

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 99900388/80-01

Program No. 51400

Company: Marvin Engineering Co., Inc.
251 West Beach Avenue
Inglewood, California 90302

Inspection Conducted: August 19-21, 1980

Inspectors: I. Barnes 9-26-80
for L. E. Ellershaw, Contractor Inspector Date
Components Section II
Vendor Inspection Branch

I. Barnes 9-26-80
I. Barnes, Chief Date
Components Section II
Vendor Inspection Branch

Approved by: I. Barnes 9-26-80
I. Barnes, Chief Date
Components Section II
Vendor Inspection Branch

Summary

Inspection on August 19-21, 1980 (99900388/80-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B, criteria and applicable codes and standards relative to Marvin Engineering Co., Inc. (MEC) corrective actions for previous inspection findings. The inspection involved 35 inspector-hours on site by two (2) NRC inspectors.

Results: In the one (1) area inspected, the following two (2) deviations from commitment and one (1) unresolved item were identified:

Deviations: Action on Previous Inspection Findings - The failure to tag welding materials as acceptable after approval for use is not in accordance with the MEC corrective action response letter of January 11, 1980 (Notice of Deviation, Item A.1.). Absence of training meeting records for inspectors relative to stop work authority is not in accordance with the MEC corrective action response letters

of January 11, and March 17, 1980 (Notice of Deviation, Item A.2.). Absence of trend reports for 1979 is not in accordance with the MEC corrective action response letter of January 11, 1980 (Notice of Deviation, Item A.3.). Absence of training meeting records relative to use of inspection stamps is not in accordance with the MEC corrective action response letter of March 17, 1980 (Notice of Deviation, Item A.4.). Failure to specify applicable welding procedure specifications on Manufacturing Work Order (MO's) for tack welding operations is not in accordance with the MEC corrective action response letter of January 11, 1980 (Notice of Deviation, Item A.5.). Absence of a release date on four (4) current MO's is not in accordance with the MEC corrective action response letter of January 11, 1980 (Notice of Deviation, Item A.6.). Failure to perform monthly reviews of control of welder stamps is not in accordance with the MEC corrective action response letter of January 11, 1980 (Notice of Deviation, Item A.7.). Changes to procedure revisions on manufacturing orders by unauthorized personnel is not in accordance with Criterion V of 10 CFR 50, Appendix B, and the QA Manual, Item 14 (Notice of Deviation, Item B.).

Unresolved Items: Action on Previous Inspection Findings - Adequacy of MEC welder qualifications for performing sparger elbow assembly to adapter welds (Details, B.5.).

DETAILS SECTION

(Prepared by L. E. Ellershaw and I. Barnes)

A. Persons Contacted

- *M. Gussman, President
- *G. M. Friedman, Executive Vice President
- *R. Barnack, Nuclear Division Manager
- *G. L. Morris, Nuclear QA Manager
- *G. Kaufman, Production Control Manager
- *J. E. Richardson, Chief QC Inspector
- *R. Cowdrey, QC Engineer/Level III NDE Engineer
- *I. Ahmed, Material Control Specialist
- E. Hertel, Manufacturing Supervisor

*Denotes those persons attending the exit meeting.

B. Action on Previous Inspection Findings (I. Barnes)

1. (Closed) Infraction (Notice of Violation, Inspection Report No. 79-01):
Procedures were not adopted by Marvin Engineering Co. (MEC) to provide for the evaluation of deviations as intended under Part 21 or assure that an affected licensee or purchaser is adequately informed.

The inspector verified that a procedure, which would provide for evaluation of deviations as intended under 10 CFR Part 21, had been implemented. The committed letters to suppliers were established to have been sent and it was verified that the applicability of 10 CFR Part 21 had been identified in purchase orders issued during 1980. The inspector verified that the committed inspection on Purchase Order 205-AL709 had been performed, but identified that the required fuel grapple assembly inspection (Purchase Order 282-KF295) had not been completed as committed, owing to the General Electric Company (GE) assuming responsibility for and taking possession of the assemblies. Verification that this activity had been performed will be made at GE.

2. (Closed) Deficiency (Notice of Violation, Inspection Report No. 79-01):
Neither the regulations/procedures nor the permitted substitute notice were posted as required by Section 21.6 of 10 CFR 21.

The inspector verified that the required posting had been performed, 10 CFR 21 training meetings had been held and that a Nuclear QA Manager position had been created and was currently filled.

3. (Closed) Deviation (Notice of Deviation, Item 1, Inspection Report No. 79-01): The Quality Control system contained in the MEC Quality Manuals is not in compliance with Criterion I of Appendix B to 10 CFR 50 relative to QA personnel organizational freedom and independence from cost and schedule.

The inspector verified that the current QA Manual had been revised, with respect to organization and reposting relationships, to reflect the appointment of a Nuclear QA Manager, who reports to the MEC President and to whom QA personnel report and QA program responsibility had been vested.

4. (Closed) Deviation (Notice of Deviation, Item 2, Inspection Report No. 79-01): Welding Procedure Specifications (WPS) ME-WP-2 Revision 0 and 1 and ME-WP-4 Revision 0 were not carried out in accordance with Section IX of the ASME Code, in that they did not either specify or were qualified for a required solution annealing heat treatment.

The inspector verified WPS ME-WP-2A Revision 0 and ME-WP-4A Revision 0 specified and had been qualified for a required solution annealing heat treatment and that current Manufacturing Orders stipulated the use of these WPS. Shop floor review of Manufacturing Orders (MO's) applicable to current sparger fabrication (Quad Cities Unit 1 Serial No. 2 and Millstone rework) confirmed use of MO's was being enforced in accordance with QA program commitments.

5. (Closed) Deviation (Notice of Deviation, Item 3, Inspection Report No. 79-01): Use of unqualified welders by MEC on Job No. 1805. The inspector verified that affidavits had been signed by shop personnel relative to the nature of operations they had performed on Job No. 1805. Review of current fabrication, by comparison of welder identities for specific operations on MO's with welding material issue chits for the operations and current performance qualifications, showed no further instances of incorrect personnel identification being recorded. The unfulfilled commitment made relative to inspection of the fuel grapple assemblies will be resolved as discussed in B.1 above.

During review of this subject, the following unresolved item was identified, pertaining to qualifications of welders used for performance of sparger elbow assembly to adapter welds. Examination of the gas tungsten arc performance qualifications of three (3) welders, who had made sparger elbow assembly to adapter welds on Job No. 2480G, Serial No. 2, Contract No. AM190, MO No. 639, showed they had been qualified in the 6G position with six (6) inch Schedule 120 piping. Two (2) inch schedule 405 elbows were used for the production welds. Table QW-452.3, however, in Section IX of the ASME Code qualifies a welder for no smaller than a 2½ inch nominal pipe size groove weld, when a six (6) inch nominal pipe size sample weld is made.

The current QA Manual requires welders to be certified in accordance with either ASME Code or customer requirements. The applicable GE purchase specification for the sparger was not reviewed during this inspection, to ascertain welder performance qualification requirements. This item is considered unresolved pending determination of applicable customer requirements.

6. (Closed) Deviation (Notice of Deviation, Item 4, Inspection Report No. 79-01): MEC records of welder performance qualification, although certified to be correct, did not permit verification that all qualifications had been carried out in accordance with the test requirements of Section IX of the ASME Code.

The inspector verified that the committed records amendment and personnel requalifications had been accomplished and that performance qualification radiographic film and reader sheets were now being independently reviewed by the MEC Level II radiographer.

7. (Closed) Deviation (Notice of Deviation, Item 5, Inspection Report No. 79-01): Use of welder daily chit forms not in accordance with Quality Manual requirements for the purpose of weld material control.

The inspector verified by review of welder daily chit forms applicable to current fabrication, that forms were being filled out both accurately and in their entirety, to provide for traceability and control of welding materials.

8. (Closed) Deviation (Notice of Deviation, Item 6, Inspection Report No. 79-01): Observation of ER 308L wire in production application for which the acceptability had not been determined by MEC.

Survey by the inspector of welding materials in current nuclear fabrication use showed no further instance of acceptability not having been determined by MEC. A deviation from corrective action commitment was identified during this review, which is documented as Item A.1. in the Notice of Deviation. It should be noted that welding materials in use were marked with a MEC Lot Number on the containers. This practice is permitted by paragraph 7.1 in Item 13 of the Quality Assurance Manual, which states, "All acceptable material conforming to the Purchase Order and an applicable drawing copy will then be marked with the Lot Number or tagged and acceptance stamped by the Receiving Inspector."

Certain inconsistencies were also noted between the MEC response letters and actual records of training meetings. The MEC corrective action response letter of March 17, 1980, stated with respect to Item 6

in the Inspection Report No. 79-01, Notice of Deviation, that dates, time and personnel attending meetings were logged by the program manager and each of the participants signed the attendance log. Review of the program manager's log did not show, however, evidence that all of the personnel identified by the MEC January 11, 1980, corrective action response letter as attending a meeting, were, in fact, present. The inspector was able to confirm by review of other MEC training logs, that the missing personnel had received training on this subject.

9. (Closed) Deviation (Notice of Deviation, Item 7, Inspection Report No. 79-01): Failure to monitor welding areas for nonconformances to welding procedures and stop welding immediately when found to be non-conforming.

Observation of available welding operations showed personnel were complying with welding procedure specification parameter requirements and were equipped with tempilsticks for verification of inter-pass temperature.

It was additionally established that present MO's specified use of current WPS revisions. During inspection of this subject a deviation from corrective action commitment was identified relative to performance of training actions, which is documented as Item A.2. in the Notice of Deviation.

10. (Closed) Deviation (Notice of Deviation, Item 8, Inspection Report No. 79-01): No review reports made available to confirm that the committed trend analysis of the welding program was being maintained.

The inspector verified that a review report representing a trend analysis had been issued to the president in 1980, consistent with a committed semi-annual basis. It was determined, however, that the scope and criteria used for analyzing quality trends had not been formally determined. During review of this item a deviation from corrective action commitment was identified, which is documented as Item A.3. in the Notice of Deviation.

11. (Closed) Deviation (Notice of Deviation, Item 9, Inspection Report No. 79-01): Use by the Chief Inspector of an inspection stamp assigned to another individual.

The inspector verified that issue of stamps was now under the control of the Chief Inspector.

A review was also performed of current Manufacturing Orders for comparison of stamp identity of manufacturing and inspection personnel with the identity contained in inspection and welding material issue

records. No instance of improper use of stamps was observed during this review.

The MEC corrective action response letter of March 17, 1980, stated that all inspection personnel had been cautioned on the use of inspection stamps and that a meeting had been held with all present signing the attendance log. The only meeting records supplied to the inspector pertained to the specific inspection personnel referenced in the deviation, with no records made available to demonstrate all inspection personnel had been cautioned relative to the use of inspection stamps. See Notice of Deviation, Item A.4.

12. (Closed) Deviation (Notice of Deviation, Item 10, Inspection Report No. 79-01): Performance of work on fuel grapple assemblies without being authorized by a manufacturing order.

The inspector verified by review of current MO's that signoff was being made by the Chief Inspector prior to release to the shop and that MO's were being issued for each assembly on a contract.

13. (Closed) Deviation (Notice of Deviation, Item 11, Inspection Report No. 79-01): Final inspection not performed on Job No. 1805 with respect to compliance with Quality Assurance procedures and inprocess inspection instructions.

The inspector established by comparison of visual status of current fabrication relative to documented MO status, that operation signoffs were being performed in accordance with commitments. Review of a recently completed MO for a sparger assembly, which had been accepted by MEC, showed no evidence of missing signoffs or incomplete operations. The unfulfilled commitments made relative to inspection of the fuel grapple assemblies will be resolved as discussed in B.1. above.

14. (Closed) Deviation (Notice of Deviation, Item 12, Inspection Report No. 79-01): Performance of liquid penetrant examinations on Job No. 1805 could not be verified for Fuel Grapple Serial No. 6-612-989 and were not accomplished for the remainder at all points specified on MO's.

The inspector verified that liquid penetrant examinations of current fabrication were being made at designated operation numbers, with sign-off on the MO's when complete. The unfulfilled commitment made relative to re-inspection of the fuel grapple assemblies will be resolved as discussed in B.1. above.

15. (Closed) Deviation (Notice of Deviation, Item 13, Inspection Report No. 79-01): Certain of the method technique data sheets applicable to the liquid penetrant examination of Job No. 1805 showed the use of water washable penetrant materials, for which no Manufacturer's Certification was on file.

The inspector verified that the applicable test reports had been corrected to reflect use of solvent removable penetrant materials. The unfulfilled commitment made relative to re-inspection of the fuel grapple assemblies will be resolved as discussed in B.1. above.

16. (Open) Unresolved Item (Details, paragraph D.3.b., Inspection Report No. 79-01): Absence of purchase order for ER308L weld wire observed in nuclear production use.

MEC provided a copy of a purchase order to Sims Welding Supply to the inspector for the supply of the type and size of welding wire observed in production use. Absence of any receiving records precluded verification, that the purchase order was applicable to the wire observed in use. This item will remain unresolved pending verification of the applicability of the purchase order.

C. Action on Previous Inspection Findings (L. E. Ellershaw)

1. (Closed) Deviation (Notice of Deviation, Item 14, Inspection Report No. 79-01): Failure to include required liquid penetrant inspection operations in two (2) MO's.

The inspection verified, by review of five (5) recent MO's, that committed preventive measures with respect to assuring inclusion of all required NDE operations in MO's had been implemented. The unfulfilled corrective action commitment made relative to reinspection of the fuel grapple assemblies will be resolved as discussed in B.1 above.

2. (Closed) Deviation (Notice of Deviation, Item 15, Inspection Report No. 79-01): Procedures and/or revisions for welding and NDE operations were not defined on numerous MO's.

The inspector verified that committed corrective actions with respect to review and correction of specific MO's had been accomplished. During inspection of this Item, a further deviation and a deviation from corrective action commitment were identified, which are documented respectively, as Item B and Item A.5. in the Notice of Deviation.

3. (Closed) Deviation (Notice of Deviation, Item 16, Inspection Report No. 79-01): Incorrect specification on an MO of a stainless steel welding procedure for an application involving welding of carbon steel and signoff of the operations by both welder and inspector as having been accomplished in accordance with the incorrect welding procedure.

The inspector verified that the MO had been corrected to reflect use of a carbon steel welding procedure and that employee affidavits were on file supporting the correction. Review of five (5) current MO's

for use of correct approved welding procedures indicated that committed preventive measures had been implemented. The unfulfilled commitment made relative to re-inspection of the fuel grapple assemblies will be resolved as discussed in E.1. above.

4. (Closed) Deviation (Notice of Deviation, Item 17, Inspection Report No. 79-01): Work performed by manufacturing on Job No. 1805 without being authorized by an MO.

The inspector verified that the release dates on the specific MO's had been corrected and ascertained that the amended dates had been termed preliminary release dates. A deviation from corrective action commitment was identified during review of this item, which is documented as Item A.6. in the Notice of Deviation.

5. (Closed) Deviation (Notice of Deviation, Item 18, Inspection Report No. 79-01): Failure of inspection personnel to stamp and date after inspection operations or assure signoff and dating by manufacturing personnel of completed operations.

The inspector verified that the MO's for Job Nos. 1349 and 2480A had been corrected as committed. Review of five (5) current MO's indicated with respect to signoff of completed inspection and manufacturing operations. The unfulfilled commitment made relative to re-inspection of the fuel grapple assemblies will be resolved as discussed in B.1. above.

6. (Closed) Deviation (Notice of Deviation, Item 19, Inspection Report No. 79-01): Inadequate documentation to provide objective evidence that all manufacturing, inspection, examination and test operations had been performed for Job No. 1805.

The inspector verified that committed preventive measures appeared to have been effectively implemented, in that review of current MO's revealed that all completed operations had been signed and dated and supporting examination/test reports prepared. The unfulfilled commitment made with respect to re-inspection of the fuel grapple assemblies will be resolved as discussed in B.1. above.

7. (Closed) Deviation (Notice of Deviation, Item 20, Inspection Report No. 79-01): Failure to develop and submit a visual inspection procedure to the customer for Job No. 2480A.

The inspector verified that a visual inspection procedure, ME-VI-027, Revision 1, had been developed and approved by the customer on November 17, 1979.

8. (Closed) Deviation (Notice of Deviation, Item 21, Inspection Report No. 79-01): Absence from the welding area of applicable welding procedure for in-process welding being performed on Job No. 2480A.

The inspector verified that corrective actions had been implemented with respect to assuring required procedures were being maintained in procedure books in the work area.

9. (Closed) Deviation (Notice of Deviation, Item 22, Inspection Report No. 79-01): Failure to issue welder identification stamps precluding positive identification of a welder used for certain completed welding operations.

The inspector verified that stamps had been issued to qualified welders as committed and that welders were using the stamps on completion of welding operations. A deviation from corrective action commitment was identified during review of this item, which is documented as Item A.7. in the Notice of Deviation.

10. (Closed) Deviation (Notice of Deviation, Item 23, Inspection Report No. 79-01): Failure to document performance of liquid penetrant examination of root passes on Job No. 2480A.

The inspector verified that specific MO's had been corrected relative to documentation of liquid penetrant examinations. Review of current MO's and applicable drawings confirmed that drawing requirements had been properly translated to the MO's.

11. (Closed) Deviation (Notice of Deviation, Item 24, Inspection Report No. 79-01): Lack of evidence of customer verification or waiver of verification for certain customer designated inspection operations on the MO's.

The inspector verified that corrected corrective actions had been implemented with customer signoff on MO's.

12. (Closed) Deviation (Notice of Deviation, Item 25, Inspection Report No. 79-01): Certificates of Conformance (C of C) for Job No. 1805 signed off by the Chief Inspector rather than by the Nuclear Program Manager, as required by the QA Manual.

The inspector verified that the specific C of C's had been revised to include the Nuclear Program Manager's signature. Review of additional C of C's showed all had been properly signed off.

13. (Closed) Deviation (Notice of Deviation, Item 26, Inspection Report No. 79-01): Loss of identity of elbow assemblies on a feedwater sparger and failure to record identity on the MO.

The inspector verified committed corrective actions had been implemented with respect to maintenance of material identity and documentation of identity on MO's.

14. (Closed) Deviation (Notice of Deviation, Item 27, Inspection Report NO. 79-01): Failure to record material identification on the back of MO's for material drawn from stores for Job Nos. 1805, 1349, and 2480A.

The inspector verified that necessary corrections of MO's had been performed for Job No. 1349 and 2480A and that material identification records for current fabrication were consistent with corrective action and QA program commitments. Resolution of this deviation as regards Job. No. 1805 (Fuel Grapple Assemblies) will be followed up at GE.

15. (Closed) Unresolved Item (Details Section, E.3.c.(1) Inspection Report No. 79-01): Incorrect and absence of signoff dates on MO's for complete operations.

The inspector verified by review of MO's for current fabrication that completion dates for operations were being recorded and that they reflected a correct chronological sequence of events.

16. (Closed) Unresolved Item (Details Section, E.3.c.(2), Inspection Report No. 79-01): Operation completion dates on MO's showing accomplishment prior to preceding operations and consistent incorrect spelling of welders' names in signoff of welding operations.

Review by the inspector showed correction of the specific MO's and use of identification stamps by welders on completion of welding operations in current MO's.

D. Exit Meeting

An exit meeting was held on August 21, 1980, with the management representatives denoted in paragraph A. above. The inspectors summarized the scope and findings of the inspection, with particular emphasis placed on the need for full compliance with corrective action commitments. Management acknowledged the statements of the inspectors with respect to the findings as presented to them and affirmed the commitment of MEC to the quality assurance program.