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SOP 17

Subject to Protective Order
of 14th Judicial District Court

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WRITTEN BY:
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APPROVED BY:
DERIVATIVE'S
AREA SUPERVISORS
DATE: 6/22/88

TAKING AN ALARM, INSTRUMENT, OR SDS
CONTROL VALVE OUT OF SERVICE IN DERIVATIVES

CHECK	ACTION STEPS (Capital letters) and Comments (Small letters)
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This SOP is written to develop a uniform procedure throughout Derivatives to ensure that the appropriate steps are taken prior to removing from service or bypassing an alarm, instrument, or shut down system automatic valve. This SOP will provide an effective way of communicating the status of these instruments to others and making sure that the necessary steps are taken to correct the problem. This procedure is intended to apply to all pressure, temperature flow, level, analyzer, etc. instrumentation and the associated control valves.

This SOP is considered to be each unit's minimum standard. Each unit reserves the right to require a higher level of reliability if it is deemed necessary by the unit supervision.

1. IF AN ALARM, INSTRUMENT, OR SHUT DOWN SYSTEM MALFUNCTIONS, THE OPERATOR'S FIRST RESPONSE SHOULD BE AN ATTEMPT TO FIX IT.

In every circumstance, the first response should be a reasonable effort toward correcting the cause of the problem. Operating without alarms, instrumentation, or shut down system valves introduces a level of risk that is not desirable.

2. CHECK TO MAKE CERTAIN WHAT PRIORITY THE ALARM OR INSTRUMENTATION FALLS INTO:

Check the list of alarms attached in the unit SOP manual to determine what the priority of the alarm is. The priority system to be used is as follows:

Priority 1 - Critical instruments whose failure would either cause or fail to inform of situations causing accidental fire, explosion, uncontrolled release of dangerous materials, reportable environmental releases, or major property or production loss. These alarms include those which have been mandated by outside agencies (RCRA, EPA, DEQ, Consent Decree), also Operations Review Committee (ORC) reliability alarms, and alarms deemed critical by operations supervision. All of these alarms are on the proof testing schedule.

Priority 2 - Critical instruments whose failure could either cause or fail to inform of serious conditions involving recordable environmental releases, property or production losses, or other non-life threatening situations. These are slightly lower priority alarms which are also on the proof testing schedule.

Priority 3 - All other alarms, which are not on the proof testing schedule.

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Note: Operations will treat priority 1 and 2 alarms in an identical fashion. The only reason that these are differentiated is for the sake of the prooftesting program.

IF THE ALARM IS PRIORITY 1 OR 2, GO TO STEP #5. IF THE ALARM IS PRIORITY 3, GO TO STEP #3.

3. RESPONSE TO PRIORITY 3 ALARMS. THE LEAD OPERATOR SHOULD FOLLOW ESTABLISHED UNIT PROCEDURES AND HIS KNOWLEDGE OF THE UNIT TO EVALUATE EACH SITUATION AND MAKE A DECISION AS TO WHETHER THE INSTRUMENT CAN BE BYPASSED OR NOT.

If there is any doubt about this choice, supervision should be consulted. These alarms and instrumentation are not considered critical under normal conditions.

4. THE LEAD OPERATOR SHOULD IMPLEMENT THE OUT-OF-SERVICE PROCEDURE FOR PRIORITY 3 ALARMS.

This will include taking immediate action to initiate repairs. This means that at least a note in the maintenance logbook must be made to initiate repairs to prevent the problem from being forgotten.

STOP HERE FOR PRIORITY 3 ALARMS.

5. RESPONSE TO PRIORITY 1 OR 2 ALARMS. RCRA, EPA, CONSENT DECREE, OR CRITICAL ALARMS, INSTRUMENTATION OR SHUT DOWN SYSTEM AUTOMATIC VALVES. NOTIFY YOUR LEAD OPERATOR OF THE SITUATION.

No one except the unit lead operator or supervisor has the authority to approve taking an alarm out of service.

6. THE LEAD OPERATOR WILL DECIDE IF IT IS SAFE TO TAKE THE INSTRUMENT OUT OF SERVICE. IF IT IS SAFE TO DO SO, THE LEAD OPERATOR WILL COMPLETE AN "OUT-OF-SERVICE" TAG AND MOUNT IT ON THE CONTROL PANEL. HE WILL ALSO MAKE NOTE IN THE OPERATIONS LOGBOOK TO EXPLAIN THE DETAILS OF WHAT HAS BEEN DONE AND WHY IT WAS NECESSARY. IF, IN THE LEAD OPERATOR'S OPINION, IT IS NOT SAFE TO DO SO, SUPERVISION SHOULD BE CONSULTED.

The out-of-service tag is intended to be a communications tool for notifying other people that Priority 1 or 2 alarms are out of service. These tags should be affixed to the instrument on the control panel or, if this is not possible in another prominent place on the control panel. These out-of-service tags will remain on the board until the situation is corrected.

There are circumstances during routine operations when some of these alarms or valves need to be taken out of service for short periods of time to perform short term routine work on the system. Some examples of this include the following

- (1). Pulling alarm cards at EDC I to look for a "mystery alarm".
- (2). Taking alarms out of service on the computer at VCM II long enough to identify them on the CRT display.

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- (3). When an operator and log book instrument man go outside to look at a shut down system valve that is sticking.
- (4). When OHC analyzers are bypassed for preventive maintenance work.

Under these and other similar circumstances it would not normally be worth the effort to complete an out-of-service tag. For these short-term situations it will be acceptable practice for the alarm, instrument, or control valve to be taken out of service provided that both of the following criteria are met:

- 1) The lead operator is informed of the situation and gives approval.
- 2) The operator gives undivided attention to this problem.

If both of these cannot be met, then the out-of-service tag must be used regardless of the length of time required for the work to be done.

The out-of-service tags are not a substitute for performing maintenance. The out-of-service tags serve only to communicate the status of instruments in need of repair.

8. TAKE IMMEDIATE ACTION TO INITIATE REPAIRS ON THE OUT-OF-SERVICE INSTRUMENT.

After a priority 1 or 2 alarm, instrument, or control valve has been properly taken out-of-service or bypassed, it should not be forgotten about. On day shift this may require redirecting the maintenance logbook priorities, or notifying supervision so an "Emergency" work order can be written. On the back shifts and during holidays, this may mean notifying the shift supervisor and getting shift mechanics or calling out mechanics so that the repairs can be made in a timely fashion. In either case it is strongly recommended that repairs be started as soon as practical.

Ordering "Out-of-Service" tags. These tags are set up in our reproduction department with a form number (59A-6) so that day shift operators can reorder these by telephone.

9. WHEN THE REPAIRS ARE SUCCESSFULLY COMPLETED AND THE ALARM, INSTRUMENT, OR CONTROL VALVE IS PUT BACK INTO SERVICE, THE LEAD OPERATOR WILL REMOVE THE OUT-OF-SERVICE TAG FROM THE BOARD, TAPE IT INTO THE LOGBOOK, AND COMPLETE THE BOTTOM SECTION OF THE OUT-OF-SERVICE TAG.

10. A "WEEKLY OUT-OF-SERVICE TAGGING CHECKLIST" WILL BE COMPLETED BY EACH UNIT ON MONDAY MORNING GRAVEYARD SHIFT TO CONFIRM THAT THE PANEL ALARMS AND LIGHTS ARE IN WORKING ORDER AND THAT ALL OF THE OUT-OF-SERVICE ALARMS, INSTRUMENTATION, AND CONTROL VALVES HAVE BEEN PROPERLY TAGGED ACCORDING TO THIS SOP. THESE CHECKLISTS WILL BE MAILED TO THE DERIVATIVES ENVIRONMENTAL FOREMAN EACH WEEK FOR RECORDKEEPING AND AUDITING.

The objective of the weekly checklist is to routinely take an inventory of the out-of-service tagging which has been done and to correct all tagging deficiencies on the spot.

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Each individual unit will make up a detailed checklist which will be entitled "Weekly Out-of-Service Tagging Checklist". During this weekly inventory, the audible and visual alarms should be proven to be in working order. A check of all of the out-of-service tags on the panel will be made to insure that they all have been done correctly. Also a cross-check in the field will be made to insure that no bypassed SDS automatic valve has been overlooked. All tagging discrepancies which are found should be corrected on the spot by following step #11 below.

- _____ 11. IF A PROBLEM IS IDENTIFIED DURING THE WEEKLY CHECKLIST WHICH HAS NOT BEEN PROPERLY "OUT-OF-SERVICE" TAGGED, THE DEFICIENCY MUST BE CORRECTED IMMEDIATELY. RETURN TO STEP #1 ABOVE AND FOLLOW THIS SOP TO INSURE THAT EACH ITEM IS PROPERLY OUT-OF-SERVICE TAGGED.
- _____ 12. THESE CHECKLISTS WILL BE REVIEWED BY THE UNIT SUPERVISORS AND AREA SUPERVISOR, INITIALLED, AND MAILED WEEKLY TO THE DERIVATIVES ENVIRONMENTAL FOREMAN.

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ALARM, INSTRUMENT, CONTROL VALVE, PANEL ALARM TEST CIRCUIT, ETC. DESCRIPTION		CHECK IF OK	NOT OK (CK BOTH)		PRI
			TAGGED	RPRS. INITI	
1. LOW CHLORINE GAS PRESSURE	62				1
2. #1 COOLING TOWER PUMP	86				1
3. #2 COOLING TOWER PUMP	85				1
4. DSA CHLORINE ALARM	72				1
5. #3 COOLING TOWER PUMP	84				1
6. #4 COOLING TOWER PUMP	83				1
7. #4 COOLING TOWER BASIN LEVEL	59				1
8. #3 COOLING TOWER BASIN LEVEL	58				1
9. #5 COOLING TOWER PUMP	82				1
10. ETHYLENE TO PLANT H/L PRESS	57				1
11. #6 COOLING TOWER PUMP	81				1
12. #1 COOLING TOWER FAN #1	80				1
13. #1 COOLING TOWER PH H/L	55				1
14. AIR PRESS LOW	67				1
15. #1 COOLING TOWER FAN #2	79				1
16. #2 COOLING TOWER FAN #1	78				1
17. #2 COOLING TOWER FAN #2	77				1
18. #1 480 VOLT SYSTEM GROUND	52				1
19. #3 COOLING TOWER FAN #1	76				1
20. #3 COOLING TOWER FAN #2	75				1
21. #1 EDC DAY TANK H/L	45				1
22. #2 BOTTOMS STORAGE H/L	45				1
23. #3 EDC DAY TANK H/L	42				1
24. #4 BOTTOMS STORAGE H/L	48				1
25. #5 EDC DAY TANK H/L	46				1
26. #6 EDC DAY TANK H/L	43				1
27. TETRA AND SHIPPING PUMP	47				1
28. EDC TRANSFER PUMP	41				1

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ALARM, INSTRUMENT, CONTROL VALVE, PANEL ALARM TEST CIRCUIT, ETC. DESCRIPTION		CHECK IF OK	NOT OK (CK BOTH)		PRI
			TAGGED	RPRS. INITI	
29. EMERGENCY POWER LAE	13				1
30. EDC EMERGENCY POWER TRANSFER	12				1
31. CONTROL ROOM BLOWER	11				1
32. AREA B 250# STEAM	18				1
33. #1 EDC CONDENSATE PUMP	21				1
34. #2 EDC CONDENSATE PUMP	21				1
35. #5 LIFT STATION LEVEL	23				1
36. LOW EDC FLOW TO TRI II	24				1
37. #7 EDC DAY TANK H/L	4				1
38. #8 EDC DAY TANK H/L	3				1
39. CRUDE EDC TRANSFER PUMP	27				2
40.					
41.					
42. SHELL ETHYLENE PRESS HIGH					1
43. SHELL ETHYLENE PRESS LOW					1
44. OCCIDENTAL ETHYLENE PRESS HIGH					1
45. ORANGE ETHYLENE PRESS HIGH					1
46. ORANGE ETHYLENE TEMPERATURE LOW					1
47. ORANGE ETHYLENE TEMPERATURE HIGH					1
48. OCCIDENTAL ETHYLENE TEMP. HIGH					1
49. ANTI AIR SD SYSTEM BYPASS					1
50. MILLION GAL. TANK TRANSFER PUMP					2
51. OCCIDENTAL ETHYLENE TEMP. LOW					1
52. ANTI-AIR SHUTDOWN ACTUATED					1
53. HIGH OXYGEN IN CHLORINE GAS					1
54. EDC PLANT VENT GAS TO INC. HIGH PRS.					1
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ALARM, INSTRUMENT, CONTROL VALVE, PANEL ALARM TEST CIRCUIT, ETC. DESCRIPTION	CHECK IF OK	NOT OK (CK BOTH)		PRI
		TAGGED	RFRS. INITI	
55. CHLORINE GAS PRESS #1 PLANT	62			1
56. #1 CHLORINE SURGE DRUM PRESS H/L	105			1
57. ETHYLENE PRESS TO #1 PLANT H/L	57			1
58. CHLORINE FLOW TO #1 REACTOR H/L	107			1
59. NORTH CHLORINE VAPORIZER TEMP H/L	109			1
60. SOUTH CHLORINE VAPORIZER TEMP H/L	108			1
61. CHLORINE GAS TEMP. TO #1 REACTOR	110			1
62. #1 REACTOR HIGH PRESSURE	103			1
63. ETHYLENE FLOW TO #1 REACTOR H/L	100			1
64. #1 CHLORINE SURGE DRUM BOTTOM TEMP.	99			1
65. #1 REACTOR LEVEL H/L 97	98			1
66. #1 REACTOR GAS SEPERATOR LEVEL H/L	94			1
67. #1 STRIPPER GAS SEPERATOR LEVEL H/L	93			1
68. STRIPPER REFLUX PUMPS #1 STRIPPER	92			1
69. #1 STRIPPER STEAM FLOW	91			1
70. #1 PLANT EDC CRUDE TANK H/L	90			1
71. LIQUID CL2 TO #1 PLANT H/L PRESS.	61			1
72. CHLORINE GAS TO #1 PLANT TEMP.	60			1
73. STEAM PRESS TO CHLORINE VAPORIZERS	70			1
74. STEAM TEMP. TO CHLORINE VAPORIZERS	69			1
75. #1 REFRIGERATION UNIT	56			1
76. STEAM FLOW TO CL2 VAP 1&2 H/L	68			1
77. #1 EDC TRANSFORMER TEMPERATURE	54			2
78. #2 RECIR. PUMP #1 REACTOR	65			1
79. #3 RECIR. PUMP #1 REACTOR	64			1
80. #4 RECIR. PUMP #1 REACTOR	63			1
81. HIGH C2H4 TO CL2 RATIO #1 REACTOR				1
82. LOW C2H4 TO CL2 RATIO #1 REACTOR				1

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ALARM. INSTRUMENT, CONTROL VALVE, PANEL ALARM TEST CIRCUIT, ETC. DESCRIPTION	CHECK IF OK	NOT OK (CK BOTH)		PRI
		TAGGED	RFRS. INITI	
83. TRIP INITI. CL2 VAP. SHUTDOWN SYS				1
84. #1 REACTOR LOW LEVEL MODICOM				1
85. #1 REACTOR HIGH PRESS MODICOM				1
86. #1 EDC PLANT VENT TRIP				1
87. #1 EDC PLT. HIGH VENT FLOW TO INCI.				1
88. LOW ETHYLENE ANALYZER A #1 REACTOR				1
89. LOW ETHYLENE ANALYZER B #1 REACTOR				1
90. HIGH OXYGEN #1 REACTOR VENT				1
91. LOW ETHYLENE ANALYZER A #3 REACTOR				1
92. LOW ETHYLENE ANALYZER B #3 REACTOR				1
93. HIGH OXYGEN #3 REACTOR VENT ANAL. A				1
94. HIGH OXYGEN #3 REACTOR VENT ANAL. B				1
95. ETHYLENE PRESS TO #1 PLANT	106			1
96. #2 CL2 SURGE DRUM TEMPERATURE	40			1
97. CHLORINE FLOW TO #3 REACTOR H/L	34			1
98. ETHYLENE FLOW TO #3 REACTOR H/L	35			1
99. #3 EDC REACTOR PRESSURE H/L	31			1
100. #3 EDC REACTOR LEVEL H/L	32			1
101. #3 EDC REACTOR LEVEL H/L REDUNDANT	32			1
102. #3 EDC RX GAS SEPERATOR LEVEL H/L	29			1
103. #2 EDC STRIPPER FEED PUMPS	30			1
104. # EDC STRIP. GAS SEP. LEVEL H/L	25			1
105. #2 EDC STRIPPER REFLUX PUMPS	26			2
106. #3 EDC RX CRUDE TANK LEVEL H/L	27			1
107. #2 EDC ST FEED PUMPS	28			1
108. #3 LIFT STATION LEVEL	16			1
109. EDC DOPP KETTLE AGITATOR	15			1
110. #2 EDC REFRIGRATION UNIT	14			1

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ALARM, INSTRUMENT, CONTROL VALVE, PANEL DATE:	CHECK IF OK	NOT OK TAGGED	IN SERVICE AFRS. INITI	FPI
ALARM TEST CIRCUIT, ETC. DESCRIPTION				
111. EDC DOFF KETTLE HIGH LEVEL	19			1
112. EDC DOFF KETTLE HIGH PRESSURE	20			1
113. EDC STILL TEMPERATURE H/L	5			1
114. EDC STILL LEVEL H/L	6			1
115. EDC STILL REFLUX PUMPS	2			1
116. EDC STILL REFLUX TANK LEVEL H/L	1			1
117. EDC STILL ATMS TANK #1 LEVEL H/L	111			1
118. EDC STILL ATMS TANK #2 LEVEL H/L	112			1
119. #3 RX HIGH CCH4 TO CL1 RATIO MOD1.				1
120. #3 RX LOW CCH4 TO CL2 RATIO MOD1.				1
121. PRO-LON COMPUTER H/L LIMIT				1
122. #3 EDC RX LOW LEVEL MODICOM				1
123. #3 EDC RX HIGH PRESS MODICOM				1
124. #3 EDC RX HIGH TEMP. MODICOM				1
125. #3 ANAL. LOW CARRIER GAS PRESS.				1
126. #2 PLANT HIGH VENT FLOW TO INCEN.				1
127. EDC RECOVERY STILL PRESS	74			1
128. EDC RECOVERY STILL BTMS TEMP H/L				1
129. EDC RECOVERY STILL LEVEL H/L	88			1
130. #1 REACTOR CRUDE PUMPS	89			1
131. EDC REC. ST REFLUX TANK LEVEL H/L				1
132. EDC RECOVERY STILL REFLUX PUMPS	49			1
133. CT MOTOR AMP ALARMS PUMPS 1 - 6				1
134. CT MOTOR AMP ALARMS PUMPS 7 - 8				1