

John Friend
(A)

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Jack Cameron

cc: ~~Paul Warner~~



To Jim Hall

Date 6/21/84

Attached is a list of names
I was able to compile on
possible alternates to Bob Allen
for VCM emissions technical expert
witness for EPA. 3 ex BFG,
3 ex Conoco, 2 ex Ethyl, 1
contractor, 1 college professor, 1
explosion and safety engineer and 1 state
air quality regulator (Louisiana). I
have spoken with a number of people
inside Con Chem to compile this list.
(over)

Conce ex's Stovall and
Bradley might be good as
neither is involved in their own
activities in PIC and could not
likely benefit themselves from any
information gained. Both Stovall
and Bradley were ex holders of
the job in PED That Don
Sanders currently does.

JBC

<u>PVC AFFILIATION</u>	<u>NOMINEE</u>	<u>BACKGROUND</u>	<u>CURRENT</u>	<u>TELEPHONE*</u>
BFG Ex.	Walter Boyce	Mech Engr. Build BFG foreign PVC Plants	Consultant	713/444-7733
BFG Ex. (Highly recommended by Bud Hall)	Jerry Weisz	Chem. Engr. Law Ran BFG foreign PVC business	?	216/447-6309
BFG Ex.	Bob Kruger	VP BFG - grad school with P.A. Schwab	?	
Ethyl Ex.	Henry Smith	Plant Mgr. Ethyl PVC Plant, Baton Rouge, Bud Hall co-worker	?	
Ethyl Ex. (Dick Froreich knows him and regards highly)	Herb Olsen	Plant lab Ethyl PVC Baton Rouge, ran one of Plants	? Still works for Ethyl in another business	503/359-2672
Conoco Ex.	Wayne Sorenson	R&D Conoco PVC	Church & Dwight	
Conoco Ex.	Bill Stovall	Mgr. Process Engr. Conoco	Consultant Technical Placement	512/282-7124
Conoco Ex.	Bill Bradley	Mgr. Process Engr. Conoco	Consultant	409/291-7037
Rhone Poulenc, French Mass PVC Process	Sam Kiguchi	Design PVC Process	Brown & Root also license mass PVC	713/437-0653

Academic Professor
and PVC expert

Archie Hammerlack

Professor

Un of Toronto - (John
Irvine) may be Conoco
PVC Consultant on
some matters.

Industrial Accident -
Explosion expert with
ICI

Trevor Kletz

Safety Engineer?

?

None

Gus Von Bodungen

State of Louisiana
Air quality

?

504/568-5121

CONTRACTORS

Air Products

Crawford Russell

INSURANCE COMPANIES

*Telephone #s may be old

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MEMORANDUM OF UNDERSTANDING

The parties hereby agree that they will recommend to their respective clients and endorse settlement of the three litigations between the parties, namely (1) United States v. Conoco, Inc., No. 83-1914-E (W.D. Ok.), (2) United States v. Conoco, Inc., No. CV83-2518 (W.D. La.), and (3) United States v. Conoco, Inc., No. EC84-37-LS-P (N.D. Miss.), according to the terms set forth below:

(1) Plaintiff will revise its Section 114 request to the Aberdeen facility to obtain only that information necessary for determining the facility's compliance with the vinyl chloride NESHAP, 40 C.F.R. §61.60 et seq.;

(2) Defendant will evaluate its compliance with the NESHAP for vinyl chloride and submit to the plaintiff within 30 days after entry of the decree a plan which will outline measures already taken and to be taken (with a timetable) to comply with that NESHAP. Proposed language is attached as Exhibit A;

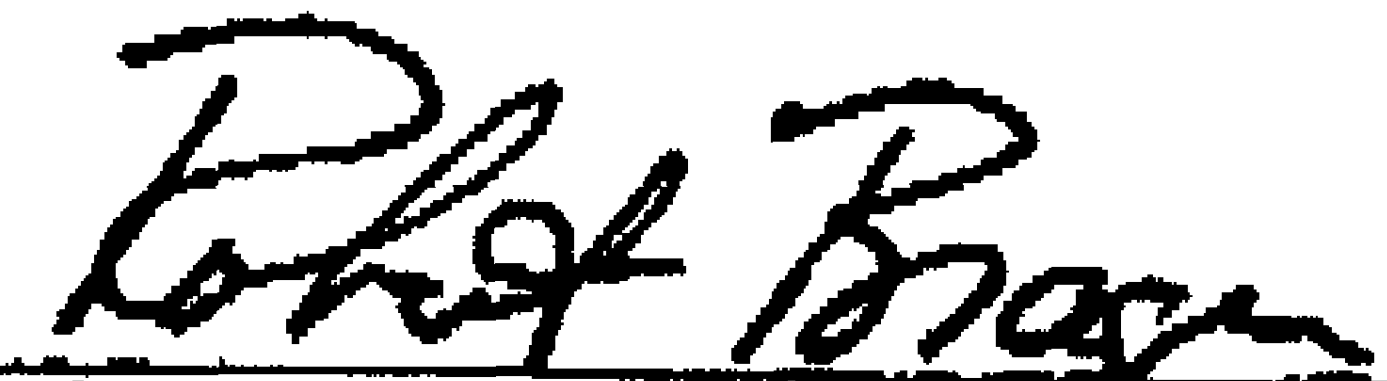
(3) Plaintiff will waive all claims it has against defendant for all violations of the vinyl chloride NESHAP prior to and including the date of entry of the consent decree, except for violations which should have been reported to either EPA or the appropriate state agency but which were not reported by June 28, 1984;

(4) Defendant will pay a civil penalty of \$275,000 in full satisfaction of plaintiff's claims for violations of the vinyl chloride NESHAP;

(5) Neither party shall ask any of the courts in the above-cited cases to vacate any opinions issued in those cases; and

(6) Plaintiff reserves the right to appeal the decision reached by the Court in No. CV83-2518 as a declaratory judgment action.


Ruthann McQuade, Esq.
Attorney for Plaintiff


Robert Brager, Esq.
Attorney for Defendant

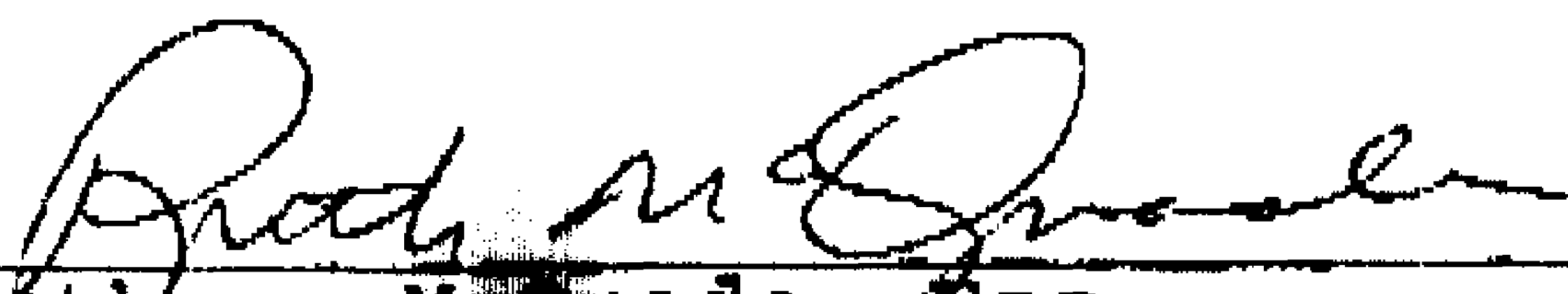
ATTACHMENT A

Within 30 days after approval of this Decree, Conoco agrees to submit to EPA a Plan determining the measures that it has taken and will take to ensure compliance with the NESHAP for vinyl chloride. Technical data will be appended thereto so that EPA personnel can fully evaluate the merits of the Plan. Where compliance has already been achieved, Conoco may refer plaintiff to documents in plaintiff's possession which show compliance;

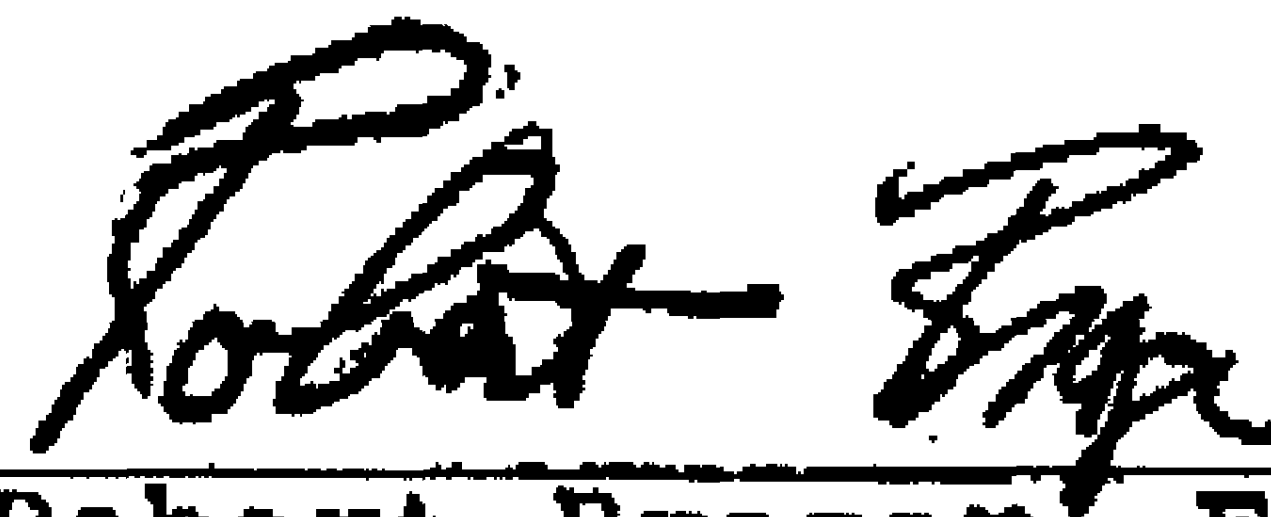
Within 30 days after submission of the Plan, EPA shall in writing accept or reject all or part of said Plan. For rejected portions of the Plan, EPA shall set forth reasons for said rejection in writing, and outline measures it believes need to be undertaken.

Within 30 days thereafter, Conoco will contact EPA in an effort to resolve any differences.

If the parties fail to reach an agreement within 90 days thereafter, they shall jointly seek resolution of this issue by the Court.



Ruthann McGuade, Esq.
Attorney for Plaintiff



Robert Brager, Esq.
Attorney for Defendant

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF OKLAHOMA

UNITED STATES OF AMERICA,

Plaintiff.

v.

CONOCO, INC.

Defendant.

Civil Action No. 83-1916-E

CONSENT DECREE

Plaintiff, United States of America, on behalf of the United States Environmental Protection Agency (EPA) has filed a complaint herein on August 10, 1983, seeking civil penalties. This complaint alleges that the Conoco, Inc. ("Conoco") violated the Clean Air Act, 42 U.S.C. §7401 et seq. and the vinyl chloride National Emission Standard for Hazardous Air Pollutants ("NESHAP"), 40 C.F.R. §61.60 et seq. by discharging vinyl chloride from relief valves at its polyvinyl chloride ("PVC") plant in Oklahoma City, Oklahoma.

The parties, by their respective attorneys, having consented to the entry of this Decree without trial or adjudication of any issue of fact or law by either party and without this Decree constituting an admission of fact or law by either party, it is therefore ORDERED, ADJUDGED and DECREED as follows:

I.

JURISDICTION

This Court has jurisdiction over the subject matter of this action and of the parties consenting hereto pursuant to 28

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U.S.C. §§1331, 1345 and 1355, and 42 U.S.C. §7413. The complaint states a claim upon which relief can be granted.

II.

BOUND PARTIES

The provisions of this Consent Decree shall apply to and be binding upon the defendant, its officers, agents, servants, employees, successors, assigns and all persons, firms and corporations under, through or for it, and upon those persons, firms and corporations in active concert or participation with it. Defendant shall give notice in writing of the Consent Decree to any successors in interest prior to a change in ownership or a transfer of right to operate any source covered by this Decree. A copy of such letter shall be simultaneously provided to EPA and to the U.S. Department of Justice (DOJ).

III.

COMPLIANCE

Upon entry of this Decree, Conoco shall comply with the NESHAP for vinyl chloride, 40 C.F.R. §61.60, et seq. Towards that end, Conoco shall do the following within thirty (30) days of entry of this Decree:

A. Submit to EPA a plan outlining the measures that it has taken, and will take at its PVC plant to control and reduce emissions of vinyl chloride from the following equipment sources: loading and unloading lines, mixing, weighing and holding containers, the inprocess wastewater strippers, and all emissions from the PVC reactors except those subject to 40 C.F.R. §§61.65(a) and 61.64(a)(3). The plan

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shall also address measures to be taken to reduce emissions from the opening of equipment. In addition, Conoco shall provide a timetable for completion of the measures identified above.

B. Within thirty (30) days of submission of the plan EPA shall inform Conoco, in writing, whether or not it approves or disapproves all or part of said plan. Any disapproval shall include EPA's reasons for the disapproval, and additional or alternative measures EPA believes need to be undertaken by Conoco. If at any stage of review, consideration or reconsideration EPA approves the plan, the parties shall submit the plan to the Court by stipulation. Such a plan shall become an enforceable addendum to this Decree. If EPA disapproves the Plan, and efforts at resolving the differences fail, Conoco shall petition the court for resolution of the issue. Such a petition shall be submitted within thirty (30) days of EPA's written notification of disapproval. In the event that Conoco does not file a petition within thirty (30) days, it shall adhere to EPA's determination.

C. Conoco shall implement the compliance plan within the time periods prescribed therein.

IV.

STIPULATED PENALTIES

Conoco shall take all measures to perform its obligations pursuant to this Decree. If Conoco fails to comply with the requirements of this Decree, it shall pay the following stipulated penalties:

A. If Conoco fails to submit the plan in the time required by Section III, or submits an incomplete plan, Conoco shall pay \$2,500.00 per day of non-compliance;

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B. If Conoco fails to take or complete the tasks within the timetable outlined in the compliance plan of Section III, Conoco shall pay \$1,000.00 per day of non-compliance;

C. In the event Conoco discharges vinyl chloride from relief valves due to circumstances which EPA deems constitute non-emergencies, Conoco shall pay according to the following scheme:

<u>Pounds of vinyl chloride discharged</u>	<u>Penalty per discharge</u>
1 - 5,000	\$ 5,000
5,000 - 10,000	\$15,000
over 10,000	\$25,000

and

D. If Conoco exceeds the emission limitation of any section of 40 C.F.R. §61.60, et seq. other than §61.65(a), Conoco shall pay a stipulated penalty of \$1,000.00 per day of non-compliance.

V.

REPORTING AND PROGRESS REPORTS

During the pendency of this Decree, Conoco shall submit copies of all semi-annual reports, and relief valve discharge reports which are required to be submitted to the State of Oklahoma pursuant to EPA delegation authority, directly to EPA. Conoco shall also include in its semi-annual reports all discharges, leaks, and/or emissions reported to the National Response Center pursuant to the "Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Conoco shall also submit monthly progress reports commencing sixty (60) days after the entry of this decree detailing all actions taken toward completion of the tasks enumerated in the compliance plan pursuant to Section III. Such reports shall be sent to:

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Director, Air and Waste
Management Division
United States Environmental
Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

VI.

CIVIL PENALTY

Defendant shall pay a civil penalty in the amount of \$125,000.00 in full satisfaction of plaintiff's civil claims for all violations of the NESHAP for Vinyl Chloride prior to and including the date of lodging of the consent decree, except for violations which should have been reported to either EPA or the appropriate state agency but were not. Payment of \$125,000.00 shall be made within thirty (30) days of entry of this Decree, by certified check payable to the "Treasurer of the United States," and tendered to the plaintiff at the office of the United States Attorney for the Western District of Oklahoma.

VII.

OBLIGATION TO COMPLY WITH ALL LAWS

Nothing in this decree shall be construed to relieve the defendant or its officers, agents, servants, employees, successors or assigns of their obligations to comply with all applicable federal, state and local statutes, or regulations. Implementation of the compliance plan provided for in Section III of this Decree shall not relieve defendant of its obligation to comply with the National Emission Standard for Vinyl Chloride, 40 C.F.R. §61.60, et seq. and for the Clean Air Act, 42 U.S.C. §7401, et seq.

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Director, Air and Waste
Management Division
United States Environmental
Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

VI.

CIVIL PENALTY

Defendant shall pay a civil penalty in the amount of \$125,000.00 in full satisfaction of plaintiff's civil claims for all violations of the NESHAP for Vinyl Chloride prior to and including the date of lodging of the consent decree, except for violations which should have been reported to either EPA or the appropriate state agency but were not. Payment of \$125,000.00 shall be made within thirty (30) days of entry of this Decree, by certified check payable to the "Treasurer of the United States," and tendered to the plaintiff at the office of the United States Attorney for the Western District of Oklahoma.

VII.

OBLIGATION TO COMPLY WITH ALL LAWS

Nothing in this decree shall be construed to relieve the defendant or its officers, agents, servants, employees, successors or assigns of their obligations to comply with all applicable federal, state and local statutes, or regulations. Implementation of the compliance plan provided for in Section III of this Decree shall not relieve defendant of its obligation to comply with the National Emission Standard for Vinyl Chloride, 40 C.F.R. §61.60, et seq. and for the Clean Air Act, 42 U.S.C. §7401, et seq.

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VIII.

ENTRY AND INSPECTION

During the pendency of this Decree, the Administrator of EPA, or his authorized representative, shall have authority to enter Conoco's Oklahoma City PVC facility upon reasonable notice for purposes of examining remedial measures and inspecting and copying records, logs, contracts, or other documents which are needed to assess compliance with this Decree. Documents or information identified as confidential shall be disclosed only in accordance with the regulations set out at 40 C.F.R. Part 2.

IX.

TERMINATION AND RETENTION OF JURISDICTION

The Court shall retain jurisdiction to enforce the terms and conditions of this Decree until such time as the parties have notified the court that Conoco has completed to the plaintiff's satisfaction, the tasks outlined in the compliance plan under Section III of this Decree and has maintained compliance with such plan and the NESHAP for vinyl chloride for a period of one year.

X.

COSTS OF ACTION

Each party shall bear its own costs and attorneys fees of this action, except as otherwise provided herein.

Date

United States District Judge

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WE HEREBY CONSENT to the entry of this decree subject to
the public notice requirements of 28 C.F.R. §50.7.

FOR CONOCO, INC.

FOR THE UNITED STATES OF AMERICA

ESTELA WACKERBARTH
Counsel for Conoco

F. HENRY HABICHT, II
Assistant Attorney General
Land and Natural Resources Division
Department of Justice
Washington, D. C. 20530

ANTON RUPERT
Crowe & Dunlevy
1800 Mid-America Tower
20 Broadway
Oklahoma City, Oklahoma 73102

WILLIAM S. PRICE
United States Attorney
Western District of Oklahoma

By:

STEVEN K. MULLINS
Assistant United States Attorney

ROBERT BRAGER
Beveridge & Diamond, P.C.
1333 New Hampshire Ave., N.W.
Washington, D. C. 20036

COURTNEY M. PRICE
Assistant Administrator
Office of Enforcement and
Compliance Monitoring
U.S. Environmental Protection
Agency
Washington, D. C. 20460

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF LOUISIANA

UNITED STATES OF AMERICA,

Plaintiff,

v.

CONOCO, INC.

Defendant.

Civil Action No. 83-2518
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fax to Dick ConnallyPARTIAL CONSENT DECREE

Plaintiff, United States of America, on behalf of the United States Environmental Protection Agency (EPA) filed a complaint herein on October 13, 1983, alleging that Conoco, Inc. ("Conoco") violated the Clean Air Act, 42 U.S.C. §7401 et seq. and Sections 61.62(a), 61.63(a) and 61.65(a) of the vinyl chloride National Emission Standard for Hazardous Air Pollutants ("NESHAP"), 40 C.F.R. §61.60 et seq. by discharging vinyl chloride from relief valves and other equipment at its ethylene dichloride/vinyl chloride ("EDC/VC") plant in Westlake, Louisiana. This consent decree resolves only those claims arising from the alleged violations of the relief valve standard, 40 C.F.R. §61.65(a), and not those claims arising from alleged violations of 40 C.F.R. §§61.62(a) and 61.63(a). The entering of this partial Decree shall not affect the United States rights related to claims alleged pursuant to 40 C.F.R. §§61.62(a) and 61.63(a).

The parties, by their respective attorneys, having consented to the entry of this Decree without trial or adjudication of any issue of fact or law by either party and without this Decree

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constituting an admission of fact or law by either party, it is therefore ORDERED, ADJUDGED and DECREED as follows:

I.

JURISDICTION

This Court has jurisdiction over the subject matter and over the parties consenting hereto pursuant to 28 U.S.C. §§1331, 1345 and 1355, and 42 U.S.C. §7413. The complaint states a claim upon which relief can be granted.

II.

BOUND PARTIES

The provisions of this Consent Decree shall apply to and be binding upon the defendant, its officers, agents, servants, employees, successors, assigns and all persons, firms and corporations under, through or for it, and upon those persons, firms and corporations in active concert or participation with it. Defendant shall give notice in writing of the Consent Decree to any successors in interest prior to a change in ownership or a transfer of right to operate any source covered by this Decree. A copy of such letter shall be simultaneously provided to EPA and to the U.S. Department of Justice (DOJ).

III.

COMPLIANCE

Upon entry of this Decree, Conoco shall comply with the NESHAP for vinyl chloride 40 C.F.R. §61.60, et. seq. Towards that end, Conoco shall do the following within thirty (30) days of entry of this decree:

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20. A. Submit to EPA a full disclosure of its status of compliance with each section of the vinyl chloride NESHAP regulations at its EDC/VC plant. This disclosure shall include, inter alia, the following:

1. For each incinerator bypass reported by Conoco in its semi-annual reports since January 1980, identify the equipment, device method and procedures employed by Conoco to reroute the collective exhaust gases from the vent headers around the incinerator and through the C-500 scrubber and stack.
2. For each incinerator bypass identified above, provide a detailed description of the causes of such incinerator bypass.

B. Submit to EPA a compliance plan outlining the measures Conoco will take to ensure compliance with the NESHAP for vinyl chloride with a timetable for completion of the measures identified. Such a plan shall include, at a minimum, the measures Conoco will take to eliminate future incinerator bypasses, and relief valve discharges. It shall also address measures Conoco will take to eliminate emissions from the HCL column during start-up, shut-down, and malfunction. The portion of the compliance plan on relief valve discharges, shall specifically address, inter alia, improvements in operator training, process design, inspection and preventive maintenance programs, quality assurance program for installation of new valve assemblies, process design for alarm system, removal of nitrogen in process equipment before start-up, instrumentation for local pressure indication at inlet valve points on each check tank, and a quality assurance

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C. Within thirty (30) days of submission of the plan, EPA shall inform Conoco, in writing, whether or not it approves or disapproves all or part of said plan. Any disapproval shall include EPA's reasons for the disapproval, and additional or alternative measures EPA believes need to be undertaken by Conoco. If at any stage of review, consideration, or reconsideration EPA approves the plan, the parties shall submit the plan to the court by stipulation. Such a plan shall become an enforceable addendum to this Decree. If EPA disapproves the plan, and efforts at resolving the differences fail, Conoco shall petition the court for resolution of the issue. Such a petition shall be submitted within thirty (30) days of EPA's written notification of disapproval. In the event that Conoco does not file a petition within thirty (30) days, it shall adhere to EPA's determination.

D. Conoco shall implement the compliance plan within the time periods prescribed therein.

IV

STIPULATED PENALTIES

Conoco shall take all measures to perform its obligation pursuant to this Decree. If Conoco fails to comply with the requirements of this Decree, it shall pay the following stipulated penalties:

A. If Conoco fails to submit the plan in the time required by Section III, or submits an incomplete plan, Conoco shall pay \$2,5000.00 per day of non-compliance;

B. If Conoco fails to take or complete the tasks within the timetable outlined in the compliance plan of Section III, Conoco shall pay \$1,000.00 per day of non-compliance.

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C. In the event Conoco discharges vinyl chloride from relief valves due to circumstances EPA deems constitute non-emergencies, Conoco shall pay according to the following scheme:

<u>Pounds of Vinyl Chloride discharged</u>	<u>Penalty per discharge</u>
1-5,000	\$ 5,000.00
5,000 - 10,000	\$15,000.00
over 10,000	\$25,000.00

D. If Conoco exceeds the emission limitation of any section of 40 C.F.R. §61.60, et seq., other than §61.65(a), Conoco shall pay a penalty of \$1,000.00 per day of non-compliance.

V.

REPORTING AND PROGRESS REPORTS

On and after the date of entry of this Decree, Conoco shall submit copies of all semi-annual reports, and relief valve discharge reports which are required to be submitted to the State of Louisiana pursuant to EPA delegation authority, directly to EPA. Conoco shall also submit monthly progress reports commencing sixty (60) days after the entry of this decree detailing all actions taken toward completion of the tasks enumerated in the compliance plan pursuant to Section III. Such reports shall be sent to:

Director, Air and Waste
Management Division
United States Environmental
Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

VI.

CIVIL PENALTY

Conoco shall pay a civil penalty in the amount of \$100,000.00 in full satisfaction of plaintiff's civil claims for all

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violations of the NESHAP for vinyl chloride prior to and including the date of lodging of the consent decree, except for violations which should have been reported to either EPA or the appropriate state agency but were not. Payment of \$100,000.00 shall be made within thirty (30) days of entry of this Decree, by certified check payable to the "Treasurer of the United States", and tendered to the plaintiff at the Office of the United States Attorney for the Western District of Louisiana.

VII.

OBLIGATION TO COMPLY WITH ALL LAWS

Nothing in this decree shall be construed to relieve the defendant or its officers, agents, servants, employees, successors or assigns of their obligations to comply with all applicable federal, state and local statutes, or regulations. Implementation of the compliance plan provided for in Section III of this Decree shall not relieve defendant of its obligation to comply with the National Emission Standard for Vinyl Chloride, 40 C.F.R. §61.60, et seq. and for the Clean Air Act, 42 U.S.C. §7401, et seq.

VIII.

ENTRY AND INSPECTION

During the pendency of this Decree, the Administrator of EPA, or his authorized representative shall have authority to enter Conoco's Westlake EDC/VC facility upon reasonable notice for purposes of examining remedial measures and inspecting and copying records, logs, contracts, or other documents which are needed to assess compliance with this Decree. Documents or information identified

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as confidential shall be disclosed only in accordance with the regulations set out at 40 C.F.R. Part 2.

TERMINATION AND RETENTION OF JURISDICTION

The Court shall retain jurisdiction to enforce the terms and conditions of this Decree until such time as the parties have notified the Court that Conoco has completed, to the plaintiff's satisfaction, the tasks outlined in the compliance plan under Section III of this Decree and has maintained compliance with such plan and NESHA for a period of one year.

IX.

COSTS OF ACTION

Each party shall bear its own costs and attorneys fees of this action, except as otherwise provided herein.

Date

United States District Judge

WE HEREBY CONSENT to the entry of this decree subject to the public notice requirements of 28 C.F.R. §50.7.

FOR CONOCO, INC.

FOR THE UNITED STATES OF AMERICA

ESTELA WACKERBARTH
Counsel for Conoco

F. HENRY HABICHT, II
Assistant Attorney General
Land and Natural Resources Div.
Department of Justice

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J. BERRY ST. JOHN, JR.
Liskow & Lewis
P. O. Box 52008
Lafayette, Louisiana 70505

JOSEPH S. CAGE, JR.
United States Attorney
Western District of Louisiana

By:

JOHN HALLIBURTON
Assistant U. S. Attorney

ROBERT BRAGER
Beveridge & Diamond
1333 New Hampshire Ave., N.W.
Washington, D. C. 20036

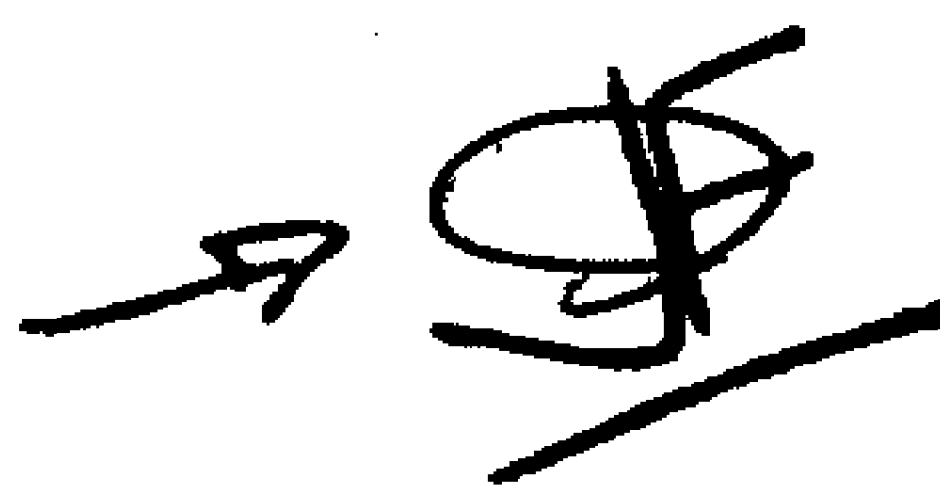
COURTNEY M. PRICE
Assistant Administrator
Office of Enforcement and
Compliance Monitoring
U.S. Environmental Protection
Agency
Washington, D. C. 20460



VAB.0001180142

18.7 JOB DESCRIPTIONS

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VISTA Polymers - Aberdeen Chemical Plant

Vinyl A Operator Training Guide

Dryer Area

I. Nomenclature And location of major equipment

1. Fluid Bed Dryer
2. Rotary Dryers
3. Small and Large Blend Tanks
4. Slurry Pumps
5. Emergency Generator And associated equipment
6. Transfer lines and switching stations
7. Storage Silos
9. Small and Big Pit Activators, Small and Big Blowers
10. Bagging Machines
11. D-box System

II. Fluid Bed Dryer

1. Understand and be able to explain the operation of each of the major pieces of equipment on the fluid bed
 - a. BIRD centrifuges
 - b. Screw feeder and feed distributor
 - c. Hot water panels and circulating system (including chemical injection)
 - d. Plug flow and backmix section cyclones, powder lutes
 - e. Air blowers (backmix, plug flow, and exhaustor) and burners
 - f. Scrubber
 - g. Kaisons, recycle rotary valves, and plug flow powder lutes
 - h. Transfer blowers, rotary valves, and lines
2. Be able to make-up chemical solution for hot water, check injection pumps for proper operation, and change pump stroke
3. Know signs of torn kaison screen and procedure for replacing a screen.

4. Know how to collect samples at the Kaizer
5. Be able to adjust resin flow to balance it between the north and south transfer systems
6. Know how to check backmix and plugflow cones for pluggage and consequences of a plugged cone
7. Know how to flush the water scrubber and pump scrubber water to the small blend tanks.
8. Know how to set up slurry loops to feed Fluid Bed
9. Know the procedures for start-up and shutdown of the Fluid bed

III. Rotary Dryers

1. Understand and be able to explain the operation of each of the major pieces of equipment on the rotary dryers
 - a. BIRD centrifuges
 - b. Screw feeder (#7 dryer), Vibrators
 - c. Rotary Drum
 - d. Burner and Inlet Air Filter
 - e. Dust Collector, including the star valve and blowback mechanism
 - f. Sweco?
 - g. Activators
 - h. Calcium Stearate Addition System
2. Know how to line-up valves at centrifuge to feed from desired slurry loop
3. Know how to lock out centrifuge, remove cover, and clean and how to replace a centrifuge shear pin
4. Know how to check vibrators for vibration and location of on-off box
5. Know how to clean a dryer including required entry precautions and protective clothing.

4. Know how to collect a sample from an activator
5. Know the required sample frequency for each type of resin
6. Know the type of resin used for dryer start-up
7. Know the specifications for each type of resin; especially moisture and contamination.
8. Know how to log a sample into the Lab
9. Know the correct procedure and safety precautions for replacing socks in a dust collector
10. Be able to read the blowback pressure and dust collector DP
11. Be able to read and understand the log sheets filled out by the Dryer Lead Operator
12. Know how to start-up and secure a dryer in the field
13. Know how to replace a sifter overflow hopper on a dryer line
14. Know how to replace inlet air filter paper
15. Know what size ^{swire} screens are used for different products and how to replace them

IV. Small and Large Blend Tanks / Slurry Pumps And Lines

1. Understand and be able to explain how any of the blend tanks can be pumped to either another blend tank, a rotary dryer, or the fluid bed dryer.
2. Know how to line-up a reactor from either module to dump to any blend tank
3. Know the purpose of and how to check the flush water on the seal of a pump.
4. Know how to collect a slurry sample

5. Know how to unplug a slurry line
6. Know how to wash out a small blend tank
7. Knowledge of blend tank aeration piping (physical layout and operating procedures)

V. Emergency Generator and Power Failure Response

1. Know the responsibilities of an A Operator during a power failure
2. Be able to perform the weekly check of the emergency generator and
3. Know how to start-up the No. 8 and 9 air compressors and to troubleshoot problems
- 4.

VI. Resin Transfer Systems (transfer lines, switching station, small and big blowers and activator)

1. Know how to coordinate communication with Dyer Lead Operator (always repeat instruction back over the radio, carry paper to record instructions, and equipment / product conditions)
2. Be able to draw and label from memory the orientation of all resin storage silos
3. Know how to check resin silo dust collectors for sock leakage and how to replace a sock
4. Know how to manually gage a resin silo

5. Know how to line up resin from any silo or dryer to any other silo (this includes knowledge of the pit activators and transfer blower systems)

VII. Bagging Machines

1. Understand and be able to operate any of the three bagging machines
This includes a knowledge of;
 - a) Procedure for cleaning the bagging machine before starting to bag
 - b) Procedure and tolerance for error when checking bag weights
 - c) Procedures for palletizing bags (glue, divider paper, marking bags, etc)
 - d) Knowledge of required protective equipment and potential safety hazards

VIII. Debox System

- 1) Understand and be able to operate the debox system. This includes a knowledge of;
 - a) Use of vacuum system for dryer room housekeeping
 - b) Priority for use of hoppers vs gaylord boxes
 - c) Be able to remove, clean, and replace blower inlet filters
 - d)

IX. Misc.

- 1) Complete safety training and demonstrate ability to operate forklift
- 2) Know the location of the electrical breakers for all equipment operated by the dryer operator

Reactor Area

A- Operator Training Guide

Date Complete	Operator Initials	Supv. Initials

A. Nomenclature and location of major equipment

- Rx's
- Recovery system
- Receivers
- Emission Recovery System
- Batch Water Strippers
- Chem wash and rinse systems
- Calcium Stearate Addition System

B. Reactor Charging

1. Precharge information and purpose of each
2. Check-out reactor on vacuum break
3. Monitor colloid injection (tank outages)
4. Know what safety precautions are required to handle catalyst
5. Inject catalyst ; bottle disposal
6. Use of Rx manometer ; Rx evacuation procedures
7. Check and Adjust spray rig flush water setting
8. Safety precautions and injection of:
 - a) ZEH
 - b) BME
 - c) OMS

C. Reactor Recovery

1. Safety equipment and precautions for handling of AMS and Nauquard.
2. Procedure and purpose of double-killing
3. Monitor liquid ring seal water flow meters for proper operation and adjust (which valve?)
4. Check ^{and adjust} HPSW rotameters on compressor and vacuum pump mechanical seal flushes

5. Understand the flow of vapor and liquids through the recovery system — be able to draw and explain

D. Reactor Lumping

1. Understand calcium stearate addition system
2. Procedure for collecting slurry residual sample
3. Check water flush on slurry transfer pumps
4. Disposal of Rx curc
5. Procedures/precautions for handling coarse batches

E. Colloid

1. Colloid make-up procedures
2. Transfer colloid from receive up tank to charge tank
3. Colloid spec range

F. Emergency Reactor Kill

1. Know purpose and when to use emergency kill procedures
2. Procedure for adding AMS into bomb
3. Remove and replace aluminum bottles at rack
4. Correct AMS pressure on Comp
5. Line up and inject AMS into the Rx using
 - a) manual kill line
 - b) auto kill line
6. Correct pressure on instrument N₂ system
7. Use of hoses to pipe to cross between Rx's
8. Condition indicated by flashing red light
9. Be able to draw and explain this system

Date Complete	Operator Initials	Supv. Initials

G. Chem Wash

1. Chem Wash make-up procedure ; precautions
2. Safety equipment for handling caustic
3. Procedures for flushing chem wash tank
4. Collect chem wash sample - equipment and precautions

H. Miscellaneous

1. Know location of all reactor valves, be able to determine if they are open or closed, And be able to override valves
2. Know how to change reactor top manway O-ring and what safety precautions to use
3. Be able to block in cooling water and steam to Rx jacket and drain jacket
4. Know how to isolate the recovery system or any part of it and prepare it for maintenance
5. Know how to replace filters: (safety precautions)
 - a. RVC filters
 - b. Fresh VCM filters
 - c. Charge H₂O filters
 - d. Centrate charge H₂O filters
 - e. Recovery system seal H₂O filters
 - f. Emission recovery system seal H₂O filters
 - g. High pressure mechanical seal H₂O filters
 - h. High pressure service H₂O filters
 - i. Lip seal H₂O filters
 - j. Rinse water filters

6. Know how to reset the deluge system
7. Know catalyst handling procedures, proper temperatures for cstrn day and walk-in catalyst storage freezers
8. Empty drum handling procedures
 - a. AMS
 - b. Naugard
 - c. OMS
 - d. ZEL
 - e. BME
9. Know how to use HNJ
10. Know location of Honeywell FPM sensors
11. Know how and when to use a Scott Air Pack
12. Know location and use of Material Safety Data Sheets
13. Purpose of all chemicals used in Rx Area
14. Rx double mechanical seals
 - a. Purpose of lip seal flush; proper set point on rotameter
 - b. Purpose of seal oil; proper set point on rotameter, pump discharge & return pressures
 - c. Be able to trouble shoot seal oil circulation systems.
 - d. Purpose of water therm to seal oil lines at each Rx.
15. Guidelines for use of Radios; care of Radios

Date Complete	Operator Initials	Supv. Initials

The Lab Trainee classification is the entry level position for the Laboratory Department. Since the Quality Control section is responsible for testing of the three major areas (Resin, Compound & Dryblend), a Lab Trainee is trained to perform testing in all three areas.

Below is an outline of testing that is performed in each area.

Resin

A. General - In Process

1. Particle Size
2. Bulk Density
3. Moisture
4. Contamination
5. Gel
6. Drytime
7. Color
8. Static Flow
9. Hard Particles
10. 40 mesh

B. Shipments

1. Trucks
2. Railcars
3. Bag Blends

John
Here is a copy of what Bully &
I need in talking with Charles
Helcomt.
Jaw

Compound

A. General - In Process

1. Hardness
2. Specific Gravity
3. 15 min. Heat Stability

Compound (cont.)

A

4. 90 min. Heat Stability
5. Color
6. Hard Particles
7. Gel
8. Contamination
9. Fluorescence light check

B. Shipments

1. Trucks
2. Railcars
3. Bags / Boxes

Dry Blend

A. General - In Process

1. Torque Rheometer Properties
2. 40 mesh
3. Bulk Density
4. Moisture
5. Contamination

B. Shipments

1. Trucks
2. Railcars
3. Boxes

A

18.7

COMPOUND/DRY BLEND/UTILITY JOB DUTIES

1. Correct setup, startup, operation, shutdown, lockout and product change if appropriate on the following equipment:
 1. Chiller
 2. Dicers
 3. Mill to include changing nip, changing speeds, knowledge of which roll runs faster and proper plow placement
 4. Hydrotherm Unit
 5. Ca St Coating System
 6. Fines/Streamers Separator
 7. Vacuum Pumps
 8. Air Wipes
 9. Feeders
 10. FCM Mixer
 11. Sweco
 12. Vacuum Pickup Hoppers
 13. Orifice Gate and Hot Oil Unit (including filling unit with proper oil)
 14. Seal Dust Lubricator Reservoir (including filling unit with proper oil)
2. Proper operation of a forktruck including pre-operation checkout according to checklist.
3. Demonstrate ability to oversee and operate Line III when Mill Operator is on authorized break.
4. Load and screen bulk loads of compound.
5. Bag and box compound.
6. Product change duties on Line I - see product change checklist.
7. Supply raw materials to the Line III/Dry Blend Compounders.
8. Carry out trash, skids, empty totes for the Line III/Dry Blend Compounders.
9. Dry Blend
 - a. Become familiar enough to startup/shutdown and operate the Orbitran panel while the Compounder is on authorized break.
 - b. Assist the Compounder in making product changes - see product change checklist.
 - c. Learn handling and use of dry blend raw materials and formulas. Demonstrate ability to properly make up dry blend master batch. See master batch makeup checklist.

9. Dry Blend - continued

- d. Demonstrate ability to assist the Dry Blend Operator on production of RP products. (Hand drop TiO_2 and intermittent master batching)
- e. Box dry blend.
- f. Tear down, clean up and re-assembly of Gump screeners.

10. Housekeeping

- a. Dry blend top to bottom
- b. Line III area
- c. Small warehouse
- d. Resin silo area
- e. Dock area
- f. Freight elevator and dry blend stairwell
- g. Raw material area by autobagger
- h. Bag resin and clean out compound storage area
- i. Other assigned housekeeping chores as directed by the Supervisor

A

DRY BLEND PRODUCT CHANGE CHECKLIST

Date _____ Product Change From _____ to _____

	<u>Utility/Compounder</u>	<u>Supervisor</u>
1. Product screeners checked and cleaned?	_____	_____
2. Boxing hopper empty and cleaned?	_____	_____
3. Correct resin silo hooked up?	_____	_____
4. Stabilizer tote changed, if using different stabilizer?	_____	_____
5. Cooling blenders cleaned?	_____	_____
6. Intensive cooler cleaned?	_____	_____
7. Master batch blender cleaned?	_____	_____
8. Correct transfer line connections?		
a. From cooling blenders to product screeners	_____	_____
b. From product screeners to bulk silos	_____	_____
c. From product screeners to boxing hopper	_____	_____
9. Is the bulk railcar silo empty, if running a different product?	_____	_____
10. All packaged raw materials available	_____	_____
11. Correct formulation available	_____	_____
12. Formulation entered correctly into decwriter	_____	_____

NOTES:

1. This standardized product change checklist is to be completed for all product changes made in the dry blend. When running and changing products to the rigid profile type dry blends, this checklist is to be completed in addition to the rigid profile dry blend product change checklist.
2. The person responsible for individual cleanup items is to sign the sheet to confirm the cleanup. The compounder and supervisor are to verify the cleanup by signing the product change checklist.

LINE III PRODUCT CHANGE CHECKLIST

A

DATE _____

PRODUCT CHANGE FROM _____ TO _____

	<u>Cosigner/Compounder</u>	<u>Supervisor</u>
Resin Discharge Chute Cleaned?	_____	_____
Blenders Clean?	_____	_____
Silo _____ Clean and Transfer Line Clean And Connected?	_____	_____
Mill Clean?	_____	_____
Mill Safety Switch Checked And Operational?	_____	_____
Feeders Clean?	_____	_____
Feeder Magnets Clean?	_____	_____
3 Dicers Clean?	_____	_____
Sweco Screener Clean?	_____	_____
Sweco Star Valve Clean?	_____	_____
Sweco Screener Magnets Clean?	_____	_____
Scrap Return Conveyor Clean?	_____	_____
Auto Bagging Machine Clean?	_____	_____
Boxing Hopper Clean?	_____	_____
Transfer Lines Blown Out:		
A. To Auto Bagging Machine	_____	_____
B. To Boxing Hopper	_____	_____
Correct Resin Silo Connected?	_____	_____
Start-Up Material Checked At Silo, Bagging Machine, Boxing Hopper and Approved?	_____	_____
Safety Knife Inspection Done?	_____	_____
Dicer Transfer Hoses Inspected, Clean, And In Good Condition?	_____	_____

Notes:

- (1) For each product change, all pellet transfer line(s) are to be blown out prior to startup. All pellet transfer lines include: (1) transfer line to the automatic bagging machine, (2) transfer line to the boxing hopper, and (3) transfer lines to the railcar silos.
- (2) The Supervisor on shift will be responsible for checking and approving the items listed for each product change. All product change forms are to be filed at 0700 each morning.
- (3) The utility and compound operator are to co-sign with the compounder on equipment that they are responsible for cleaning.

LINE 1 PRODUCT CHANGE CHECKLIST

DATE _____

PRODUCT CHANGE FROM _____ TO _____

TIME STARTED _____	TIME FINISHED _____
	<u>Cosigner/Compounder</u> <u>Supervisor</u>

Blenders Clean?	_____	_____
Silo _____ Clean and Transfer Line Clean And Connected?	_____	_____
Mill Clean?	_____	_____
Mill Safety Switch Checked And Operational?	_____	_____
Blender Conveyor Bucket and Skip Hoist Clean?	_____	_____
Bagging Machine Clean?	_____	_____
Boxing Hopper Clean?	_____	_____
2 Rotex Screeners Clean?	_____	_____
A. Overs Buckets Cleaned And Dumped?	_____	_____
2 Dicers Clean?	_____	_____
2 Rotex Star Valves Clean?	_____	_____
Mill Reverse Switch Operational?	_____	_____
Safety Knife Inspection Done?	_____	_____
Transfer Lines Clean:		
A. 2 Lines to Boxing Hopper	_____	_____
B. 2 Lines to Bagging Machine	_____	_____
Banbury Blown Out and Clean?	_____	_____
Start-Up Material Checked At Silo, Bagging Machine, Boxing Hopper and Approved?	_____	_____
Correct Plasticizer Valves Lined Up For Next Product?	_____	_____
Dicer Transfer Hoses Inspected, Clean, And In Good Condition.	_____	_____

Notes:

(1) For each product change, all pellet transfer line(s) are to be blown out prior to startup. All pellet transfer lines include: (1) transfer line to the manual bagging machine, (2) transfer lines to the boxing hopper, and (3) transfer lines to the railcar silos.