UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

March 30, 1979

IE Bulletin No. 79-04

INCORRECT WEIGHTS FOR SWING CHECK VALVES MANUFACTURED BY VELAN ENGINEERING CORPORATION

Description of Circumstances:

North Anna No. 1, Beaver Valley No. 1 and Salem No. 1 have reported to the NRC that they had been provided incorrect weights for the six inch swing check valves provided by Velan Engineering Corporation. The six inch valve weight provided on the drawing was 225 pounds, whereas the actual weight has been determined to be 450 pounds. In addition to the 6 inch valves, drawings for 3 inch valves have specified 60 pounds weight while the measured weight by the manufacturer was 85 pounds and drawings for 4 inch valves have specified 100 pounds weight while the measured weight was 135 pounds. The manufacturer presently estimates the following maximum weights for swing check valves.

Nominal Valve Size	Maximum Weight (lbs) for High Pressure (1500 psi)	
	Up to 1973	After 1973
3 inches	85	100
4 inches	135	150
6 inches	450	525
8 inches	750	1200
10 inches	1200	1200

The NRC staff has indications that in some cases, incorrect valve weights derived from engineering drawings were used in piping stress analyses. The staff is not aware of a significant difference in the actual weight and the weight provided on drawings for the 8 and 10 inch valves.

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It is recognized that there is a significant number of Velan swing check valves used in nuclear systems and it is possible that other stress analyses have been performed with incorrect valve weights.

Action To Be Taken By Licensees and Permit Holders:

1. List all Seismic Category I piping systems (or portions thereof) where 3, 4, or 6 inch diameter Velan swing check valves are installed or are scheduled to be installed.

2. Verify for all those systems identified in item 1 above that correct check valve weights were used in the piping analysis. Explain how and when the correct valve weights were determined.

3. If incorrect valve weights were used, explain what actions have been taken or are planned to re-evaluate the piping systems affected.

4. Specify for all the affected systems identified in Item 1 whether modifications were or are required to the piping systems or their supports because of changes in valve weight. Also, include the basis for this determination. For those systems in which the actual valve weight is greater than the design weight provide a summary of stresses and loads and their allowable limits for the piping and its supports.

5. Identify the analytical technique including identification of any computer codes used to determine the stresses indicated in Item 4.

6. All holders of operating licenses for power reactor facilities are requested to complete Items 1 through 5 as promptly as possible, but no later than May 1, 1979. Report in writing by May 1, 1979, to the Director of the appropriate NRC Regional Office to describe your evaluation, any discrepancies in meeting Items 1 through 5, and, if necessary, your plans and schedule for resolution. For planned action, a final report is to be submitted upon completion of your action.

A copy of your report(s) should be sent to the United States Nuclear Regulatory Commission, Office of Inspection and Enforcement, Division of Reactor Operations Inspection, Washington, D.C. 20555. These reporting requirements do not preclude nor substitute for the applicable requirements to report as set forth in the regulations and license.

7. All holders of construction permits for power reactor facilities are requested to describe your actions to assure that Items 1 through 5 will be satisfied before plant startup. Documentation of these actions is to be maintained on site and available for NRC inspection. Report in writing within (60) days of date of Bulletin issuance, to the Director of the appropriate NRC Regional Office, completion of your review and describe any discrepancies in meeting Items 1 through 5 and, if necessary, your plans and schedule for resolution. A copy of your report should be sent to the United States Nuclear Regulatory Commission, Office of Inspection and Enforcement, Division of Reactor Construction Inspection, Washington, D.C. 20555.

Approved by GAO B180225 (R0072); clearance expires 7/31/80. Approval was given under a blanket clearance specifically for identified generic problems.

Enclosure:
List of IE Bulletins
Issued in Last
Twelve Months

LISTING OF IE BULLETINS
ISSUED IN LAST TWELVE MONTHS

Bulletin No.	Subject	Date Issued	Issued To
78-05	Malfunctioning of Circuit Breaker Auxiliary Contact Mechanism-General Model CR105X	4/14/78	All Power Reactor Facilities with an OL or CP
78-06	Defective Cutler-Hammer, Type M Relays With DC Coils	5/31/78	All Power Reactor Facilities with an OL or CP
78-07	Protection afforded by Air-Line Respirators and Supplied-Air Hoods	6/12/78	All Power Reactor Facilities with an OL, all class E and F Research Reactors with an OL, all Fuel Cycle Facilities with an OL, and all Priority 1 Material Licensees
78-08	Radiation Levels from Fuel Element Transfer Tubes	6/12/78	All Power and Research Reactor Facilities with a Fuel Element transfer tube and an OL.
78-09	BWR Drywell Leakage Paths Associated with Inadequate Drywell Closures	6/14/79	All BWR Power Reactor Facilities with an OL or CP
78-10	Bergen-Paterson Hydraulic Shock Suppressor Accumulator Spring Coils	6/27/78	All BWR Power Reactor Facilities with an OL or CP

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Bulletin No.	Subject	Date Issued	Issued To
78-11	Examination of Mark I Containment Torus Welds	7/21/78	BWR Power Reactor Facilities for action: Peach Bottom 2 and 3, Quad Cities 1 and 2, Hatch 1, Monticello and Vermont Yankee
78-12	Atypical Weld Material in Reactor Pressure Vessel Welds	9/29/78	All Power Reactor Facilities with an OL or CP
78-12A	Atypical Weld Material in Reactor Pressure Vessel Welds	11/24/78	All Power Reactor Facilities with an OL or CP
78-12B	Atypical Weld Material in Reactor Pressure Vessel Welds	3/19/79	All Power Reactor Facilities with an OL or CP
78-13	Failures In Source Heads of Kay-Ray, Inc., Gauges Models 7050, 7050B, 7051, 7051B, 7060, 7060B, 7061 and 7061B	10/27/78	All general and specific licensees with the subject Kay-Ray, Inc. gauges
78-14	Deterioration of Buna-N Components In ASCO Solenoids	12/19/78	All GE BWR facilities with an OL or CP
79-01	Environmental Qualification of Class IE Equipment	2/8/79	All Power Reactor Facilities with an OL or CP

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ISSUED IN LAST TWELVE MONTHS

Bulletin No.	Subject	Date Issued	Issued To
79-02	Pipe Support Base Plate Designs Using Concrete Expansion Anchor Bolts	3/2/79	All Power Reactor Facilities with an OL or CP
79-03	Longitudinal Weld Defects In ASME SA-312 Type 304 Stainless Steel Pipe Spools Manufactured by Youngstown Welding and Engineering, Co.	3/12/79	All Power Reactor Facilities with an OL or CP