

SOP-EDC-VC-L/T STG
WRITTEN BY: CSG
APPROVED BY: DKP
DATE: 10/90

5601-013.SOP
DIGITAL ALARMS BACKED-UP ON #3 PLC

PLC III is set up to provide back up digital alarms for 36 critical pieces of equipment during computer outages. The moment that the computer goes down, all items on the list below which are in the alarm state will alarm on PLC III and print out on the PLC printer. While the computer is down, if one of these motors shut down, the PLC III gives an alarm. The list includes:

1. #1 Lights Still condenser fan.
2. #2 Lights Still condenser fan.
3. #3 Lights Still condenser fan.
4. #4 Lights Still condenser fan.
5. #5 Lights Still condenser fan.
6. #6 Lights Still condenser fan.
7. Lights Still reflux pump. - ** See note #2
8. #1 Heavy Still condenser fan.
9. #2 Heavy Still condenser fan.
10. #3 Heavy Still condenser fan.
11. #4 Heavy Still condenser fan.
12. Heavy Still bottoms pump. - **See note #2
13. EDC Dopp Kettle agitator.
14. HCL Knock Out Pot Drum level high.
15. #1 Quench Condenser fan.
16. #2 Quench Condenser fan.
17. #3 Quench Condenser fan.
18. #4 Quench Condenser fan.
19. #1 Quench Dopp Overhead condenser fan.
20. #2 Quench Dopp Overhead condenser fan.
21. #1 Quench Dopp Kettle agitator.
22. #2 Quench Dopp Kettle agitator.
23. #1 VCM York Refrigeration compressor trouble.
24. #2 VCM York Refrigeration compressor trouble.
25. #1 Furnace Feed pump.
26. #2 Furnace Feed pump.
27. #3 Furnace Feed pump.
28. #1 Process and Storage Refrigeration compressor trouble.
29. #2 Process and Storage Refrigeration compressor trouble.
30. #1 EDC Sidearm Cooler fan.
31. #2 EDC Sidearm Cooler fan.
32. #3 EDC Sidearm Cooler fan.
33. #4 EDC Sidearm Cooler fan.
34. #1 EDC Reactor Condenser fan.
35. #2 EDC Reactor Condenser fan.
36. #3 EDC Reactor Condenser fan.
37. #4 EDC Reactor Condenser fan.
38. EDC Vent Compressor trouble.

*See note #1

*See note #1

*See note #1

*See note #1

*See note #1

*See note #1.

***Note #1:** Those items which are grouped together are programed in parallel in the PLC. If any one of the motors in this group goes down, you will get a general alarm telling you each time that any one of the motors goes down.

****Note #2:** These pumps are wired so that the digital alarm only sounds when the second or last pump goes down.

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SOP-EDC-OHC-VC-L/T STG
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APPROVED BY: DKP
DATE: 10/17/90

5601-017.SOP
TAKING AN ALARM, INSTRUMENT, OR SDS
CONTROL VALVE OUT OF SERVICE IN DERIVATIVES

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 has been modified for VCM-II.

CHECK	ACTION STEPS (Capital letters) and Comments (Small letters)
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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, INSTRUMENT, OR CONTROL VALVE 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 prooftesting 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 prooftesting schedule.

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Priority 3 - All other alarms, which are not on the prooftesting schedule. For VCM-II, priority 3 includes control valves which are not tied directly into a SDS.

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, INSTRUMENT, OR CONTROL VALVE 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 AND BYPASSED CONTROL VALVES. THE LEAD OPERATOR SHOULD USE HIS KNOWLEDGE OF THE UNIT TO EVALUATE EACH SITUATION AND MAKE A DECISION AS TO WHETHER THE INSTRUMENT OR CONTROL VALVE 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 FILL OUT A YELLOW OUT-OF-SERVICE TAG FOR BYPASSED CONTROL VALVES ONLY. A TAG DOES NOT HAVE TO BE FILLED OUT FOR PRIORITY 3 ALARMS.

Immediate action is to be taken to initiate repairs on instrumentation. This means at least a note in the maint. logbook so that the problem will not be forgotten.

STOP HERE FOR PRIORITY 3 ITEMS.

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 or a control valve is bypassed. 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:

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- (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.
- (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. 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 to get shift mechanics or call out instrument 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. THE UNIT FOREMAN FILE THESE CHECKLISTS TO MAINTAIN A RECORD IN THE EVENT OF AUDITS BY ENVIRONMENTAL AGENCIES.

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. 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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