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April 26, 1979

Nuclear Regulatory Commission
Attention: Mr. R. H. Engelken, Director
Region V Office of Inspection
and Enforcement

1990 North California Boulevard
Walnut Creek Plaza, Suite 202
Walnut Creek, California 94596



Docket No. 50-312
Rancho Seco Nuclear Generating
Station, Unit No. 1

Dear Mr. Engelken:

The Sacramento Municipal Utility District has reviewed IE Bulletin No. 79-04, dated March 30, 1979. This Bulletin requests certain information regarding the analytical weights for swing check valves manufactured by Velan Engineering Corporation. In response to this Bulletin, a report is attached which shows that a re-evaluation was required for only two valves. This evaluation shows that modifications are not required to the piping systems or their supports because of changes in valve weights. We, therefore, consider no further action to be required as a result of this Bulletin.

Sincerely yours,

Wm. C. Walbridge
General Manager

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RANCHO SECO NUCLEAR GENERATING
STATION, UNIT 1

JOB NO. 12334

TASK NO.

EVALUATION OF ANALYTICAL WEIGHTS
FOR VALVES MANUFACTURED BY
VELAN ENGINEERING CORPORATION

IN RESPONSE TO
NRC IE BULLETIN NO. 79-04

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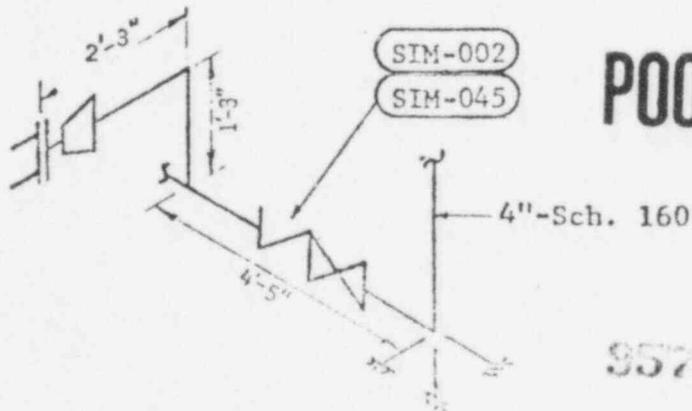
By: D. J. Freeland
April 18, 1979

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The following is presented in response to the United States Nuclear Regulatory Commission Office of Inspection and Enforcement IE Bulletin No. 79-04, dated March 30, 1979, "Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation."

- 1.0 The Seismic Category I piping systems of Rancho Seco Nuclear Generating Station, Unit 1, which incorporate 3, 4, or 6 inch diameter Velan swing check valves are listed in Table 1.
- 2.0 The valve weights used for the piping system dead weight and seismic analyses, the valve weights supplied by Velan, and the valve weights specified in NRC Bulletin No. 79-04 are listed in Table 2. The Analytical values are estimates based on catalogue data or vendor supplied information. It should be noted that the IE Bulletin values are for 1500 psi valves.
- 3.0 Comparison of analytical valve weights with specified weights shows that reevaluation is only required for the analysis including valves SIM-002 and SIM-045.

Both valves are installed in a configuration like that shown below.



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In the vicinity of the valves, the maximum weight stress calculated by Bechtel program ME-553 is 1525 psi, the maximum seismic stress for the rigid configuration calculated by EDS Nuclear program PISOLSF is 26 psi, and the longitudinal pressure stress (4 inch sch 160 pipe at 3050 psi) is 6462 psi. The addition to the piping system of 13 lb. for weight, and 90 lb. for seismic will not significantly add to the overall stresses when compared to the allowable value of $1.2S_h = 21,360$ psi (SA376 TP304 at 200F).

The adjacent pipe restraints 3U-23822-1 and 3U-23620-2 are designed for a maximum downward force of 2300 lb. and insignificant horizontal seismic loads (less than 10 lb.). The use of a 3 inch diameter dummy stub with $2\frac{1}{2} \times 2\frac{1}{2}$ inch shear plates is more than adequate to accommodate the added loads.

Thus, modifications are not required to the piping systems or their supports because of changes in valve weights.

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TABLE 1. Velan 3, 4, and 6 Inch Diameter Seismic Category I Swing Check Valves
Rancho Seco Nuclear Generating Station, Unit 1

Valve No.	Size (in.)	Class (psi)	Line No.	Service
FWS-047	6.0	900	31823-6"-DB	Aux Feed Pump to Steam Generator
FWS-048	6.0	900	31920-6"-DB	Aux Feed Pump to Steam Generator
FWS-061	6.0	900	31820-6"-DB	Aux Feed Pump to Steam Generator
FWS-062	6.0	900	31821-6"-DB	Aux Feed Pump to Steam Generator
MSS-051	6.0	900	30804-6"-DB2	Steam Generator to Aux Feed Pump Turbine
MSS-052	6.0	900	30802-6"-DB2	Steam Generator to Aux Feed Pump Turbine
SIM-002	4.0	1500	23620-4"-CA	Make-up Pump Discharge to RPV
SIM-045	4.0	1500	23822-4"-CA	H.P. Injection Pump Discharge to RPV
SIM-058	4.0	1500	23820-4"-CA	H.P. Injection Pump Discharge to RPV
FWS-057	6.0	900	---	Spare
FWS-060	6.0	900	---	Spare
MSS-001	3.0	600	---	Spare
MSS-002	3.0	600	---	Spare

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TABLE 2. Velan Swing Check Valve Weights
 Rancho Seco Nuclear Generating Station, Unit 1

Valve No.	Piping Analysis		Velan Engineering		IE 79-04 Weight (lb.)	Reevaluation Required
	Prob. No.	Weight (lb.)	Drawing No. (2/72)	Weight (lb.)		
FWS-047	76	1630	P2-0309-N-13	580	450	No
FWS-048	76	1630	P2-0309-N-13	580	450	No
FWS-061	80A	800	P-35150-24	445	450	No
FWS-062	92	670	P-35150-24	445	450	No
MSS-051	79	445	P-35150-24	445	450	No
MSS-052	79	445	P-35150-24	445	450	No
SIM-002	8	133/60*	P-35150-17	150	135	Yes
SIM-045	8	133/60*	P-35150-17	150	135	Yes
SIM-058	83	175	P-35150-17	150	135	No
FWS-057	--	--	P-35150-24	445	450	--
FWS-060	--	--	P-35150-24	445	450	--
MSS-001	--	--	P2-0309-N-14	90	85	--
MSS-002	--	--	P2-0309-N-14	90	85	--

* Dead Weight Analysis/Seismic Analysis

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