

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

Report No. 99900061/80-01

Program No. 51300

Company: Velan Engineering Ltd.
2125 Ward Ave.
Montreal, Quebec H4M-IT6
Canada

Inspection Conducted: June 5-6, 1980

Inspector:

Wm. D. Kelley
Wm. D. Kelley, Contractor/Inspector
Components Section I
Vendor Inspection Branch

7/7/80
Date

Approved by:

D. E. Whitesell
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Components Section I
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07/1/80
Date

Summary

Inspection on June 5-6, 1980 (99900061/80-01)

Areas Inspected: Implementation of 10 CFR 50, Appendix B and applicable codes and standards including, design and document control - design input, and procurement document control. Also performed a follow-up on reported deficiency of sheared pin on valve disc, a review of vendor's activities, and conducted an exit interview. The inspection involved nine (9) inspector-hour on site by one (1) NRC inspector.

Results: In the four (4) areas inspected, no deviations or unresolved items were identified.

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Details SectionA. Persons ContactedVelan Engineering Ltd (VEL)

J. M. Farrell - Corporate Manager of Engineering
 A. McKay - Purchasing Supervisors - Plant #2
 Z. Palko - QA Administrator
 *P. O. Velan - Plant Manager

*Denotes those persons who attended the Exit Interview (See paragraph E).

B. General Review of Vendor's Activities

1. The ASME resurveyed VEL on April 21 and 22, 1980, and reissued the following Certificates of Authorization:

<u>Certification No.</u>	<u>Symbol</u>	<u>Product</u>
N-1738	N	Class 1, 2, & 3 Valves
N-1739	NPT	Class 1, 2, & 3 Valve parts and Appurtenances.

These certificates expire on May 3, 1983.

2. There has been no change in the status of the authorized inspection agency or the authorized nuclear inspector as reported in NRC, IE, RIV Report 99900061/79-01.

C. Design and Document Control - Design Input1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Procedures had been prepared and approved by the vendor to prescribe a system for the control of the design inputs which are consistent with NRC rules and regulations and commitments in the ASME accepted Quality Assurance Manual.

- b. The design input procedures are properly and effectively implemented.

2. Method of Accomplishment

The objectives of this area of the inspection were accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual, Revision 9, procedure VEL-EP-109 "Design Control" to verify the vendor had established procedures to prescribe a system for control of design input.
- b. Review Lesson Plan LP-1 to verify that it had been prepared by the designated authority, approved by management, and reviewed by QA.
- c. Review VEL Specification Review and Status. Velan Order P2/P4 5501 (Customer Design Specification No. 228.212) to verify it had been properly and effectively implemented, the design input is correct and had been verified and documented.
- d. Interviews with personnel to verify that they are knowledgeable in the procedures applicable to design input.

3. Findings

- a. The inspector verified that:
 - (1) Procedures had been prepared and approved by the vendor to prescribe a system for the control of the design inputs which are consistent with NRC rules and regulations and the vendor's commitments in the ASME accepted Quality Assurance Manual.
 - (2) The design input procedures are properly and effectively implemented.
- b. The Corporate Offices, Velan Engineering Ltd., Montreal, Quebec, Canada, performs all engineering and design functions for the Velan Valve Corporate, Williston, Vermont, under the jurisdiction of the Corporate Manager of Engineering, with the exception of the control of engineering documents at the Williston plant.
- c. Within this area of the inspection, no deviations or unresolved were identified.

D. Procurement Document Control

1. Objectives

The objectives of this area of the inspection were to verify that:

- a. Procedures had been prepared and approved by the vendor that prescribes a system for procurement document control which is consistent with NRC rules and regulations, and the vendor's commitments in the ASME accepted Quality Assurance Program.
- b. The procurement document control procedures are properly and effectively implemented by the vendor.

2. Method of Accomplishment

The objective of this area of the inspection was accomplished by:

- a. Review of the ASME accepted Quality Assurance Manual 9, procedure VEL-QC-506A "Procurement Controls and Receiving Inspection Materials, Parts and Services" to verify that the vendor has established procedures that prescribed a system for procurement document control.
- b. Review of the procedures referenced in paragraph a. to verify they have been prepared by the designated authority, approved by responsible management and reviewed by QA.
- c. Reviewed VEL purchase order C-10755 to verify that the scope of work to be performed is identified, the technical requirements are specified, test and inspection criteria is identified, special instructions and requirements identified, suppliers are required to have a documented QA program, and procurement documents are reviewed prior to release for bid and/or contract award.
- d. Review of the following documents:
 - (1) Procurement documents,
 - (2) Purchase requisitions,
 - (3) Purchase orders, and
 - (4) Technical documents;

to verify that procurement procedures are being properly and effectively implemented and the interface control of procurement documents is effectively and properly performed in accordance with procedures. Also that the distribution list for procurement documents, have been established and are current.

- e. Interviews with personnel to verify they are knowledgeable in the procedures applicable to procurement document control.

3. Findings

- a. The inspector verified that:

- (1) Procedures have been prepared, and approved, which prescribes a system for procurement document control, which is consistent with NRC rules and regulations, ASME Code, and the vendor's commitments.
- (2) The procurement document control procedures are being properly and effectively implemented by the vendor.

- b. VEL purchases all large body forgings for the Montreal plant and the Velan Valve Corp., Williston, Vermont, plant on the same purchase orders. The inspector reviewed VEL purchase order C-10755, which was a blanket order for body forgings, and a telex dated March 30, 1980, which directed the vendor to ship eight of the 16 inch body forgings to the Williston, Vermont, plant.

The inspector reviewed the documentation certifying that the forgings met the "service temperature" specified in the customer's design specification.

- c. Within this area of the inspection no deviations or unresolved items were identified.

E. Follow-up of Reported Deficiency of Sheared Pin on Valve Disc

1. Background Information

NRC, RII, received a Reportable Occurrence Report BFRO-50-259/7837, from the Tennessee Valley Authority dated December 29, 1978 reporting that during a valve maintenance inspection, a 10 inch, 150 pound, carbon steel, swing check valve (1-71-580) was found in the open position due to the pin shearing from the valve disc. The report referenced a previous occurrence as being 50-260/786, however, the report states that this was the first failure of its nature, and was considered by TVA to be random in nature.

On October 18, 1979, an inspection was conducted at Velan Engineering Ltd. The purpose of the inspection included the development of additional information concerning reported failure of the sheared disc pin. The results of this inspection are described in Report Number 99900061/79-02, Item C,2.

The vendor's evaluation concerning the possible cause of the failure was not available at the time of the inspection.

2. Objective

The objective of this area of the inspection was to review the vendor's evaluation of the cause, and corrective action proposed or taken by the vendor.

3. Method of Accomplishment

The objective of the inspection was accomplished by review of the following documents.

- a. TVA's letter to Velan Valve Corp. Plattsburgh, New York dated December 5, 1979 subject "Browns Ferry Nuclear Plant, 10 inch Cast Carbon Steel Swing Check Valve, Contract 66C60-90744, NIM-1."; notifying VEL that Browns Ferry personnel had found sheared disc pins in several 10 inch swing check valves, and requesting certain information concerning the casting, machining and weights of the valves in question.
- b. VEL's Memo, John Farrell to A. K. Velan, dated December 12, 1979, Subject "Disc Pin Failure - TVA."; informing the President of VEL, of TVA's findings and requests for certain information.
- c. VEL's letter to TVA dated December 14, 1979; Subject "10 inch Cast Carbon Steel Swing Check-Valve Drawing P-33160-25."; in response to TVA's letter of December 5, 1979, and transmitting the information requested by TVA, and in return requesting certain information from TVA, including a request for pieces of the failed parts for metallurgical examination.
- d. VEL's letter to TVA dated February 15, 1980 Subject " 10 inch Cast Carbon Steel Swing Check-Velan Drawing P-33160-25."; informing TVA that they had received no response to their letter of December 15, 1979, and requesting TVA's cooperation in obtaining the information and pieces of the failed parts requested.

4. Findings

- a. There appears to be certain inconsistencies in TVA's report to NRC RII, dated December 29, 1978, and its letter to VEL, dated December 5, 1979. In TVA's report to NRC they state that the sheared disc pin is the first failure of its kind, and is considered to be random in nature. However, a year later, in its letter to VEL, dated December 5, 1979; TVA states that its Brown Ferry personnel have identified several 10 inch swing check valves with sheared disc pins, which if accurate implies that generic possibilities exist, and may require the Vendor to report the failures in compliance with 10 CFR 21.
- b. The vendor has requested additional information from TVA to assist in his determination of the cause of the failure, and corrective action. This information had not been received at the time of this inspection.
- c. The vendor's evaluation of the cause and corrective action will be carried as a follow-up item to be confirmed during a subsequent inspection.

E. Exit Interview

At the conclusion of the inspection on June 6, 1980 the inspector met the company's management, identified in paragraph A, for the purpose of informing them as to the results of the inspection. During this meeting management was informed no deviations or unresolved items were identified.

The company's management acknowledged the inspector's statement and had no additional comments.