

CMP PROCEDURE
PSA SYSTEM START UP
PROCEDURE # 460124

PURPOSE	To supply the operator with the necessary information required to start up this system.
SCOPE	To list the items for each step of the start up
RELATED PROCEDURES	<u>Vacuum compressor</u> line up and start up procedure.
DEFINITIONS	<u>Analyzer</u> = Measures the amount of organics in the vent stream to atmosphere. <u>MOD V</u> = This systems computer controller. <u>DS Alarms</u> = These are MOD V diagnostic alarms.
SAFETY CONCERNS & EQUIPMENT	Standard block safety equipment
ENVIRONMENTAL CONCERNS	Refrigerant leaks
SPECIAL CONCERNS	Ensure that PVRV's and ERV's are properly operating on all API tanks to the PSA system.

PRE START UP

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CONFIDENTIAL

DO 009082

PSA SYSTEM START UP PROCEDURE

Step	Action
1	Make sure the refrigeration compressor is running.
2	Make sure analyzer on vapor outlet line is in working order.
3	Line up all instrumentation on PSA system. Check the air supply to all instrumentation.
4	Line up the vacuum pump.(man. blk valves & switch) (SEE K-1750/1760/1770 LINE UP PROCEDURE)
5	Line up freon control valves
6	Line up all instrumentation and the N2 control valves on the check tanks for this system. Check the air to all instrumentation.

PSA SYSTEM START UP PROCEDURE**MOD V SYSTEM
CHECK SHEET**

Step	Action
1	Make sure the GPI system working properly
2	Make sure all the manual disconnect switches are in their correct position
3	Make sure all the lamp bulbs on the MOD V working properly
4	Are there any (DS) alarms on (if so check out and call hardware personnel)
5	Make sure at least one MOD V computers running
6	Make sure the MOD V printer is working properly
7	Have all alarms been cleared
8	Make sure the abort key in its proper position
9	Make sure all control valves and instrumentation are in the automatic position on the mod. Make sure that the following (AK'S) and (AP'S) have the correct setpoints.
10	Once the outside is lined up and this check sheet is complete proceed to the start up procedure

PSA SYSTEM START UP PROCEDURE**START UP
PROCEDURE**

Step	Action
1	<u>Terminate</u> to proper step . (WE ARE STARTING UP ON N2 ONLY)
2	Monitor the freon control system to the freon exchanger. Make sure all parameters and controls look good.
3	Adjust the pressure on the freon exchanger to control the drain temperature at approx. -4.5 deg c
4	When the freon exchanger control system pressure and temp look OK, you can terminate the step.
5	The PSA system will begin its cycling of the beds.

CHLORINATED METHANE PRODUCTS COMMUNIQUE'

Review & Initial

DATE: 7-27, 19993

FROM: Gary Rizzo

SUBJECT: Rem PSA SHUT DOWN Procedure

This form is used to insure the attached information is communicated to the appropriate plant personnel.

INITIATOR: Place a check mark by the group(s) needing to review.

EMPLOYEE: Please initial once review is complete.

GROUP	PERSONS NEEDING TO REVIEW					
Staff ✓	<u>h</u> Hancy	_____ Miles	_____ Bourne	<u>Km</u> Kelley	<u>U</u> Ledoux	_____ Patterson
	<u>h</u> Sacks	_____ Witt				
Supervisors ✓	_____ Brownfield	_____ Clebert	_____ Cook, J.	<u>del</u> Dugas	<u>del</u> Michel	✓ Rizzo
	<u>del</u> Sauls	_____ Trice	_____ Wilmann	_____ Young		
SOS's ✓	_____ Breaux	_____ Beiler	<u>del</u> Bickham	<u>R</u> Cook, F.	_____ Davis	<u>U</u> Grant
	<u>del</u> Gravouilla	<u>RJ</u> Jackson	<u>RM</u> Millender			
OS's ✓	<u>del</u> Armand	_____ Bishop	<u>del</u> Bourg	<u>nc</u> Cavalier	_____ Doucet	_____ Ekey
	<u>del</u> Harrison	_____ Jack	_____ Looney	_____ Metrejean	_____ Wolfe	
Day Operators	_____ Donatto	_____ Grace	_____ Johnson	_____ Simonson	_____ Vavasseur	
Instruments	_____ Bourg	_____ Burris	_____ Eunice	_____ Schlatre	_____ Shanklin	

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Rev. 7/19/93:jpw

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DO 009086

CMP PROCEDURE
PSA SYSTEM SHUT DOWN
PROCEDURE # 460125

PURPOSE	To provide the operator with the necessary information needed to guide them through a PSA system shutdown
SCOPE	To list the necessary items to properly and safely shut this system down
RELATED PROCEDURES	Vacuum compressor shut down procedure
DEFINITIONS	
SAFETY CONCERNS & EQUIPMENT	Minimum block safety
ENVIRONMENTAL CONCERNS	Shutting the PSA filter beds down may cause and non-compliance for the check tanks that vent to this system
SPECIAL CONCERNS	<u>NOTE: IF THE ENTIRE PSA SYSTEM IS GOING TO BE DOWN. CONTACT THE PROPER ENVIRONMENTAL CONTACTS.</u>

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DO 009087

PSA SYSTEM SHUT DOWN PROCEDURE**PROCEDURE**

Step	Action
1	If you are in one of the normal run/cycle steps, you will have to move to one of the recharge steps.
2	Once you are in the recharge step you have to move back to the fill exchanger step 302/332/432
3	From the fill step, move back up into the process wait step, and then to the maintenance wait step.
4	Manually block in and isolate all appropriate valve associated with this system. Get system ready for maintenance.

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DO 009088

CHLORINATED METHANE PRODUCTS COMMUNIQUE'

Review & Initial

DATE: 7-27, 199 93

FROM: Gary Rizzo

SUBJECT: Read PSA Emergency (High Bed Test)

This form is used to insure the attached information is communicated to the appropriate plant personnel.

INITIATOR: Place a check mark by the group(s) needing to review.

EMPLOYEE: Please initial once review is complete.

GROUP	PERSONS NEEDING TO REVIEW							
Staff	☒ <u>✓</u>	☒ <u>✓</u> Haney	☐ Miles	☐ Bourne	☒ <u>✓</u> Kelley	☒ <u>✓</u> Ledoux	☒ <u>✓</u> Patterson	
		☒ <u>✓</u> Sacks	☒ <u>✓</u> Wita					
Supervisors		☐ Brownfield	☐ Clebert	☐ Cook, J.	☒ <u>✓</u> Dugas	☒ <u>✓</u> A.M. Michel	☒ <u>✓</u> Rizzo	
		☐ Sauls	☐ Trice	☐ Wittmann	☐ Young			
SOS's		☐ Breaux	☐ Beieler	☒ <u>✓</u> Bickham	☒ <u>✓</u> Cook, F.	☐ Davis	☒ <u>✓</u> Grant	
		☒ <u>✓</u> Gravouilla	☒ <u>✓</u> Jackson	☒ <u>✓</u> Millender				
OS's		☒ <u>✓</u> Armand	☐ Bishop	☒ <u>✓</u> Bourg	☒ <u>✓</u> Cavalier	☐ Doucet	☐ Ekey	
		☒ <u>✓</u> Harrison	☐ Jack	☐ Looney	☐ Metrejean	☐ Wolfe		
Day Operators		☐ Donatto	☐ Grace	☐ Johnson	☐ Simonson	☐ Vavasseur		
Instruments		☐ Bourg	☐ Burris	☐ Eunice	☐ Schlatre	☐ Shanklin		

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DO 009089

CMP PROCEDURE
PSA SYSTEM EMERGENCY (HIGH BED TEMPERATURE)
PROCEDURE # 460126

PURPOSE	To provide the operator with a document which will assist the operator during an exothermic reaction in the filter beds
SCOPE	To provide the operator with the information necessary to properly shutdown the PSA system in the event we get a <u>high bed temperature alarm</u> , it may be necessary that we <u>shut the PSA system down</u> and purge with N2. This situation could occur if the bed gets saturated with organics.
RELATED PROCEDURES	PSA purge procedure
DEFINITIONS	<u>N2</u> = Nitrogen <u>Inert</u> = A compound that has no reactivity.
SAFETY CONCERNS & EQUIPMENT	Required: Minimum block standards
ENVIRONMENTAL CONCERNS	Environmental Release. If the entire PSA system is down, tank vents will release to atmosphere via PVRV. This contention is based on the tank vent pressure control valves being closed.
SPECIAL CONCERNS	This situation needs to be handled as soon as it is observed to prevent damage to equipment. Ensure the wet vent does not back flow into the bed.

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DO 009090

PSA SYSTEM EMERGENCY (HIGH BED TEMPERATURE)

PROCEDURE

Step	Action
1	If you are in the normal run step you will have to move to the "recharge" step which takes the hot bed offline.
2	Purge nitrogen through the hot bed using the nitrogen control valve. Discharge the nitrogen from the bleed located on the inlet piping to the bed. Tubing must be run to the wet vent from the bleed.
3	Begin N2 purge and hold until temperature has decreased.

CHLORINATED METHANE PRODUCTS COMMUNIQUE'

Review & Initial

DATE: 7-27, 199 93

FROM: GARY RIZZO

SUBJECT: Read K-1760/1770 Start up procedure

This form is used to insure the attached information is communicated to the appropriate plant personnel.

INITIATOR: Place a check mark by the group(s) needing to review.

EMPLOYEE: Please initial once review is complete.

GROUP	PERSONS NEEDING TO REVIEW							
Staff ☒	☒ Haney	☐ Miles	☐ Bourne	☒ Kelley	☒ Ledoux	☐ Patterson	☐ Sacks	☐ Witt
Supervisors	☐ Brownfield	☐ Clebert	☐ Cook, J.	☒ Dugas	☒ Michel	☒ Rizzo	☐ Sauls	☐ Trice
	☐ Wittmann	☐ Young						
SOS's	☐ Breaux	☐ Beiler	☒ Bickham	☒ Cook, F.	☐ Davis	☒ Grant	☒ Gravouilla	☒ Jackson
	☐ Millender							
OS's	☒ Armand	☐ Bishop	☒ Bourg	☒ Cavalier	☐ Doucet	☐ Ekey	☒ Harrison	☐ Jack
	☐ Looney	☐ Metrejean	☐ Wolfe					
Day Operators	☐ Donatto	☐ Grace	☐ Johnson	☐ Simonson	☐ Vavasseur			
Instruments	☐ Bourg	☐ Burris	☐ Eunice	☐ Schlatre	☐ Shanklin			

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CMP PROCEDURE
K-1750/1760/1770 START UP PROCEDURE
PROCEDURE # 460133

PURPOSE	To provide the operator with the necessary information needed to safely and properly line up and start up the compressor.
SCOPE	To list step that are required to safely and properly line up and start up the vacuum compressor.
RELATED PROCEDURES	PSA start up
DEFINITIONS	None
SAFETY CONCERNS & EQUIPMENT	Wreck The Compressor Minimum Block Standards
ENVIRONMENTAL CONCERNS	None
SPECIAL CONCERNS	None

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DO 009093

K-1750/1760/1770 START UP PROCEDURE**PROCEDURE**

Step	Action
1	Open the suction & discharge manual block valves to the compressor
2	Check the oil level in the sump. If it is low, add oil prior to the start up. (MAKE SURE THE MANUAL VALVES TO THE MAGNETIC LEVEL INDICATOR ARE LINED UP)
3	Make sure the drain valve on the oil sump is closed and bull plugged.
4	Open all valves to the operating panel gauges.
5	Make sure that both suction strainer valves to the oil pump are lined up to the same position.
6	Place the ON/OFF switch to the (ON) position. This will allow the machine to be started by the MOD.
7	Rack in the compressor in the motor control center.
8	Once the machine is running, check for leaks.
9	Check the operating temperature. If the operating temperature exceeds 200 Deg F.(93 C), check the cooling system. The normal operating temp is 130 Deg F (54 Deg C).