling people. Your job as Lead Operator is largely involved in dealings with other people. Watch during a shift and notice how very much time and energy you spend interacting with others. Sometimes you interact directly, and sometimes indirectly, but a lot of your job involves people. As part of your training, therefore, several modules will address people related issues.

This first module is in that position because it has a high potential for quick payoff. If you can listen in a skilled manner, you are in a good position as a Lead Operator. You will be able to take in a great deal of information, sort it for relative importance, and make better

decisions. This module is designed to provide you with this kind of improved listening skills.

LEARNING ACTIVITIES

It will be necessary for you to contact the Training Specialist for these Learning Activities.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #6

Ask your trainer or supervisor to check your response to the following:

1. Your test administrator will present you with four situations and you are to demonstrate your listening skills by responding in an appropriate manner.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____

_____
Trainee

_____
Date

MODULE #7

COMMUNICATING EXPECTATIONS

Time required to complete this module will be approximately 1/2 day of classroom training and one week of on-the-job practice.

OBJECTIVE

Upon completion of this module, you will be able to communicate your expectations in such a way that operators act as if they understand what you intend and act as if they are willing to perform as you intend. You will be able to write clear concise notes in logs.

RATIONALE

Most of us believe we can communicate so others understand and most Lead Operators would say they treat people right. At the same time, people in lead positions find themselves saying ". . . But I told him . . ." and whatever it was did not get done, or was not done right. Many times we assume people understand us and too many times that assumption is wrong. This module is designed to enable you to be more sure that your communication is clear, whether spoken or written.

Another facet of communicating expectations has to do with motivating others. Not only is it necessary to make the message clear and understandable, but it is also important to communicate in such a way that others are left with feelings of respect, responsibility, and a

willingness to cooperate. Exercises provided with this module are aimed at improving your skills to communicate in this manner.

LEARNING ACTIVITIES

1. Your first assignment is to view a film called The One Minute Manager. This film was originally made for managers but it has been found to be very useful to anyone responsible for a high degree of coordination, such as a Lead Operator.

   Of course, some parts will be more useful than others. In this module the main focus is on communicating expectations. Therefore, you need to look for information relating to that topic.

2. Written communications differ from oral in the communicator is not necessarily present to answer questions when the message is received. Therefore the following technique should be followed. The message must contain an adequate view of the situation. For example:

   a. A maintenance note reporting equipment shutdown for maintenance should contain information about the equipment operation which resulted in the shutdown including temperatures, pressures, vibrations, noises, amperes, etc. Statements like "needs to be fixed" or "won't run" are inadequate because they don't contain detailed information which enables the reader to pinpoint the exact problem with this complex equipment.

b. Entries in the log book should contain sufficient information to give an overview of operations on the shift, plus detailed information about major abnormalities.

An important pump is not working. How would you record this in a log book? You don't know, no detail is given. Neither would the people trying to fix the pump.

An operator reports, on his last round smoke was coming from the motor housing on an important pump. He switched to the spare. How would you report this?

3. Now, you are ready for some classroom training and practice in communicating expectations. Talk with your trainer and supervisor to arrange time for you to attend the seminar on communicating expectations.

When you have completed that training and the assignments with it, and feel that you are ready, ask for the progress check.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #7

Ask your trainer or supervisor to check your response to the following:

1. One of the operators on your shift has consistently failed to maintain housekeeping the way you want him to. Pretend your trainer is that operator, what would you do?

2. You are about to take over as Lead Operator. The person who had the job before you was basically lazy. As a result, things are not in good working order. The operators take shortcuts that are not always all right, not even safe sometimes. They sit around a lot and leave a lot for the next shift. What would you do?

3. You have been asked to initiate a major shutdown in your unit. You have a procedure that has been approved by supervision. Demonstrate
how you would communicate the information to your operators.

4. Because a freeze is expected, you have started preparations on your shift. Demonstrate how you would communicate your expectations for continuation of this preparation to the next shift.

5. Describe an equipment malfunction you have seen. Write this as you would in the maintenance log book. Then, write the necessary remarks that should be placed in the Lead Operators log book.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

3. _____

4. _____

5. _____

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

SL 007924

MODULE #8

GIVING CREDIT

Time required to complete this module will be approximately 1/2 day of classroom training and one week of on-the-job practice.

OBJECTIVE

Upon completion of this module, you will be able to recognize when rewarding is in order and deliver it in such a way as to improve performance and increase productivity.

RATIONALE

Too often people in charge fail to give credit when it is due. Although these leaders usually appreciate good work and effort, they fail to let anyone know it. There are all sorts of reasons for this kind of neglect and there is an obvious remedy for it. This module is designed to sell you on the idea of giving praise when it is deserved and to help make it easier for you to do it.

LEARNING ACTIVITIES

1. Review the one minute praise sections from the One Minute Manager.

2. Read the following information about people's psychological needs:

PSYCHOLOGICAL NEEDS

First, it is important to recognize people do, in fact, have needs. Of course there are needs other than psychological. There are physical needs -- need for food, need for liquid, for air, need for rest. Take away any one of these essentials for living and death occurs. These physical needs can be summed up as the need to live. Once it is established that we are going to fill these needs, that we are going to live a different set of needs become important -- the psychological needs.

The fulfillment of psychological needs determines your emotional health and happiness. It is by working with these needs that a Lead Operator can motivate others.

A respected psychologist, Abraham Maslow, explained human needs in five categories. He arranged them in a hierarchy something like this:

1. Self approval
2. Recognition - approval of others
3. Social needs - need to be liked - loved
4. Security needs
5. Physical needs

They generally happen and must be filled from the bottom up. When physical needs are filled, security needs become important. Security needs include things like job security, knowing your house is there, that you can make your car payment. These are the first level of psychological needs and they can be considered to include some aspects of physical needs. Once you are sure you are going to live, you may

worry about the lives of those you are responsible for. In any case, when people feel safe and reasonably secure, the first two levels are satisfied and the social needs become highly important. A person needs to feel that somebody likes him or her, that he or she is socially acceptable. Each of us has a need to be loved and thought well of. The man who says he doesn't care whether people like him is mentally unhealthy, or a liar, or both (assuming his needs for physical survival and security are met).

Not only acceptance but recognition, too, is a basic need. Once we know we are liked, we need to be singled out -- noticed as "special" for some accomplishment or attribute. We need to be appreciated.

The very top level need becomes important only when all the other needs are fulfilled -- at least that is what Dr. Maslow said. This need has to do with personal or self-approval. It is not something anyone feels all the time and it is hard to describe. The need to feel self-approval in this sense can be fulfilled when a person does something he or she is greatly proud of and does not care whether anyone else even knows about it. Or it can be fulfilled when a person experiences a beautiful sunset and does not need to share the wonderment with anyone else . . . just having it gives that person a feeling of fulfillment. This need is one that can be met only by individuals. It comes from within. Companies cannot give employees self-approval. Companies can, however, help meet security, social, and recognition needs so the individual can reach the top level of need fulfillment.

As a Lead Operator, you can help fill the social and recognition needs of other employees. This is how you motivate people.

3. With your supervisor and trainer, arrange time to attend the seminar on giving credit. Before you go, complete the "Survey of Assumption", then read "McGregor's Model". Be sure to take it to the seminar.

SURVEY OF ASSUMPTIONS

TRUE	FALSE	
____	____	1. The average human being has an inherent dislike for work and will avoid it if he/she can.
____	____	2. Spending physical and mental effort in work is as natural to mankind as play or rest.
____	____	3. Company control and threat of punishment are not the only ways to get employees to work for company goals. People will use their own self-control to reach company goals they believe in.
____	____	4. Because people are human and dislike work,

they have to be controlled, coerced, directed, or threatened with punishment to get them to put forth enough effort to make quality products.

_____ _____ 5. The average person prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

_____ _____ 6. What makes people work better is related to what they get for working better. The most important rewards (other than money) are those that give people self-respect and a feeling of becoming a better person.

_____ _____ 7. The average human being learns, proper conditions, not only to accept responsibility, but to seek it.

_____ _____ 8. Most people can use their imagination and help solve company problems.

_____ _____ 9. Right now, companies seem to use only a part of the thinking abilities of their employees.

MCGREGOR'S MODEL

Theory X - Theory Y

The first time many of us got to know X and Y was in Algebra class. In the 1960's, they took on a different meaning in many companies. In 1960, Douglas McGregor, a Behavioral Scientist, published The Human Side of Enterprise.

In this work, McGregor was trying to get people to examine the reasons underlying the way they treated other people. He described two very different sets of beliefs people had about other people. These were beliefs people had, assumptions about people, that led to the style they used as leaders (or as fathers, mothers, etc.). These two sets of assumptions came to be known as X and Y. People could be described as theory X people or theory Y people.

McGregor believed the way those in positions of authority behaved could be understood by knowing something about their assumptions about people. He felt these assumptions or beliefs affected leaders in such a way that their effectiveness or ineffectiveness could be determined by the beliefs. Furthermore, he found some organizations had set up policies that caused people to be less, rather than more, motivated to do a good job.

Theory X

McGregor described the traditional beliefs about mankind as X. He felt they were based on the following assumptions:

- The average human being has an inherent (inborn) dislike for work and will avoid it if possible.

- Because of this inborn dislike for work, people have to be coerced, pushed, or threatened to get them to work.

- The average human prefers to be directed, does not want responsibility, has relatively little ambition, and wants security above all.

(This does not sound like what Maslow discovered, does it?)

Of course, these assumptions are not set out anywhere or even stated. Some poeple just believe this way. Almost no one ever examines his beliefs. Most people just act as if their beliefs about human nature are true and correct and require no study or questioning.

This set of assumptions about people may result in very different styles of leading people. We may see a "hard" or "soft" approach. One theory X leader may drive his men at their work because he thinks they are lazy and this is the only way to get things done. Another may look at his people in the same way, but he may think the way to get lazy people to work is to be nice to them, to coax them into working.

Theory Y

McGregor described the assumptions of theory Y people something like the following:

- Using physical and mental effort for work is as natural as play or rest.

- Humans will use self-control to get things done when they have a commitment. External control and threat of punishment are not the only way to get things done.

- Commitment to objectives is dependent on rewards associated with their achievement. The most important rewards are those that satisfy needs for self-respect and personal improvement.

- The average human learns, under proper conditions, not only to accept, but to seek responsibility.

- Many people, not few people, have the capacity to exercise a high degree of imagination, ingenuity, and creativity to solve company problems.

- Under the conditions of modern industrial life, the abilities of the average human are only partially used.

It is important to realize this is not a soft approach to leading people. It is actually a very demanding style . . . . it sets high

standards for all and expects people to meet them. While we can understand and agree with some of these ideas, it is far more difficult to put them into practice. A leader will have to risk allowing subordinates to experiment with activities for which they may have little capability. But the learning and growth resulting from this opportunity may be worth the risk.

The focus of theory Y is on man as a growing, developing, learning being, while theory X views man as static, fully developed, and capable of little change. Theory X sets the parameters of employees' achievements by determining their potentialities in light of negative assumptions. Theory Y allows people to test the limits of their capabilities and uses errors for learning better ways of operating rather than as clubs for forcing submission to the system. Theory Y structures work so that an employee can have a sense of accomplishment and personal growth. The motivation comes from the work itself and provides a much more powerful incentive than the 'externals' of theory X.

A suggestion for your consideration is to make the same assumptions about others you make about yourself, and then act in the appropriate manner. You might be pleasantly surprised.

Look at the survey you just completed. Are you more inclined toward X or Y theory? Most people are, in fact, in between the extremes. . . and they can vary in different situations. Sometimes some people are lazy and have to be coerced. Most of the time, however, they will work if

they know how and if the rewards are worth it. (Notice both Maslow and McGregor stressed this importance of self-respect and recognition.)

When you have completed the training and feel confident, ask for the Progress Check.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #8

Ask your trainer or supervisor to check your response to the following:

During the past several days you have had an opportunity to work with the other operators and to observe their work. In this time you have had opportunities to "catch them" doing something right. Describe to your trainer four instances when you have given someone credit for doing something right. In your descriptions, tell the following:

1. What was happening?
2. What the person or people did right?
3. How you delivered the praise and what you said?
4. How the person or people responded at that time?
5. Whether the good performance continued/increased or what?

Answer the following questions regarding each instance:

1. Did you praise the behavior (with true feelings)?
2. Did you do it soon?
3. Were you specific?
4. Did you tell the person what they did right?
5. And how you felt about it?
6. Did you encourage the person (with true feelings)?
7. Shake hands . . . . or touch them in some way?

MODULE #8

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____

_____
Trainee

2. _____

_____
Date

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

MODULE #9

CORRECTING

Time required to complete this module will be approximately 1/2 day of classroom training and one week of on-the-job practice.

OBJECTIVE

Upon completion of this module, you will be able to recognize when correcting is in order and deliver it in such a way as to improve performance and increase productivity.

RATIONALE

When people do not perform as well as you think they should, they need correcting. Generally, people do not set out to do things badly. They do not normally seek out ways to get chewed out. When they do perform badly, then, we usually assume they need some kind of correcting so they will know how to perform properly and they will believe in the importance of doing things right. This module is designed to enable you to do that kind of correcting in private.

LEARNING ACTIVITIES

1. Review all the correcting (one minute reprimand) information from the One Minute Manager. Think about McGregor's discoveries and

Maslow's motivational hierarchy of needs. How can these concepts be tied into correcting?

NOTE: As a member of the hourly work force you are not allowed to give formal reprimands. However there may be occasions where words of correction are necessary. Hopefully, these corrections will eliminate the need for further corrective action by supervision.

2. The remainder of this module requires only that you participate in the correcting seminar and carry out the assignments. Check with your supervisor and trainer to arrange a time.

When you have completed all requirements and feel ready, ask for the Progress Check.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #9

Ask your trainer or supervisor to check your response to the following:

During the past week you have had an opportunity to deliver one-minute corrections. Describe two of these incidents to your trainer. Include the following:

1. What led up to the incident?
2. How you handled it?
3. How the other person or people reacted?
4. Did you do it in private?

Answer these questions for each incident:

1. Did you correct the behavior (not the person)?
2. Did you do it soon?
3. Were you specific?
4. Did you tell the person what they did wrong?
5. And how you felt about it?
6. Did you encourage the person (with true feelings)?
7. Shake hands?
8. Did you do it in private?

MODULE #9

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____

_____
Trainee

2. _____

_____
Date

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

MODULE #10

RESOLVING CONFLICT

Time required to complete this module will be approximately 1/2 day of classroom training and one week of on-the-job practice.

OBJECTIVE

Upon completion of this module, you will be able to describe how to recognize conflict and describe appropriate intervention to resolve it in as positive a manner as possible.

RATIONALE

In coordinating work behaviors of others, you are bound to encounter conflict. It will occur between yourself and others and between others in such a way work and/or morale are affected. This module is designed to help you develop some skills in recognizing and resolving it positively.

LEARNING ACTIVITIES

Arrange time to attend the conflict resolution seminar. When you have completed all of it and feel ready, ask for the Progress Check.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #10

Ask your trainer or supervisor to check your response to the following:

1. One of the women on your shift questions your every request. She argues when you ask her to do anything, routine or otherwise. The two of you are clearly in conflict. Describe the way you would attempt to resolve it.

2. One of your experienced operators is supposed to be training his replacement in order to take a move up. The replacement can never answer your questions about operations. He says he asks the experienced operator but gets no answers. The experienced operator says the replacement doesn't try and is lazy.

   Could this be a conflict situation? If so, describe how you would attempt to resolve it.

3. Maintenance has promised to repair a pump all week. You need it now. No one is working on it. They do this sort of thing often.

   Does this sound like a conflict situation? Why? If it were a conflict, how could you attempt to resolve it?

4. Your trainer will present you with a real situation that has occurred in your unit. Handle it.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

3. _____

4. _____

MODULE #11

TRAINING

Time required to complete this module will be approximately ½ day.

OBJECTIVE

Upon completion of this module, you will be able to recognize the need for training and apply training skills in such a way that learning will take place.

RATIONALE

When people are not doing what they should, many of us say "they need training". Sometimes they do but many times they need something else. This module is designed to help you tell the difference and to train properly when that is what is needed.

LEARNING ACTIVITIES

1. When a person is not performing a task at the desired level, you need to determine if it is a problem of desire or lack of training. How can you tell if the person needs additional training? Ask yourself the following questions:

   a. What is the performance? In other words, what is the person doing?

b. What do you wish the person to do and how well? Sometimes we fail to communicate how we want a task performed and the quality of performance.

c. Is it important? If the task is being performed in a safe and efficient manner, it may be OK to allow the person to perform the task as they see fit.

d. Can they do it? If the answer is no then they need additional training. If the answer is yes, they may need counseling.

2. Now that you can tell when people need training, you need to bone-up on how to train them. You will be using what is often called the "4-Step Method". The steps include, roughly, telling the trainees, showing them how, letting them try, and straightening out where they go wrong.

MODULE #12

INSTRUMENT AIR COMPRESSORS

Time required to complete this module should be approximately 1 day.

OBJECTIVE

Upon completion of this module, you will be able to operate the instrument air compressors including switching air dryers.

RATIONALE

Instrument air for Plant B is supplied by the Elliot Air Compressor and Liquid Air. Normally, Liquid Air and one Elliot compressor is capable of furnishing sufficient plant air for Plant B. But, if more plant air would be needed, the other Elliot air compressor can be started and the line connecting Plant B and Plant C air systems could be unblocked.

Plant air uses are numerous. Some uses include:

1. air supply for small pneumatic tools
2. air movers for the ventilation of vessels
3. instrument air on plant instruments and control valves.

The most important use of plant air would be for plant instruments. Plant and instrument air are the same. The loss of instrument air would bring about an emergency plant shutdown and could cause damage to plant equipment and injury to personnel.

As mentioned before, a continued supply of plant air is very important for the overall operation of Plant B. The Elliot Air Compressors is one of the major suppliers for this air. Knowing how to start it up and shut it down without damaging the equipment are "need to know" tasks. Recognizing abnormal operation of the compressors compared to the normal operation is another "need to know" item.

LEARNING ACTIVITIES

1. Read the following about the Plant B Instrument Air System:

INSTRUMENT AIR SYSTEM

Instrument air for Plant B is supplied by the two Elliot Air Compressors at EC-HC1 and by Liquid Air Pipeline. Under normal conditions, most of Plant B's air will come from Liquid Air and only one Elliot Air Compressor will run to maintain system pressure. The air from Liquid Air is flow controlled to PPG and the Elliot Compressor on line will respond to small changes in demand for air. Any unit expecting a large change in air supply will notify the EC-HC1 control room so Liquid Air can be contacted to increase their air supply to us. Anytime Liquid Air supply is lost, both Elliot Air Compressors must be put on line and all users of air called to cut back on their air take as much as possible. In cases where air is needed immediately, there is an air connection to Plant C air on the west side of the air compressor building. Before opening the Plant C valve, contact them and make sure air is available.

The Elliot Air Compressors operate in parallel and discharge into a common header. The old air dryers inside the building and the new air dryers outside the building are also in parallel service. One dryer is in service at any given time. The old dryers are manually switched every 4 hours and the new dryers are automatically switched. Regeneration of a dryer is done by blowing hot air through the dryer to remove the water. Each dryer is packed with activated alumina to do the drying. After the instrument air goes through the dryers it goes through a filter to remove any dust or alumina that may have been carried out. Either set or both sets of dryers can be bypassed to be worked on at any time.

2. After reading the air compressor start-up procedure in the Task Detailing of this module, ask your trainer to simulate a compressor start-up.

3. After reading the air compressor shutdown procedure in the Task Detailing of this module, ask your trainer to simulate a compressor shutdown.

4. With your trainer observing, you simulate a compressor start-up and shutdown.

5. Observe your trainer switch air dryers and start reactivation of the used dryer.

Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

6. The next time that the air dryers are to be switched and reactivation started, you do it while your trainer observes.

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #12

Ask your trainer or supervisor to check your response to the following:

1. Start (or simulate) the air compressor.

2. Switch air dryers and start reactivation of the used dryer.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

SL 007950

TASK DETAILING

Elliot Air Compressor Start-up

1. Get air on seals.

2. Open drains from casings and intercoolers.

3. Circulate oil with auxiliary oil pump. NEVER START COMPRESSOR WITH OIL LESS THAN 70°F.

4. Put aux. oil pump on automatic. NEVER START THE COMPRESSOR WITH THE AUX. PUMP IN HAND CONTROL AS THE TWO PUMPS COMBINED HAVE TOO MUCH FLOW FOR THE SYSTEM.

5. Put water on intercoolers and aftercoolers.

6. Roll compressor by hand if unit has been down for any period of time.

7. Push start button--this button has a delay system built into it so that if you push the stop button immediately after pushing the start button, the motor will not stop for about 4 seconds.

8. Listen for any unusual noises.

9. Check for oil at the compressor casing drains, then shut.

10. Be sure aux. oil pump is not running.

11. Close off intercooler drains.

These valves have holes drilled in the gates (1/8" in second stage, 3/16" in the 1st stage). These should blow all the time. Every once in a while the valves should be open to see to it that no water is being trapped. The second stage will make about 5 gph of H_2O.

12. Open enough water through the oil cooler to hold about 110° - 130°F on the oil.

13. Keep a constant check on the cooling water from each intercooler. Do not throttle any cooling water in this system except the oil cooler. The water is not chlorinated and the volocity must be high to prevent algae formation.

NOTE: To prevent surging, the unit should be started up with the controls on manual.

Surge is an unstable operation where the discharge pressure rapidly falls and rises continuously. The flow of air reverses through the compressor for a brief interval of time and then flows forward again. These reversals continue until surge is eliminated by increasing the flow of air through the machine. This is done automatically. Whenever the discharge pressure falls very rapidly, a tripping system causes the pressure control valve (unloading valve) to open wide, thus allowing the total compressor capacity to

discharge to the atmosphere. This valve will stay this way until the reset button is pushed. A light on the control panel indicates when the system is in the surge protection control.

There are two manual-automatic control stations at each control cabinet. One is the unloading valve station and the other is the compressor inlet valve station. To switch controls from Auto to Manual, line up the manual gauge with the auto and switch. To go back to auto either line the manual up with the auto or give the auto enough time and it will line up with the manual. Then switch, always turning the switch to the right.

Elliot Air Compressor Shutdown

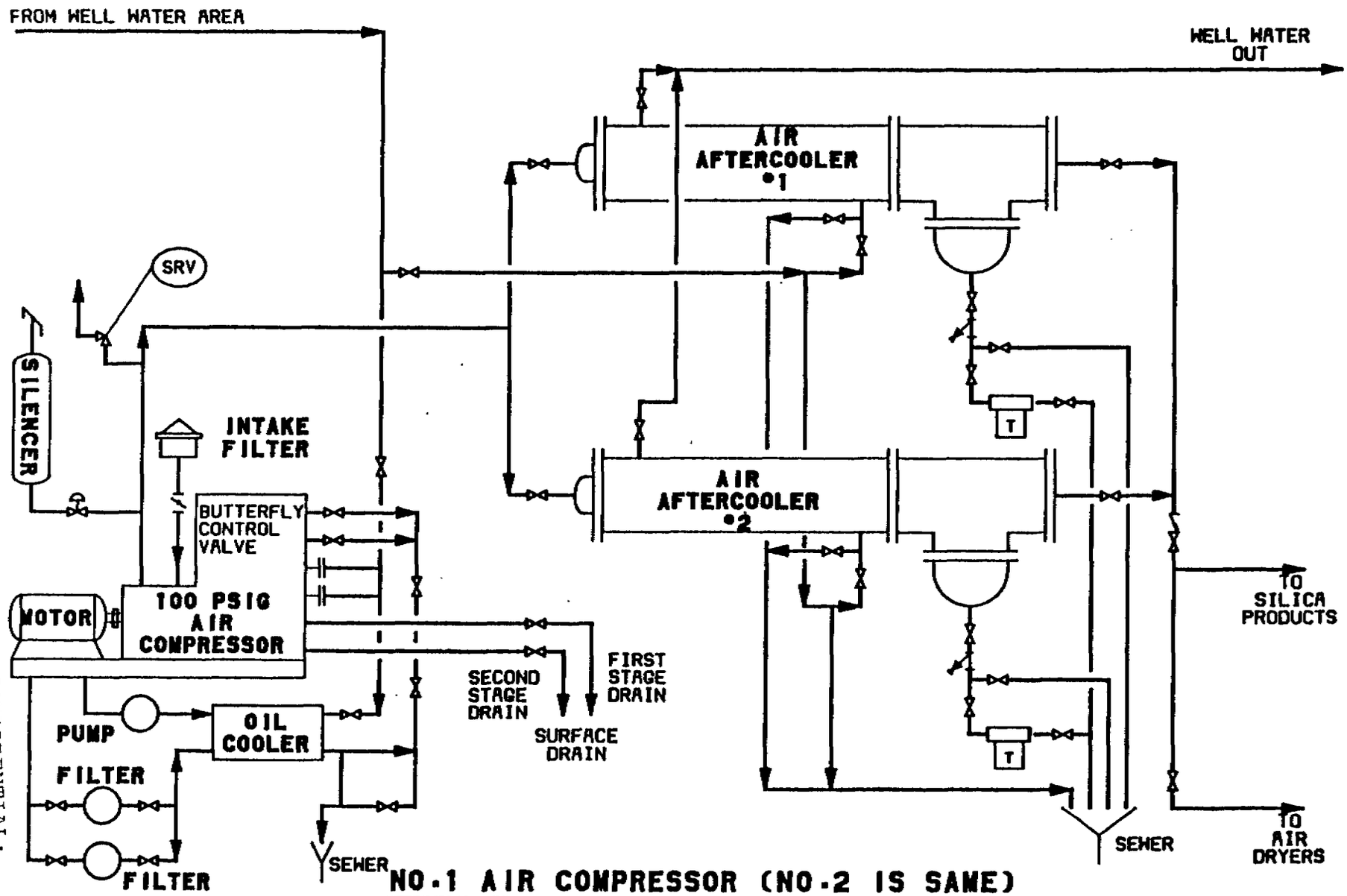
1. Push stop. (There is a check valve to prevent the system from back feeding, but it should be blocked off before shutting down to prevent possible problems.)

2. Be sure auxiliary oil pump comes on.

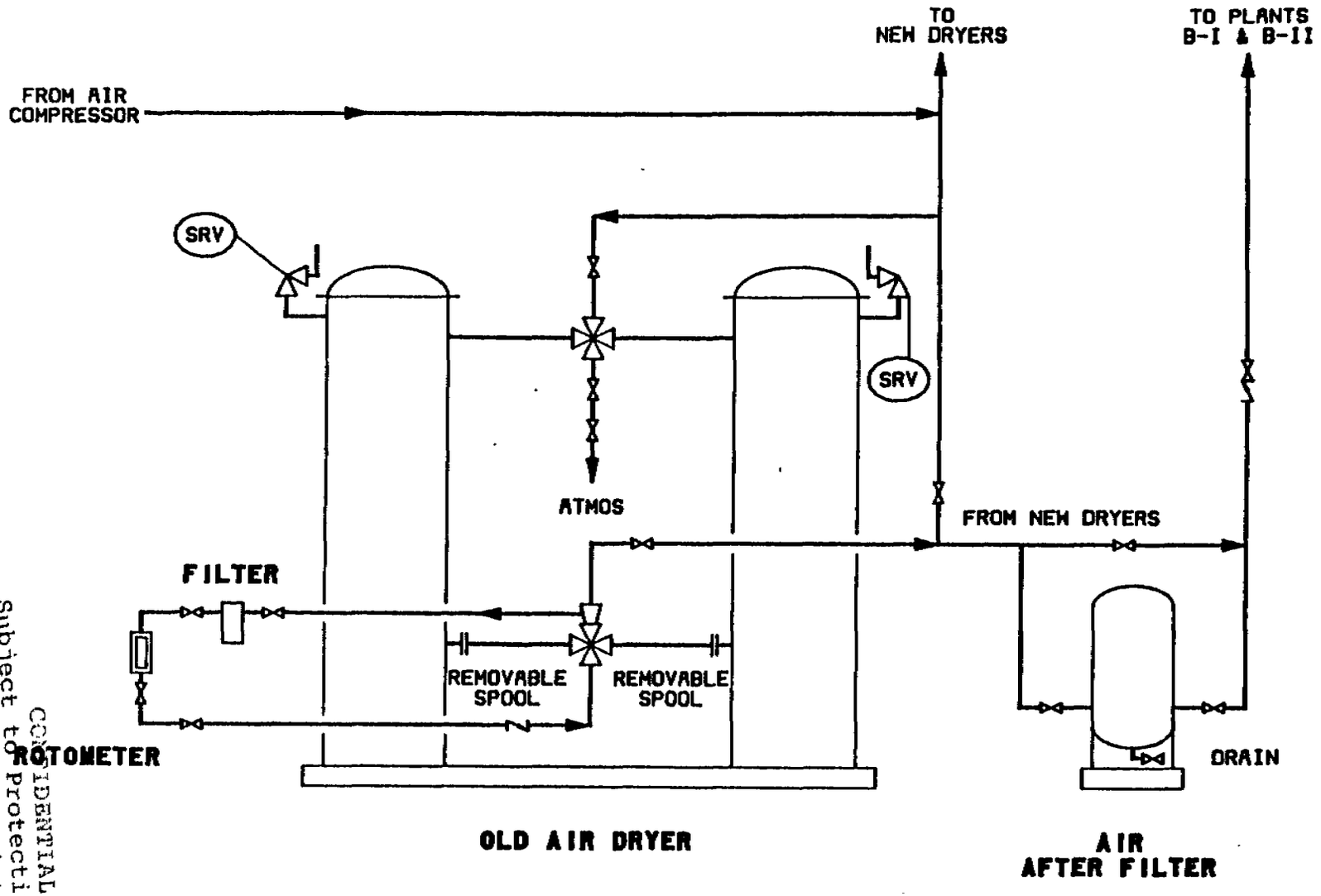
3. Stop water to coolers and drain all exchangers.

4. Open drains from intercoolers and casings.

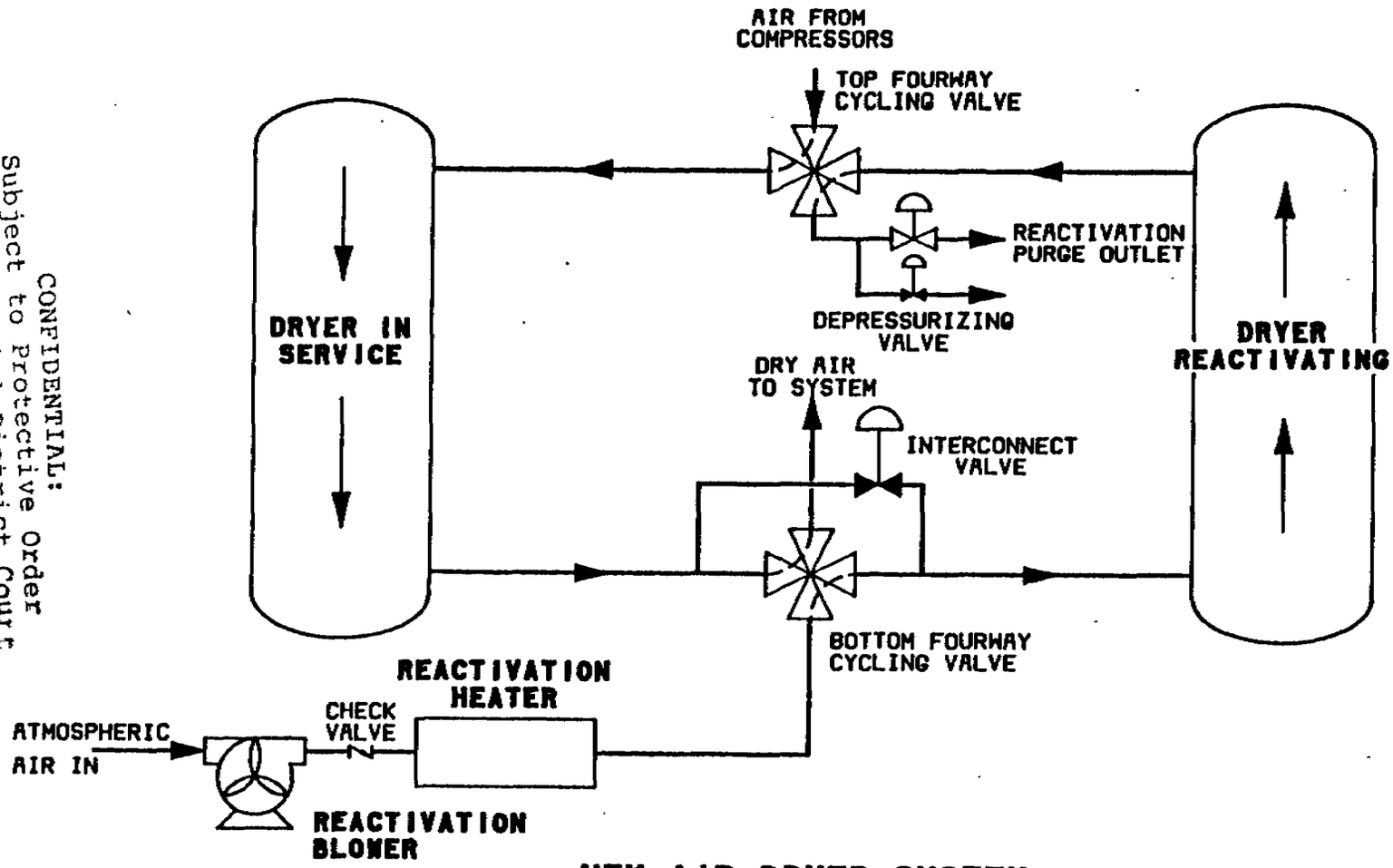
5. Shut down oil pump.



NO.1 AIR COMPRESSOR (NO.2 IS SAME)



OLD AIR DRYER SYSTEM



NEW AIR DRYER SYSTEM

MODULE #13

O_2-N_2 METERING STATION

Time required to complete this module should be approximately 1 day.

OBJECTIVE

Upon completion of this module, you will be able to properly operate the Nitrogen, Oxygen and Air Metering Station.

RATIONALE

The Per-Tri Lead Operator has the responsibility for operation of the metering station located northeast of the EDC air compressor building. This metering station controls the pressures and flows of oxygen, nitrogen and air.

Proper control of the oxygen pressure and flow insures an adequate supply of oxygen to the Per-Tri and the OHC unit. Any problems with the oxygen controls could cause major problems with the operation of the Per-Tri and OHC reactors.

Nitrogen and air from the metering station are used throughout the plant complex. Any problems with either nitrogen or air could cause problems throughout the complex.

LEARNING ACTIVITIES

1. Read the following:

METERING STATION

Nitrogen and oxygen are purchased from two suppliers: Big 3 and Liquid Air. Air is purchased from Liquid Air. Each supplier has its own pipelines running underground to the metering station.

Nitrogen from Big 3 is delivered at 450 psi and metered. The pressure is reduced first to 150 psi and then to 90-100 psi. Nitrogen from Liquid Air is delivered at 100-125 psi and metered. It goes through a control valve and is cross-tied with the nitrogen from Big 3. PPG has "check" meters on both the Big 3 and Liquid Air lines immediately downstream of the supplier's meters.

There is a 2" high pressure nitrogen line to VCM II taking off upstream of the Big 3 control valves and downstream of the check meter. The pressure is reduced from 450 psi to 250 psi through a control valve.

PPG has several contracts with both Big 3 and Liquid Air for suppling nitrogen. A computer has been installed to facilitate the "take" from each supplier in the proper order. The computer will pressure control the "take" from both suppliers. Bias control will be used to honor the contracts on a monthly basis. The computer is programmed to follow the contract "take" for nitrogen. For anticipated surges where the supplier is notified, it will be necessary to program into the computer the

desired supplier. Under this set up it is hoped that the cost of nitrogen will be kept minimal. Nitrogen "take" at costs above the base rates will be necessary only in emergencies.

The following will show the nitrogen contract "take" from the suppliers:

1. First 95 tons from Big 3.
2. Next 120 tons from Liquid Air.
3. All the rest from Big 3.

The plant nitrogen pressure should be controlled at 96 psig. Liquid Air should be adjusted and controlled as necessary to control Big 3 at 95 tons/day, until the total N_2 consumption is greater than 215 tons/day. When the total N_2 consumption is greater than 215 tons/day, Liquid Air should be controlled at 120 tons/day. If extra nitrogen is needed, Liquid Air should be notified before opening wide open. Nitrogen bypasses can be opened if needed.

Nitrogen usage must be watched closely, regardless of the cost. Several units require large amounts of nitrogen during emergency situations. When excessive amounts of nitrogen are taken by secondary users, the available reserve supply is limited. Notify the Shift Supervisor of any excessive nitrogen flows.

Fluidization of Per-Tri and OHC reactors require a substantial amount of nitrogen. It takes about 25 TPD to fluidize one Per-Tri reactor and about 200 TPD to fluidize one OHC reactor. When not operating in computer control, it is necessary to adjust Liquid Air to 120 TPD when

an OHC reactor is fluidized. This is the contract rates, but more importantly, above 260 TPD flow rate from Big 3 costs about 5 times the normal price for nitrogen.

Summing the Liquid Air and Big 3 nitrogen flows to the metering station will show whether nitrogen usage is normal or excessive. This should be done once per shift and reported to the Shift Supervisor.

Oxygen from Big 3 is delivered at 525 psi and metered. The pressure is reduced first to 175 psi and then to 100 psi. Oxygen from Liquid Air is delivered at 110-125 psi and metered. It goes through a control valve and is cross-tied with the oxygen from Big 3. PPG has "check" meters on both Big 3 and Liquid Air lines immediately downstream of the supplier's meters.

PPG has several contracts with both Big 3 and Liquid Air for supplying oxygen. The computer is also programmed to facilitate the "take" from each supplier in the proper order. The computer will pressure-control the oxygen from both suppliers. Bias control will be used to honor the contracts on a monthly basis.

The following will show the contract "take" from the suppliers:

1. First 120 tons/day from Liquid Air.
2. Next 57 tons/day from Big 3.
3. Next 60 tons/day from Liquid Air.
4. All the rest from Big 3.

Always try to maintain the contract flows. However, problems may arise which can prevent taking contract rates. Just remember that the plant pressure must be maintained at 106 psig. DO NOT lower the plant pressure in order to get more flow from Liquid Air. Call Liquid Air and ask that they raise their supply pressure. Note the time and Operator's name from Liquid Air in the log book if the call is made. Notify the Reactor Foreman of any problems at the metering station.

Air from Liquid Air is delivered at 80 psi and at a -40°F dewpoint. PPG's "check" meter is located in the meter station area and is tied into the meter station area computer. Liquid Air has a meter and a flow control valve on the line at their plant. In order to protect their air separation process from upsets, this valve will close on either high flow or low pressure. Liquid Air has a moisture analyzer on the line and will notify PPG when the dewpoint gets higher than -20°F. Normal take of air will be at a flowrate of 2500 SCFM. With notice given to Liquid Air, the take can go up to 4000 SCFM.

Operating information pertaining to O_2, N_2 and air can be obtained from the keyboard and printer located in the organics substation. Every 3 hours, a "log" is printed out. Also, a current "log" can be obtained by entering the letters "logg" on the keyboard and pressing the 'return' key. A sample "logg" is contained at the end of this training module.

Current flow rates can be obtained by entering "STAT" on the computer keyboard and pressing the 'return' key. Rounds at the metering station are made twice per shift and consist of printing a current "STAT" and

initialing it. Adjustments to flow rates are made based on the current "STAT", when operating in the automatic mode. On the first round on day shift, the previous day's computer printout is retrieved and given to the Per-Tri Technical Assistant. Also, at 7:00 AM each morning, the computer prints out the previous day's daily report. This is also retrieved and forwarded to the Per-Tri Technical Assistant. Additional daily reports can be obtained by entering the letters "REPT" and pressing the return key. A sample "STAT" and daily report are contained at the end of this training manual.

Also on each round, a check of each chart should be made to determine that each pen is inking and rotating properly.

1. Go to the metering station with your trainer and locate the control valves for N_2, O_2 and air from each supplier.

2. Ask your trainer to show you the computer and to demonstrate the programming used to control each supplier's product.

3. Read the computer operating manual that is in the control room.

4. Ask your trainer to demonstrate changing the charts.

5. You demonstrate to your trainer the programming of the computer for control of each supplier's product.

6. Change (or simulate) the charts at the metering station.

8/19/85 728 HRS
STAT

	BIG-3 02	LIQ-AIR 02	BIG-3 N2	LIQ-AIR N2	LIQ-AIR	AIR
CRNT FLW(#/hr)	0.000000	8379.081	8085.054	6793.028	9507.821	
ALLOC(#/hr)	0.000000	8379.081	7916.900	6961.183		
CRNT FLW(tpd)	0.000000	100.5490	97.02066	81.51634	18144.14	

[redacted]/85 900 HRS

900 LA 02 , 85.39174 DEGF
900 LA N2 , 86.14210 DEGF
900 B3 N2 , 82.69042 DEGF
900 B3 02 , 85.24167 DEGF
900 AIR , 82.76545 DEGF
900 N2 LOW , 91.45094 PSIG
900 02 , 121.8408 PSIG
900 LA 02 , 122.4348 PSIG
900 LA N2 , 118.6830 PSIG
900 B3 N2 , 271.1325 PSIG
900 B3 02 , 528.7584 PSIG
900 AIR FROM LA , 80.43931 PSIG
900 BIG-3 02 (LR) , 0.000000 #/HR 0.000000 SCFH 0.000000 TPD
900 BIG-3 02 (HR) , 0.000000 #/HR 0.000000 SCFH 0.000000 TPD
900 LA 02 (LR) , 8336.111 #/HR 100793.3 SCFH 100.0333 TPD
900 LA 02 (HR) , 8087.484 #/HR 97787.12 SCFH 97.04981 TPD
900 BIG-3 N2 (LR) , 8220.788 #/HR 113393.3 SCFH 98.64944 TPD
901 BIG-3 N2 (HR) , 8198.577 #/HR 113086.9 SCFH 98.38294 TPD
901 LA N2 (LR) , 6716.730 #/HR 92647.09 SCFH 80.60075 TPD
901 LA N2 (HR) , 6717.138 #/HR 92652.74 SCFH 80.60566 TPD
901 AIR (LR) , 8990.043 #/HR 119936.9 SCFH 107.8805 TPD
901 AIR (HR) , 8966.528 #/HR 119623.2 SCFH 107.5984 TPD

/85 1200 HRS

1200 LA 02 , 86.81743 DEGF
1200 LA N2 , 89.44372 DEGF
1200 B3 N2 , 84.04109 DEGF
1200 B3 02 , 94.62125 DEGF
1200 AIR , 84.94152 DEGF
1200 N2 LOW , 90.23159 PSIG

SL 007963

O2/N2/AIR REPORT FOR 8/19/85

LAST 24.00000 HRS	BIG-3 O2	LIQ-AIR O2	BIG-3 N2	LIQ-AIR N2	LIQ-AIR
TOTAL (lb)	1010.676	197396.7	176271.9	156659.7	217200.
AVG FLOW(#/hr)	42.11151	8224.863	7344.665	6527.489	9050.02
MTH-TO-DATE					
CAL MONTH(tns)	224.6523	2102.404	1822.106	827.4392	1489.51
ACC MONTH(tns)	224.6523	2102.404	1822.106	827.4392	1489.51
PREV MTH					
CAL MONTH(tns)	1856.582	3110.027	3060.922	806.2703	2085.83
ACC MONTH(tns)	1856.582	3110.027	3060.922	806.2703	2085.83
YR-TO-DATE					
YR-TO-DTE(tns)	2081.234	5212.430	4883.027	1633.709	18252.7

SURGES	OCCUR	TOT HRS
B3 O2	0	0.000000
LA O2	0	0.000000
B3 N2	0	0.000000
LA N2	0	0.000000

8/20/85 700 HRS

AVG

700 LA O2 , 85.57136 DEGF
700 LA N2 , 86.36418 DEGF
700 B3 N2 , 82.70627 DEGF
700 B3 O2 , 87.45871 DEGF
700 AIR , 83.29469 DEGF
700 N2 , 90.92115 PSIG
700 O2 , 121.5244 PSIG
700 LA O2 , 122.1644 PSIG
700 LA N2 , 120.7413 PSIG
700 B3 N2 , 289.7112 PSIG
700 B3 O2 , 551.4892 PSIG
700 AIR FROM LA , 80.35525 PSIG

PROGRESS CHECK

PLANT B LEAD OPERATOR

MODULE #13

Ask your trainer to check your response to the following:

1. Demonstrate the programming of the computer for control of each supplier's product

2. Change (or simulate) the charts at the metering station.

_____ has completed this Progress Check.
(Trainee's name)

COMMENTS:

_____
Supervisor or Trainer

1. _____ _____
Trainee

2. _____ _____
Date

QUALIFICATION STANDARDS

LEAD OPERATOR

1. Wears proper safety and personal protection equipment and follows safety rules and helps insure safety rule compliance of others in his area.

2. Monitors area to help insure adequate housekeeping and issues necessary instructions for housekeeping.

3. Insures safety of personnel and equipment for maintenance work by verifying equipment is shutdown, isolated and cleared, followed by proper lock out and/or tag procedures.

4. Monitors area to protect the environment and helps insure compliance with company and government regulations such as spill reporting procedures.

5. Maintains a knowledge of current operations by reading logs, observing and talking with operators, maintenance personnel, supervisors and other involved personnel.

6. Keeps others informed as to the condition of operations of the area by making specific, accurate descriptive entries in logs and with oral communication.

7. Insure safe efficient operations and maintenance efforts by coordinating maintenance activities, monitoring progress of maintenance and inspecting completed maintenance activities to prevent redos.

8. In the absence of unit supervisor, takes charge of start-up or shutdown of major equipment and insures that all critical tasks are safely covered.

9. In an upset, quickly makes decisions, personnel assignments and gives instructions necessary to effect rapid return to normalcy.

10. Assists operators on the shift in making difficult or non-routine operating decisions including troubleshooting and hands-on operating.

11. Takes an active part in training and continued development of operators assigned to the shift.

12. Follows written and oral instructions given by supervision.

13. Looks for ways to improve operations in order to increase efficiency
and profitability.

14. Monitors area operations to insure safe, continuous and effective operations with specified manpower and with specified operating parameters.