

SOLV/EDC & CMP PLANT NOTIFICATION OF PROCESS CHANGE CHECKLIST

Type: ☐ LEVEL 1 (minor) ☒ LEVEL 2 (moderate) ☐ LEVEL 3 (major)

Originator: Jim Haney **Date of Origination:** 05/12/97 **Plant:** Methanes

Actual Date of Change: ~~6/23/97~~ 6/27/97 Area: HCl Purification Equipment: K-55

Permanent ☒ **Yes** **Temporary** ☐ **Yes** **From:** _____ **To:** _____

Description and Location of Change (Scope): Modify the K-55 seal that the atmospheric side of the seal can be purged with nitrogen. Install a permanent N2 header with a regulator to supply the continuous purge to the seal

Technical Basis for Change: Installation of the N2 purge will help eliminate failure due to external corrosion.

Impact on: ☐ Safety ☒ Loss Prevention ☐ Environment ☐ Health ☐ Quality ☐ Production ☐ Other:

Type of Change:

☐ Alarm	☐ Process Computer Control	☒ Equip./Material Modification	☐ Process Set Point Change
☐ Shutdown Point	☐ Addition/Removal of Equip.	☐ Chemical	☐ Piping Spec.
☐ Instrument	☒ Piping Modification	☐ Job Procedure No.	☐ Other:

Pre-modification Checklist:

Applicable

☒ Applicable	Written job scope and sketch of proposed change; POD# 1924.
☐ Applicable	Project economics; attached.
☒ Applicable	Consult piping and equipment specifications; Spec. #
☐ Applicable	Comply with Engineering Practices.
☐ Applicable	Consult Technology Center or comply with Tech. Ctr. guidelines.
☐ Applicable	Equipment access/congestion considered.
☐ Applicable	Consult Environmental function
☐ Applicable	Environmental project checklist complete.
☐ Applicable	Chemicals listed in the (TSCA) inventory before use.
☐ Applicable	Perform Reactive Chemicals testing or review.
☐ Applicable	Consult Safety function for compliance with S&LP and Block requirements
☐ Applicable	Consult Process Safety for impact on PHA(F&EI, CEI, & Fire protection).
☐ Applicable	State Fire Marshall notified.
☒ Applicable	Consult Industrial Hygiene function
☒ Applicable	Consult maintenance/Reliability Eng.
☐ Applicable	Consult Instrument function.
☐ Applicable	Consult Electrical function.
☐ Applicable	Consult Analyzer function.
☐ Applicable	Consult/Inform Computer/Programming Support.
☐ Applicable	Consult Area Engineer.
☐ Applicable	Consult Operations.
☒ Applicable	Consult Area Technologist
☐ Applicable	Consult Inventory Management
☐ Applicable	Consult Process Engineering.
☐ Applicable	Evaluate and modify relief system.
☒ Applicable	Work Order written. (List them)
☐ Applicable	Consult Construction/Small Projects
☐ Applicable	Consult Site Logistics
☐ Applicable	Consult Quality (Customer Notification ?)
☐ Applicable	Other (Name them)

Follow-up Signature

Date _____

☐	Yes	<i>Jim Hanz</i>	<i>5/14/97</i>
☐	Yes	<i>Jim Hanz</i>	<i>5/14/97</i>
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes	<i>Steve Blue</i>	<i>9/16/97</i>
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes	<i>Donnie Douglas</i>	<i>5/14/97</i>
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes	<i>Jim Hanz</i>	<i>5/12/97</i>
☐	Yes		
☐	Yes		
☐	Yes		
☐	Yes		

APPROVALS:

Originator:

First Reviewer:

Preliminary Reviewer(Lvl 2 & 3):

Date: 5/14/97

Date: 5/14/97

Date: 6/30/97

Post-modification Checklist: (BEFORE START-UP)

Applicable		Follow-up	Signature	Date
☐ Applicable	Perform prestartup audit: major equipment addition/mod. Lvl 3; attach.	☐ Yes		
☐ Applicable	PSM files updated(such as piping circuits).	☐ Yes		
☐ Applicable	Project list updated.	☐ Yes		
☒ Applicable	Documented in Operating Discipline Library	☐ Yes		
	Completed Job Procedures reviewed by:	☐ Yes		
	Operations Safety Envir.	☐ Yes		
	Emergency Procedures	☐ Yes		
	Training Aids (IPT, etc.)	☐ Yes		
	Controlled copies of Critical Oper. Procedures updated	☐ Yes		
	Safety/Environmental (cleaning, vessel entry, red tag)	☐ Yes		
	Update plant Roundsheets, forms	☐ Yes		
☒ Applicable	Plant equipment files updated.	☐ Yes		
☒ Applicable	P&ID's, process flow sheets, and plot plans updated.	☐ Yes		
☒ Applicable	Personnel trained on the change. Method: <u>Communique</u>	☒ Yes		
☐ Applicable	Critical instrument checklist updated.	☐ Yes		
☐ Applicable	Updated HAZCOM Manual & equip. List.	☐ Yes		
☐ Applicable	Pressure vessels, PVRV's, & PRD registered.	☐ Yes		
☐ Applicable	Instrument loops checked and documented.	☐ Yes		
☐ Applicable	Field switches, equipment, & MCC starters checked & labeled.	☐ Yes		
☐ Applicable	Log sheets/controlled forms updated.	☐ Yes		
☐ Applicable	GPI flow diagram & history/EDAS updated.	☐ Yes		
☐ Applicable	GEMTS, PPM, & MSMS updated.	☐ Yes		
☐ Applicable	Mod V program change checklist completed.	☐ Yes		
☐ Applicable	Equipment RTO Checklist completed.	☐ Yes		
☒ Applicable	Follow-up action plan completed prior to Final Approval(attached).	☐ Yes		

APPROVAL:

Final Approver:

Date: 8/25/97

- ① Train operations personnel via communique book.
- ② Put a copy of the seal drawing in the equipment files.

J. Harey 7/15/97

J. Harey 7/15/97

Methanes MOC Training Signoff Sheet

MOC TITLE: _____

DATE: _____

Mark the box next to the appropriate individual that the communication/training is intended to reach.

Engineering Staff	Master #	Signature	Date
Taylor, D.	434501		
Haney, J.	091506		
Kelley, K.	239424		
Storm, C.	249497		
Hunt, L.C.	088600		
Rolke, R.W.	097946		
Stallcup, J.S.	240558		
White, W.S.	434499		
Young, Barry.	433620		

SOS	Master #	Signature	Date
✓ Breaux, R.	433793	<i>[Signature]</i>	7/2/97
✓ Beiler, B.	281334	<i>[Signature]</i>	7/2/97
✓ Bickham, C.J.	432411	<i>[Signature]</i>	7/2/97
✓ Cook, F.	431977	<i>[Signature]</i>	7/7
✓ Cavalier, N.	241889	<i>[Signature]</i>	
✓ Grant, W.C.	432637	<i>[Signature]</i>	7-2-97
✓ Gravouilla, D.C.	434255	<i>[Signature]</i>	6/30
✓ Jackson, R.	433457	<i>[Signature]</i>	7-4-97
✓ Metrejean, D.J.	241773	<i>[Signature]</i>	6/30
✓ Harrison, W.	096480	<i>[Signature]</i>	7/4

Day Personnel	Master #	Signature	Date
Michel, A.	432203	<i>[Signature]</i>	7/1/97
✓ Cook, J.	433658		
✓ Dugas, D.	432407		
Brown, M.S.	433928		
Rizzo, G.	432580		
Johnson, J.	432541		
Donatto, B.	434031		
Carrier, B.P.	085908		
Witt, J.	241996		
Vavasseur, T.	434160		
Landry, C.P.	434292		

OS	Master #	Signature	Date
✓ Bishop, C.E.	432026	<i>[Signature]</i>	7-7
✓ Bourg, J.	094487	<i>[Signature]</i>	7-4-97
✓ Davis, C.	433015	<i>[Signature]</i>	
✓ Ekey, J.	202669		
✓ Jack, O.J.	094373	<i>[Signature]</i>	6-30
✓ Looney, R.	276854	<i>[Signature]</i>	7-7
✓ Wolfe, D.	246186		
✓ Millender, R.	432751	<i>[Signature]</i>	7/7/97

Site Logistics	Master #	Signature	Date
Clebert, J.	432385		
Mathis, J.	432997		
Simonson, F.	432477		
Armond, N.L.	098664		
Doucet, K.	432056		

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09:07 #759 P.01/03

1997, 05-14

504 353 1690

4475 = 10

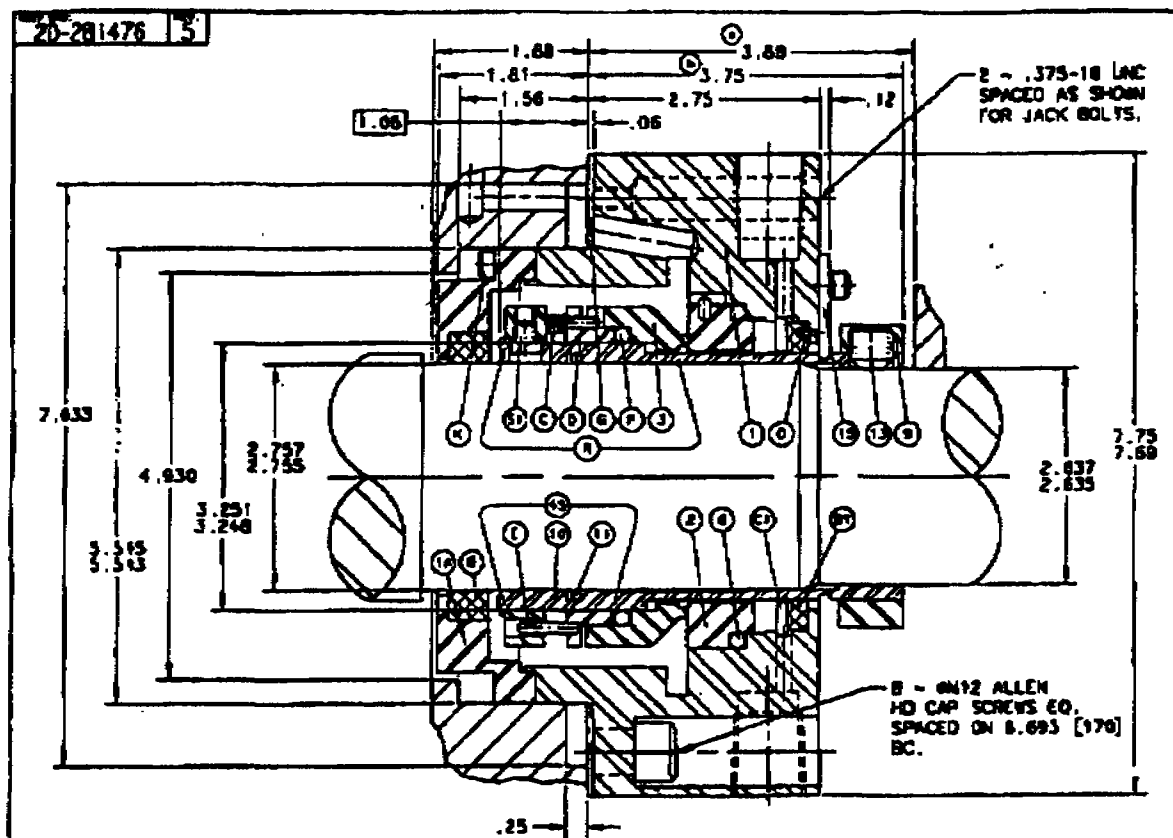
WHAT IS

FROM : CA MAINT BLDG 3503

20-111476

1. A

ALBAM 88-1234 03-05-1997 16



-2 ~ .375-10 LNC
SPACED AS SHOWN
FOR JACK BOLTS.

- B - 0N12 ALLEN
HD CAP SCREWS EQ.
SPACED ON 8.693 [170]
BC

ADDRESS: NEW ORLEANS 22, LOUISIANA

P.D. 551

7-1-84 041004

BLANG AND DO VICH - KUDU TALU



X.XX = ±.010 INCHES

THIS MESSAGE CONTAINS NEITHER RECOMMENDATIONS NOR
 THE PROPERTY OF GOVERNMENTAL AGENCIES. THIS MESSAGE
 MAY BE USED OR REPRODUCED IN ANY MANNER WITHOUT
 PERMISSION OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.

THE BUREAU OFFICE INSTRUCTIONS
FOR THE USE OF MEMBERS
OF THE BUREAU OF INVESTIGATION
OF THE FBI

WAL TYPE: SINGLE	MOSIS CONTAINER #70	LA de 18065
WAL SIZE: 1.250	WAL ORG: C L E F W V	
DRAFT SIZE: 70 mm	SPEECH G S	REF ORG:
DRAFT GRAY: STROBE		
DRAFT WHITE: HQ 390 S.D.-1. CALIBRATION		
DRAFT SIGN: SYSTEM M230C134-01		

[illegible]

REVISION NO. 5 (PART 1) - 11-11-78 (REVISED) 210-20
REVISION NOTE: DIB 'a' WAS 4.00, DIB 'b' WAS 3.00, FROM 04/15/78
210-20. PART CODE 'B' WAS (11-11-78)

Durametallic Specialty Systems Corporation Durham, N. C. 27604 (704) 281-1776	Model: 70-2241	Part No.
	Qty: 20-281476	
Drawn By: RJP	Part No.	Qty:
Checked: RJP	20-281476	5
Notes:		

**DOW U.S.A.
FAX MESSAGE
(FOR INTERNAL USE ONLY)**

TO: JIM HANEY
BLDG # FAX # 2267 EXT:
FROM: MARK McCAINE

The information in this teletype transmission is intended for the use of the individual named herein. If you are not the intended recipient or an employee or agent responsible for delivery to such person, you are prohibited from disseminating or copying this information. If you have received this communication in error, notify us by telephone and return the original to us at the address shown above at our expense.

BLDG # FAX EXT

#758 P. 02/03

09:07

1997, 05-14

504 353 1690

FROM : CA MAINT BLDG 3503

1.117 PCJ. DATE 1 04=10

15/01/2019

Durametallic®
Sealing Systems Worldwide

DISTRIBUTION

TYPE PTO

DURA SEAL SIZE

3.250 IN

**EQUIPMENT: MYCOM
HCL 250 SUD-L COMPRESSOR**

EQUIP DWGS: MYCON MS300B30-00

FORM DRAWING 2D-281476

OPTIONS: C S

MATERIAL

SHAFT SIZE:

CODE: K L 4 K F V V

MAT'L NOTES:

REFERENCES:

2D-200286-R1

DO A 026523
CONFIDENTIAL

Draw Code 1575 20 38 new
1575 20 39 up in

M/MNO: 158493

Durametallic
Sealing Systems Worldwide

DURA SEAL BILL OF MATERIAL

DISTRIBUTION

SINGLE INSIDE CARTRIDGE

TYPE PTO

DURA SEAL SIZE

3.250 IN

EQUIPMENT: MYCOM

RCL 250 SUD-L COMPRESSOR

EQUIP DWGS: MYCOM MS300830-00

MAT'L NOTES:

REFERENCES:

2D-280286-R1

FORM DRAWING 2D-281476

OPTIONS: G S

MATERIAL

SHAFT SIZE:

CODE: K L 4 K F V V

R	TKLT32508B3	20 SS/SILICON CARBIDE 3 ROT D	
		NTT	1
3	KL3T3250NB3	SILICON CARBIDE 3 SEAL RG	1
45	KKKN3250333	20 SS COMP UNIT	1
5	LK3C3250333	20 SS COL	1
S	HKAX8840403	20 SS SET SCW 0.250 X 0.25	3
4	NK3N3250333	20 SS COMP RG	1
D	HKAX8840212	20 SS PN 0.125 X 0.37	3
E	HKAX8840217	20 SS PN 0.125 X 0.72	4
C	HKAX8840301	20 SS SPG NO 1-A	16
S1	HEAX2297233	316 SS SOK HD CAP SCW 0.250/S	
		PEC	1
P	NVRR3250333	VIT O-RG	1
2	A43Q3250WV3	SILICON CARBIDE 1 INST	1
	HKAX8840209	20 SS PN 0.125 X 0.25	1
6	NVRR3750333	VIT O-RG	1
G	NJPG7750AS3	DMC 500 GSRT	1
OPTIONAL PARTS AND/OR ASSEMBLIES			
GLAND			
1	GKB2815033A	20 SS GLD RG 1 TAP/SPEC	1
D	HKAX8840280	20 SS PN 0.062 X 0.19	1
1A	GKB2815043A	20 SS GLD RG	1
B	Y53AN070AQ3	NO 5 CBN BUSH	1
B1	Y53A3250AEJ	NO 5 CBN BUSH	1
C1	MEA29568817	316 SS WAVE SPG	1
K	MEAX8840663	316 SS SOK HD CAP SCW 10-24 X	

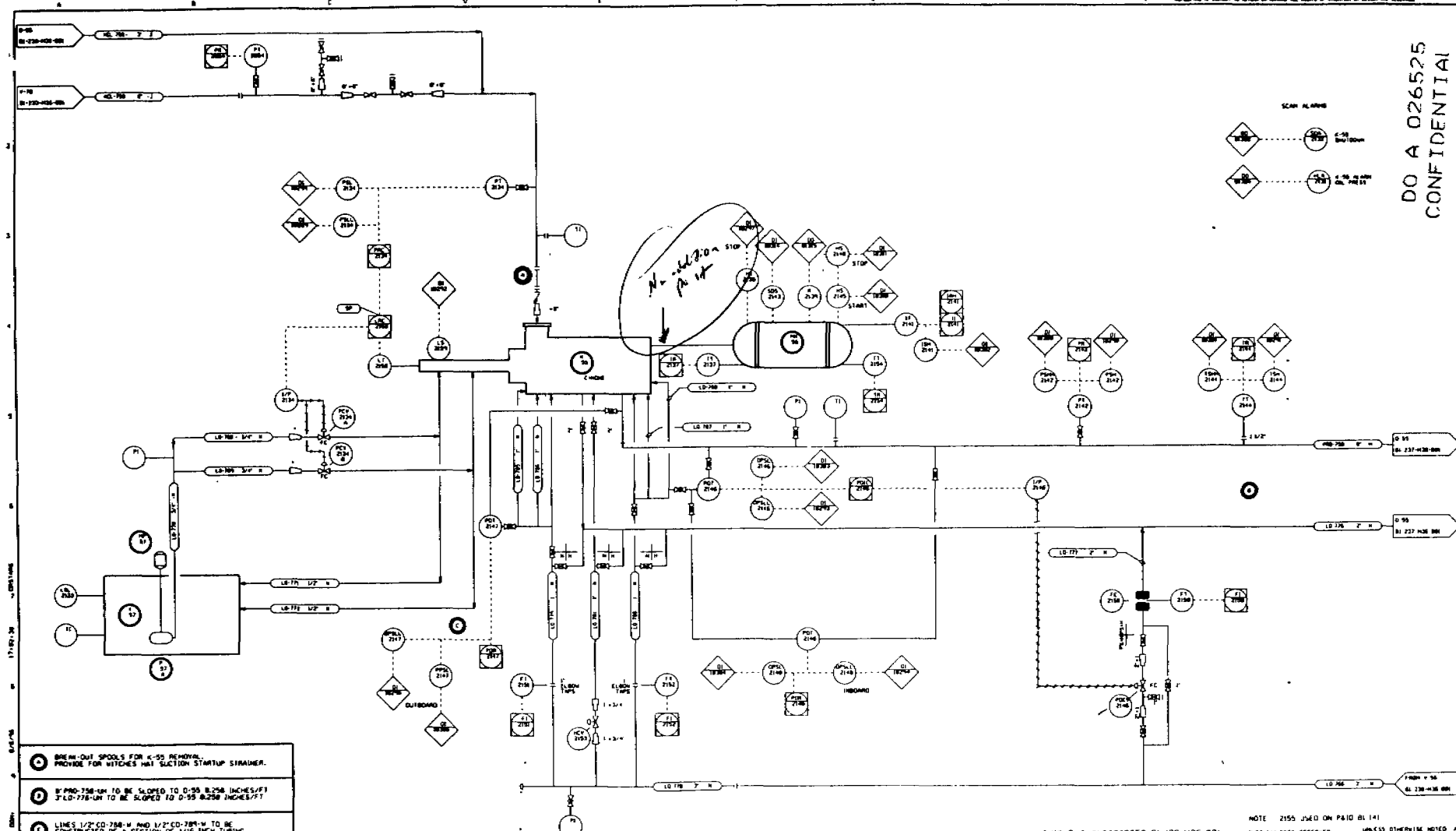
DO A 026524
CONFIDENTIAL

3/05/91 BADR

*** CONTINUED ON NEXT PAGE ***

PAGE 1

DO A 026525
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- ① BREW-OUT SPOOLS FOR K-55 REMOVAL. PROVIDE FOR WITCHES HAT SUCTION STARTUP STRAINER.
- ② 8" PRO-758-104 TO BE SLOPED TO 0-55 8.250 INCHES/FT. 3" LO-778-104 TO BE SLOPED TO 0-55 8.250 INCHES/FT.
- ③ LINES 1/2" CO-758-M AND 1/2" CO-789-M TO BE CONSTRUCTED OF A SECTION OF 1/16 INCH TUBING LENGTH CALCULATED FOR NEEDED VALVE ACTION.

THIS DWG SUPERSEDES 81-139-M36-001

NOTE 2155 USED ON P&ID 81-141
INST. NUMBERS RESERVED
LAST USED
2158

DOW CONFIDENTIAL

REVISION				REVISION				DRAWING ISSUE RECORD				THE DOW CHEMICAL COMPANY			
NO.	DATE	BY	CHKD.	NO.	DATE	BY	CHKD.	NO.	DATE	BY	CHKD.	NO.	DATE	BY	CHKD.
1	11/1/74	WGM	DS	1	11/1/74	WGM	DS								
REVISED AS PLANT EXIST AS OF NOV 1974.												K-55 LA 72276 NOT TO SCALE 81-236 M36-001			

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

PURPOSE	Safe start up of K-55 and Purification
SCOPE	To list the necessary steps required to safely and properly start up K-55 and the HCL purification system
RELATED PROCEDURES	K-55 oil circulation
DEFINITIONS	None
SAFETY CONCERNS & EQUIPMENT	Environmental Release, Rotating Equipment Minimum Block Standards
ENVIRONMENTAL CONCERNS	None
SPECIAL CONCERNS	Any line opening must be dried before placed back in service. This is a -40 dewpoint or better.
REACTIVE CHEMICAL CONCERNS	

Event:	Extensive corrosion due to water in system
Operating deviation:	Vessel put in service without checking dewpoint. Wet oil added to K-55 system.
Consequences	Water entering the system will cause severe corrosion and damage equipment. Spills are possible, and damage to the entire division HCl system (Solvents, CMP, Vinyl II) is possible.

Revision # 6

Dow Confidential

Revision Date-5/26/96

This procedure is valid for 24 hours from the date viewed, June 30, 1997, 12:06 AM

DO A 026527
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**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

Line of Defense	1. HCl system piping and valves always dried (purging or baking). 2. Oil sampled in compressor system to monitor for impurities.
Event	Damage to compressor due to carbon formation.
Operating deviation:	Adding the incorrect oil to D-60.
Consequences	Formation of carbon in the compressor and associated equipment. Production Loss
Event:	Use only the oil specified in the procedure to add oil to D-60

**PROCEDURE
RECOMMENDATIONS**

If a procedure is currently active at relief, state in the relief notes the status off the job and the steps that have been completed up to this point.

Highlight the procedure steps as they are completed so operations personnel are aware of its status. This is especially important during shift relief when jobs are incomplete.

Avoid carryover of a job when possible. I.E. Starting a Job at 5:00 AM/PM, just prior to relief.

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

**Outside
Check Sheet**

K-55 System

Step	Action	
1	Pressure test with snoop - no leaks @ 150 psig	_____
2	K-55 alignment complete	_____
3	Red Tag Master(s) cleared	_____
4	K-55 test power on	_____
5	D-56 pressure at least 30 PSIG below D-55 pressure	_____
6	Circulate oil if down for more than 8 hrs	_____
7	D-56 level 45% or more	_____
8	D-55 level 5% or more	_____
9	Manually opened oil valves to each bearing and roll K55 by hand to lubricate the bearing and seal	_____
10	Oil pumps both down and in auto	_____
11	Coupling guard installed	_____
12	Test power off.	_____
13	K-55 starter racked in.	_____
14	Field switch in off position	_____
15	Hydraulic pump on.	_____
16	Load valve stroked to full load and unload position (Unload confirmed on display	_____
17	All red tags pulled and master(s) cleared	_____
18	Complete system checked (No hoses or tubing connected to process and all bleeds plugged and blinded.	_____
19	All instrumentation checked and properly valved up (K55, C70, E-73, purification feed, etc.)	_____

CMP PROCEDURE K-55 START UP PROCEDURE PROCEDURE # 460044

Outside Check Sheet

Valving to Check

Step	Action		
	<u>Limit</u>	<u>Consequence</u>	<u>Action to be Taken</u>
	27 Steps Must be complete	Failure to do any one of these steps could result in a catastrophic failure of the compressor or its associated equipment. Loss of con- tainment, chemical exposure serious injury and death are possible if these 27 steps are not followed.	Abort the start up until all 27 steps are complete. Contact the Area Engineer if any one of these Steps are not completed.
1	Vinyl II to HCL manifold open.		
2	HCL feed control station: Block valves open, Bypass closed, and control valve in manual position closed.		
3	E-51 temperature control station closed		
4	E-52 Shell oil control station: Block valves open, bypass closed, and control valve in manual, position closed		
5	R-50 valved for either up or down flow...		
6	R-60, V70, and E61 block valves open		
7	K-55 suction and discharge valves open		
8	D-56 differential pressure control station: Block valves open, bypass closed, and control valve on auto with 80 psid setpoint.		
9	D-56 level control station: Block valves open, bypass closed, and control valve on auto with 40-50% setpoint.		
10	K-55 oil system lined up from D-56 through oil pumps, oil cooler, one filter, oil diff. pressure control station with block valves open, bypass closed, control valve on auto with 75 psig setpoint, and K55 case drain open to D-55		
11	Oil cooler fans lined up, racked in and ready		
12	K-55 discharge lined up thru E-72 to C-70		

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

- | | | |
|----|--|-------|
| 13 | C-70 overhead pressure control station lined up with block valves open, bypass closed, and control valve on auto with a setpoint at 200 psig | _____ |
| 14 | K-55 recycle control station (2" station directly below E-61) manually blocked in. | _____ |
| 15 | E-61 fan running. | _____ |
| 16 | Users pressure control station lined up with block valves open, bypass closed, and control valve on manual 100% open | _____ |
| 17 | Block valve downstream of user's pressure control station to feed line open. | _____ |
| 18 | C-70 btms lined up through btms control valve to D-751 with C-70 btms EBV closed | _____ |
| 19 | Freon control station to E-74 lined up with control valve closed | _____ |
| 20 | Freon control station to E-73 lined up with control valve closed | _____ |
| 21 | HCL from purification open into incoming HCL manifold | _____ |
| 22 | Solvents notified and HCL valve to solvents (Across canal) closed | _____ |
| 23 | K-55 suction pressure 60-80 psig | _____ |
| 24 | K-55 case drain closed | _____ |
| 25 | Oil valves to K-55 open | _____ |
| 26 | K-55 bypass oil valves closed | _____ |
| 27 | These checks have been completed and K-55 is ready to start up. | _____ |

Operators Signature: _____

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

PROCEDURE **NOTE:** There is a K-55 start up check sheet which can be used to assist you in lining up and starting up K-55.

Step	Action		
1	Make sure all jobs are complete and all red tags cleared.		
2	Make sure that K-55 switch gear is racked in.		
3	Make sure that D-56 heaters are on.		
4	If the oil is circulating shut down the P-55's and place both P-55's field switches in automatic. There is a Modicon timer that will not allow the compressor to be started until the pumps have been down for 5 minutes.		
5	Once the oil has been stopped circulating, open the casing drain for approx. 10 minutes to assure ourselves that all the oil has been drained from the compressor. AFTER DRAINING CLOSE THE CASING DRAIN.		
6	Line up all the oil lines to the compressor. Make sure bypasses are closed.		
	Limit	Consequence	Action to be Taken
	3 manual valves lined up under the compressor lined up = open	No lubrication on start up will cause a catastrophic wreck of the machine. Loss of containment, serious injury and chemical exposure is possible.	Make sure the 3 manual valves to the compressor are open and the 3 bypasses are closed.
	3 bypass valves = closed		
7	If the process side of K-55 is pressured up with nitrogen, depressure and pressure back up with process by slowly opening the suction and discharge block valves. Monitor the compressor while opening the valves to insure that we don't roll the compressor in the process.		
	Limit	Consequence	Action to be Taken
	Absolutely no rolling while putting process on the compressor	Metal to metal contact with out lubrication can cause a complete wreck of the machine. Loss of containment, serious injury and chemical exposure possible	Watch the shaft while pressuring up the machine. Isolate immediately if it rolls over. Contact the Area Engineer

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

8	Line up all control valves and block valves associated with purification. Make sure that FRC(2052) E-51 feed control valve is in manual and closed.						
9	Make sure that PRC(2179) users pressure control valve is in manual and open up to 106% valve output. <table><tr><th>Limit</th><th>Consequence</th><th>Action to be Taken</th></tr><tr><td>Wide Open = 106% output on the TDC C-70 PSV's set at 300 psi K-55 trip set at 265 psi</td><td>Overpressure of C-70. Blown PSV and release of AHCl. Serious injury and chemical exposure possible.</td><td>Double check Group One (1) Slot 8 and make sure the valve output is at 106% and it is in manual</td></tr></table>	Limit	Consequence	Action to be Taken	Wide Open = 106% output on the TDC C-70 PSV's set at 300 psi K-55 trip set at 265 psi	Overpressure of C-70. Blown PSV and release of AHCl. Serious injury and chemical exposure possible.	Double check Group One (1) Slot 8 and make sure the valve output is at 106% and it is in manual
Limit	Consequence	Action to be Taken					
Wide Open = 106% output on the TDC C-70 PSV's set at 300 psi K-55 trip set at 265 psi	Overpressure of C-70. Blown PSV and release of AHCl. Serious injury and chemical exposure possible.	Double check Group One (1) Slot 8 and make sure the valve output is at 106% and it is in manual					
10	Open the bypass around the check valve on the D-56 vapor out line to equalize the suction pressure with D-56 and then close it back. The drain lines on the V-55's may have to be blocked to prevent D-56 from pressuring back up to discharge pressure.						
11	Turn on P-57 hydraulic oil pump for the load valve.						
12	Bring the load valve position to 0% output. Make sure the permissives on the PICS screen indicates that the valve is actually unloaded and that both modicons agree. (NOTE: OCCASIONALLY HAVE TROUBLE WITH THE LOAD VALVE, THIS MAY TAKE SOME TIME TO PRIME THE PUMP AND GET THE LOAD VALVE TO 0% OUTPUT). Turn off P-57.						
13	Get the suction pressure up to approx. 80-100 PSIG prior to starting K-55. You can do this by opening up E-51 feed control valve.(Make sure you close it back prior to start up).						
14	If the suction pressure is too high, it may be necessary to de-pressure to the Throx.						

**CMP PROCEDURE
K-55 START UP PROCEDURE
PROCEDURE # 460044**

15	Have the following control valves positioned as follows prior to start up. <table border="0"> <tr> <td>FRC(2052) E-51 feed C/V</td><td>manual closed</td></tr> <tr> <td>TRC(2056) E-52 temp C/V</td><td>manual closed</td></tr> <tr> <td>PRC(2179) Users press C/V</td><td>manual open</td></tr> <tr> <td>LOAD VALVE</td><td>manual unload</td></tr> <tr> <td>DPR(2146) K-55 brg diff press C/V</td><td>auto 75 psig</td></tr> <tr> <td>ME 55 A/B</td><td>auto (40 deg)</td></tr> <tr> <td>LRC(2273) D-56 level C/V</td><td>auto 45%</td></tr> <tr> <td>DPR(2276) D-56 diff press C/V</td><td>auto 80 psig</td></tr> <tr> <td>PRC(2200) C-70 ov'hd press C/V</td><td>auto 200 psig</td></tr> </table>	FRC(2052) E-51 feed C/V	manual closed	TRC(2056) E-52 temp C/V	manual closed	PRC(2179) Users press C/V	manual open	LOAD VALVE	manual unload	DPR(2146) K-55 brg diff press C/V	auto 75 psig	ME 55 A/B	auto (40 deg)	LRC(2273) D-56 level C/V	auto 45%	DPR(2276) D-56 diff press C/V	auto 80 psig	PRC(2200) C-70 ov'hd press C/V	auto 200 psig
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16	Check the PICS screen 155 display to verify that the system ready light is on.																		
17	<u>Start the compressor.</u> A. The main oil pump will start automatically B. Eight seconds later. the Modicon will look to see if the oil switches have cleared C. If the oil switches have cleared and the load valve switch shows that K-55 is unloaded, the computer will energize MK-55 starter. The Modicon will wait four seconds for the motor to start. If it doesn't start within the four seconds, the startup will be aborted and the entire sequence will have to be repeated.																		
18	As soon as the suction pressure drops to 60 psig, start opening FRC(2052) E-51 feed control valve. Bring the flow up to a 4-5 M# hr and place it in automatic. If the suction pressure should be low when bringing K-55 up, it may be necessary to open the feed control valve as soon as K-55 is energized.																		
19	Start slowly opening up TRC(2281) temperature control valve, monitoring the oil temperature. When the oil temperature turns you can place the control valve in automatic and slowly adjust the oil temp setpoint until you reach 40-45 deg.																		
20	Start a freon flow to E-73, monitoring E-73 and C-70 overhead temp.																		
21	Start to slowly increase C-70 overhead pressure until you reach 220 psig.																		

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22	Slowly start opening TRC(2056) E-52 temp control valve to about 10% valve output. Place the setpoint to approx. 110 deg and put in automatic. Make sure we don't shake up the R-250 system in the process. If there are inerts (N2) in the system, take a bleed to the Throx via the 2" line downstream of the users' PCV. The more you vent the quicker you can get C-70 in spec.
23	Continue to raise the load on purification, monitoring C-70 overhead temperatures and purity
24	Place PRC(2179) user's pressure control valve in automatic and start gradually raising the setpoint to 200 psig
25	When C-70 overhead product is good, send it to Solvents, Poly C, and we can take some too.
26	Once liquid level is established in C-70 btm, ensure the btms out AOV is open and put C-70 LCV in auto.
27	Put E-74 freon in auto and control the freon out temp at 11.5 Deg C

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**After Start Up
Check Sheet**

Step	Action	
1	Oil pressure controlling at 75 psid	_____
2	D-56 level controlling at setpoint and the V-55 drain valves are cracked open to D-56. Opening these valves too much can cause the D/P control valve on D-56 to wind up.	_____
3	D-56 diff pressure controlling at 80 psig	_____
4	K-55 oil temperature on auto and controlling at 40 deg C	_____
5	Purification feed flow on auto and controlling to hold 60-100 psig on K-55 suction	_____
6	C-70 overhead pressure controlling at 220 psig	_____
7	E-73 freon on computer at approximately .50 ratio or as necessary to control vinyl in product	_____
8	E-74 freon controlling R-22 out temp	_____
9	User's pressure control on auto and controlling at 190 to 215 psig.	_____
10	Shell oil on E-52 and temp. controlling at 110-119 deg C	_____
11	Notify solvents when purity is good and recycle is high enough for them to start taking	_____
12	Entire system checked for leaks at operating pressure after start up.	_____
13	When purity is good, valve HCL to Poly C	_____