

SSER

Task: Allegations \*A-232, A-234, A-237, A-238, A-243, A-244, A-245, A-262,  
A-311, A-312, A-313, A-316, A-317, A-318, A-320, A-321,  
A-323, A-324, A-325, A-326, A-327, A-328, and A-331

Reference No.: 4-84-A-06/120, 123, 124, 129, 130, 131, and 144  
4-84-A-12/3(a), (b), (c), 6,7,8,10,11,13,14,15,16,17 and 18  
4-84-A-31

Characterization: It is alleged that the Mercury, and to a lesser extent the EBASCO, nonconformance systems did not (1) properly identify nonconforming components; (2) prevent the installation of nonconforming materials, parts, and components; (3) provide for the proper disposition of nonconformances; (4) give quality assurance (QA) personnel the freedom to write nonconformances; and (5) assure that corrective actions were adequate.

Assessment of Allegation: The implied significance of this allegation is that the installation of safety-related systems could be questioned.

Although this allegation appeared to be generic, the large number of specific examples provided to the NRC staff indicated that these problems were related only to certain activities. Some allegations were also related to charges that discrepancy notices (DNs), deficiency reports (DRs), field change requests (FCRs), design change notices (DCNs), and speed letters were used to circumvent the requirement for nonconformance reports (NCRs).

In evaluating this allegation, the NRC staff:

- (1) Reviewed Mercury and EBASCO procedures for processing NCRs, and examined the NCRs identified by the allegeders for whether they were properly dispositioned and for whether corrective action was taken; and

- (2) Interviewed Mercury, EBASCO, and LP&L quality engineers involved in the NCR system.

The NRC staff reviewed each NCR identified by the allegers to determine how adequately it was reported, reviewed, and dispositioned. These NCRs were further examined for generic problems which could affect safety-related systems.

The NRC staff found the following with respect to each specific allegation:

1. Allegation A-232 - It was alleged that EBASCO NCR W3-4352 was improperly dispositioned in order to meet ASME Code requirements and ANSI standards and dispositioned "use-as-is." The NRC staff reviewed the disposition of the NCR and concluded that the corrective action taken for closure was appropriate.
2. Allegation A-237 - Examples of some NCRs were provided which were alleged to be examples of "things not properly handled." Additionally, it was alleged that most Mercury NCRs were not properly addressed or closed.

The NRC staff reviewed between 125 and 150 Mercury NCRs. Of these, the staff found that 19 had questionable or improper dispositions; they were as follows:

Mercury NCRs

- 313, 322, 337 Identified seven  $\frac{1}{2}$ " stainless steel lines for P2 instruments that were damaged by weld spatter. The NCR stated lines were replaced by operational control record (OCR) 995 and OCR 1020. It could not be ascertained by these rework packages that the repair and reinspection was either started or completed. There was no documentation with these NCRs to prove that corrective action was completed.
- 363 Indicated problem with fitup of emergency diesel generator fuel oil tank 'A.' This was a safety-related system; therefore, an authorized nuclear inspector (ANI) review should have been performed but was not.
- 554 Noted numerous problems of supports during a walkdown. There was no proof of work being performed to correct these problems other than a memo (Form 211) stating that work was performed.
- 658 Identified problems with OCR 1671 seismic Category I support, B-430-x23-J-42. The NCR stated "the disposition has been completed, all rework documented." There was no other documentation in the package other than the NCR W3-7317 acceptance letter.
- 572 Noted that the weld on support location #26 was undersized. The NCR stated that the weld was reworked and weld metal added to bring weld to sufficient size. There was no reference as to what OCR was issued to perform this rework or traceability of weld metal used in the performance of this job. Also, there were no inspection reports identified or contained in the package.

- 673 Identified problems with instrument tubing installed by OCR #723.
- 674 Identified problems with the electromagnetic control panel worked by OCR #1246.
- 675 Identified problems with instrument tubing installed by OCR #720.
- 676 Identified problems with instrument tubing installed by OCR #720.
- 677 Identified problems with instrument tubing installed by OCR #1332.
- 678 Identified problems with instrument tubing installed by OCR #723.
- 673-678 These NCRs were closed out by the statement:  
"Administratively closed B31.1 to be tracked and resolved by Mercury Engineering Department." This was unacceptable. (Also, all of these NCRs were reviewed by EBASCO under NCR W3-731 and accepted "as-is.")
- 888 Indicated problems with personnel qualifications, e.g.,  
"Several QC [quality control] type personnel have been certified level II without documented evidence of qualification requirements per QCP 3110 para 1.4 and ANSI N45.2.6." Recommended disposition was marked "N/A" yet the recommended disposition completed stated "This NCR not processed: 1) Initiator not a Mercury

employee at time of writing; 2) QCP 3110...does not apply to W3; 3) ANSI N45.2.6 previously incorporated by QCP 3050 is approved. All M Co. QC techs are trained and tested per QCP 3050 prior to performing inspection or tests."

889 Indicated problems dealing with piping supports installed by Mercury in that the installed hangers were different than those noted in Mercury's QC support installation documentation. As with NCR 888, the recommended disposition was marked "N/A" and the recommended disposition was completed by saying "This NCR not processed: 1) Initiator not a M Co. Employee at time of writing; 2) . . ."

2234 Stated that no heat numbers could be verified between FW13 and FW13R. This is for OCR 666, System 52B. The recommended disposition was per attachment #4 of NCR W3-4593.

3149 Indicated that there was no documented evidence that welder M-343 was qualified to welding procedure specification D (WPS-D). Disposition of this problem was by use of a weld test coupon subsequently found on April 27, 1983, but no longer available. No documentation existed on the qualification of this welder or on his retest. Thus, all welds made by this welder were suspect.

#### Generic Problems with NCRs

- o The validity of several dispositions were questionable because the referenced letters used to close these NCRs did not adequately address them.

- o Several Mercury NCRs identified that discrepancies existed between drawings and documentation. The solution to this problem was to modify the documentation so that it "agreed with what was installed in the field." The adequacy of design was also questionable because of a lack of evidence that a design review was performed by Mercury Engineering.
  - o Some NCR dispositions and QA reviews performed by Mercury did not have sufficient documentation to justify those actions and reviews.
- 3. Allegation A-238 - It was alleged that Mercury Corrective Action Report (CAR) No. 129 of December 13, 1982, was not handled correctly because the actual problem raised was evaded. The NRC staff reviewed this issue and determined that CAR-129 was reviewed by EBASCO and subsequently upgraded to NCRs W3-5669 and W3-5671. These NCRs were dispositioned and closed on February 18, 1982. The staff concluded that this CAR was dispositioned properly and that this allegation has neither safety significance nor generic implications.
- 4. Allegation A-234 - It was alleged that many Mercury NCRs were improperly dispositioned and never received EBASCO NCR numbers. While conducting its general review of Mercury NCRs and the NCRs identified in the allegations under A-237, the NRC staff sampled between 125 and 150 of these NCRs to determine if there were Mercury NCRs which should have been elevated to EBASCO NCRs and were not. In conducting its review, the staff found that EBASCO had issued NCR W3-7317 (October 26, 1983) to disposition the violation of Mercury Procedure SP-664 in that when a Mercury NCR was dispositioned "use as is," the Mercury QA Supervisor elevated the applicable NCR to EBASCO. The NRC staff found that this NCR was closed on December 1, 1983, after a 100% review of Mercury NCRs had been conducted. During this review, EBASCO found that 437 Mercury NCRs

dispositioned "use as is" had not been reviewed by EBASCO. An EBASCO team composed of QA and construction engineering personnel reviewed these and either concurred in or rejected the dispositions. The disposition of 36 NCRs was rejected by EBASCO and these were subsequently elevated to EBASCO NCRs. The NRC staff reviewed them and a portion of other Mercury NCRs to determine if there were any marked "use as is" which were not captured by EBASCO's review team and to determine for those dispositioned "use as is" whether they had been elevated to EBASCO NCRs. The staff's findings were that the review conducted by EBASCO appeared to have been adequate in that no NCRs out of the sample examined were dispositioned "use as is" which had not been reviewed by EBASCO and that none were found which were dispositioned "use as is" which should have been elevated to EBASCO NCRs and had not been.

5. Allegation A-243 - The allegation concerned a phone conversation on November 15, 1982, between a Mercury QA Document Reviewer an employee of the Magnaflux Company about the proper method of obtaining successful magnetic particle test results. The NRC staff reviewed this concern and determined that the conversation violated neither test codes nor procedures. Therefore, the disposition of the Mercury NCRs addressing this problem was proper. This concern has neither safety significance nor generic implications.
6. Allegation A-244-245 - It was alleged that multiple nonconformance reports were not dispositioned correctly. The NRC staff reviewed Mercury NCRs 996, 399, 854, 867, 922, 950, 889, 888, 952, 960, 990, 995, 1025, 1042, and 1027 concurrently with Allegation A-237.
7. Allegation A-311-312-313 - These allegations were that EBASCO NCR W3-4593 (Mercury 881) was not properly dispositioned in that LP&L was not transferring heat numbers to as-built drawings; that LP&L was not transferring all possible heat numbers when they did make transfers; and that heat number charts used for tracking heat numbers were difficult to



interpret and were incorrect. The NRC staff investigated this allegation during its general review of EBASCO NCRs. EBASCO NCR W3-4593 was reopened February 16, 1984, with the recognition that approximately 25% of tubing installed could not be directly traced to certified material test reports (CMTRs) or certificates of compliance (C of Cs). This review was also conducted because additional heat numbers for instrument tubing which may have been a part of the Mercury installation were identified. The final disposition (on March 23, 1984) of this NCR was that direct heat traceability was not required for Mercury tubing installation. The disposition also stated that Mercury did not have a materials control program meeting the requirements of ASME Code Section III or 10 CFR 50, Appendix B, Criterion VIII. This NCR was further dispositioned by requiring Mercury to install materials required by design based on general site controls. However, the NRC staff, in its review, concluded that because of the lack of heat number traceability, section(s) of non-safety tubing issued simultaneously with safety-related tubing of similar size could have been installed as safety-related tubing. Therefore, the staff is not confident that what is supposed to be installed as safety-related tubing is in fact safety-related tubing. Further, both Mercury's lack of a materials control program, and their having traceability to only the warehouse, do not meet ASME Code requirements or 10 CFR 50, Appendix B, Criterion VIII.

8. Allegation A-316 - The allegation was that a draft NCR improperly dispositioned a problem with the OD thickness of stainless steel tubing. The NRC staff reviewed EBASCO NCR W3-7538 and found it to be properly dispositioned. The tubing in question was ultrasonically tested to determine tubing wall thickness. All tubing was found to be the wall thickness. Thus, all safety concerns were resolved.
9. Allegation A-317 - The allegation was that draft Mercury OCR 1830/NCR 806 was improperly closed. The NRC staff review of EBASCO NCR W3-7547 revealed that there were disposition problems. For specific details, see Allegations A-33 and A-55.



10. Allegation A-320 - The allegation concerned a draft NCR on Mercury instrumentation supports. The NRC staff review of EBASCO NCRs W3-6514, W3-3947/R1 and W3-5819 revealed that the concern addressed by this allegation was discussed in these EBASCO NCRs. (See Allegation A-33.)
11. Allegation A-321 - The concern over a draft NCR on Mercury Procedure SP-664 was addressed in EBASCO NCR W3-7317. The NRC staff determined that NCR W3-7317 was dispositioned properly and that it resolved the problems addressed.
12. Allegation A-323 - The allegation was that hold tags for Mercury NCRs 2663 and 2665 were removed illegally or prematurely. This allegation was reviewed by the NRC staff who noted that these NCRs were upgraded to EBASCO NCRs W3-5879 and W3-5881, respectively. The documentation indicated that the field welds were increased to the required dimensions and successful NDE results were obtained. The staff could find no objective evidence that hold tags were removed illegally or prematurely.
13. Allegation A-324 - The allegation was that EBASCO NCR W3-3894 might have to be reopened to address weld data report deficiencies. The NRC staff reviewed this NCR and discovered that it was dispositioned properly and that all safety concerns were resolved.
14. Allegation A-325 - The allegation was that Mercury NCR 3557 was improperly dispositioned. This allegation concerned overpressurization of instrumentation lines during hydrostatic testing. The NRC staff reviewed this NCR and discovered that Mercury NCR 3557, along with NCR 3438, were upgraded to EBASCO NCR W3-6440. The EBASCO NCR was dispositioned by reviewing stress limits of components within the test boundaries. No stress limits were exceeded. The staff concluded that the disposition of the item was proper and that it has neither safety significance nor generic implications.

15. Allegation A-326 - This allegation concerned proposed stop work orders and was addressed by the NRC staff during its review of Allegations A-311, A-312, A-313 and A-315.
16. Allegation A-327 - The concern of NCR W3-6159 was addressed in the evaluation for Allegation A-33 and A-55.
17. Allegation A-328 - This allegation concerned the EBASCO Site Support Engineering (ESSE) review of hardware-related NCRs and was reviewed by the NRC staff. This concern was evaluated when the NRC staff reviewed Allegations A-33 and A-55, when it was discovered that EBASCO NCR W3-7317 was properly dispositioned and closed out.
18. Allegation A-331 - This allegation concerned the improper closure of NCRs and has been evaluated in the NRC staff review of Allegations A-33 and A-55.
19. Allegation A-318 - The concern over Mercury hold tag installation and retrieval, as identified in interoffice correspondence W3QA-26547, was reviewed by the NRC staff. The initial audit described in correspondence W3QA-26547 revealed five of the ten NCRs audited had missing hold tags. In response to this problem, LP&L reported they had located eight of the ten NCR hold tags; two were assumed to be lost.
20. Allegation A-262 - This allegation was that welder qualifications were falsified. This issue was evaluated in Allegation A-237.

In conclusion, the NRC staff finds that the inadequate disposition of Mercury NCRs is safety significant and has generic implications for the Mercury NCR system.

[ Potential Violations: The lack of adequate disposition of NCRs is a violation of 10 CFR 50, Appendix B, Criterion XVI and the ASME Code. ]

Actions Required: LP&L shall, prior to fuel load:

1. Review all Mercury NCRs for proper disposition and closure.
2. Take corrective action to rectify all nonconformances identified.

References

1. EBASCO Procedure ASP-III-7, Processing Nonconformances and Audits.
2. EBASCO Quality Assurance Instruction (QAI)#31, Processing of Nonconformance Reports.
3. Mercury Procedure for Handling of Nonconformances and Corrective Action - SP664.
4. Numerous interviews with LP&L, EBASCO, and former Mercury QA Engineers.

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