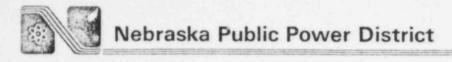
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GENERAL OFFICE P. O. BOX 499, COLUMBUS, NEBRASKA 6860 TELEPHONE (402) 564-8561

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May 1, 1979

Mr. Karl V. Seyfrit, Director U.S. Nuclear Regulatory Commission Office of Inspection and Enforcement Region IV 611 Ryan Plaza Suite 1000 Arlington, Texas 76011

Subject: Response to IE Bulletin 79-04 Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation

Dear Mr. Seyfrit:

In response to IE Bulletin 79-04 "Incorrect Weights for Swing Check Valves Manufactured by Velan Engineering Corporation" the following information is provided for your review. Only one piping system in Seismic Category Class I (RHR Service Water Booster Pumps, Injection Water System, ISO 2852-62) is affected by the possible weight discrepancies involving the subject check valves.

Action Item #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.

Response:

RHR Service Water Booster Pumps, Injection Water System, ISO 2852-62 (Partial).

Action Item #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.

Response:

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Load calculations for this ISO are not in our files. We generated new calculations following B&R's procedure for similar existing piping systems using the correct weights for Velan swing check valves listed in IE Bulletin No. 79-04.

, Mr. Karl V. Seyfrit May 1, 1979 Page 2

> Basic load summaries were performed using the weights of all components of the piping system (pipes, insulation, fluid carried, flanges, fittings, valves, etc.) and then determining what proportion of the load would be carried by each hanger in the system. This is normally accomplished by distributing one-half of each line segment's weight to each hanger supporting that segment. In the attached calculations, concentrated loads were applied to the hangers in such a way that the total load to the hangers is actually greater than the load to be supported.

The minimum safety factor used was determined originally when the allowable load (Column C) for each hanger was calculated by the original designer. The allowable load (Column C) was less than the actual capacity by a factor which is equal to the minimum safety factor. The actual hanger load (Column B), as revised and as shown, still being less than the allowable load (Column C), maintains the minimum safety factor. (See Response, Item 4.)

Action Item #3

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

Response:

New calculations were generated using correct swing check valve weights. (See Attachment "A").

Action Item #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.

Response:

No modifications are required for the piping system and for the involved pipe hangers listed:

Column A Hanger No.	Column B Actual Hanger Load	Column C Hanger Allowable Load (including original safety factor)
H294	257#	1130#
H295	272#	1130#
H259	774#	4384#
H278	774#	4384#
		2231 343

Mr. Karl V. Seyfrit May 1, 1979 Page 3

Action Item #5

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

Response:

Manual calculations similar to the method B&R used on piping systems of this type at CNS.

If you should have any questions or comments, please do not hesitate to contact me.

Sincerely,

And E. Welliam

Jay M. Pilant Director of Licensing and Quality Assurance

/cmk

2231 344

Attachment

DESIGN CALCULATIONS SHEET

Sheet ____ of _____ NPPD JOD NO. EWR AJOS Prepared by THOEMON Date 9-27-Checked by K. BARNES Date 4-27-Subject below One & Unlow with incorrect weights The two upcues which may have incorrect weights used in the original support acculations are supported by hangers manber 12 294 HZas 4259 000 HZ18. The original calculations performed used simple tobulation of the piping locks to determine the locks at the hangers. This reproalysis will also be done per that method. The lands determined will be compared to the design allowables listed ors the individual Brager Sketches, IC the new lorde Fire loss there the plowebbes is further Fishlys's will be webting modicing Banger #Hzqq (shown on 200 2853 - 65 no 3 and 2852-66 no 2) The load is all due to a" Pipe which wrights 16 16/Ft. Ursque = 15"+4'1"+0'6"+4'6"=112" = 11.17" Lond = 11.17 × 10 = 179 the value is prost totally supported by hanger H259 but for consurversion apply 5000 of it's bad to this hand tord = 179+ 155 = 250.5 = the Existing harager is a 4" Figure 360 Grinnell Hanager which has no allowable of 1130th : hanger to 294 is of 2231 345 POOR ORIGINAL

DESIGN CALCULATIONS SHEET

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. NPPD	Sheet Z of 3
Job No. EWR A 108	Prepared by T Hormon Date 4-27-
Subject Urlan Chick Uplues	Checked by <u>L. K. BARNES</u> Date <u>4-27-7</u> REB
Honger H 295 (Shownon) I This Again is due to Length = 1'S"+ q'7"+0'6" Longth = 13.12 ×16 = 10	+5'72"=12'12"= 12.12
LOAD = 194 +77.5 = The hanger is A 4" Figure has A capacity of 1130	
: hanger is a	
therefore equivalist in & Both lines are somewhy result more load than to bythe human will be AD	ould be exouded to be surrowed
4" d Pipe-lingth = [0' ".	+6'8" +1'4"]rz=8'6"xz=17'
4" Uplues = two @ 155# wf = 2x155 = 3" Uplues - Ninic @ 72#	<u>310[±]</u> 2231 346
POOR ORIGINAL	- @ 14then

DESIGN CALCULATIONS SHEET

NPPD Sheet 3 of Prepared by THOEMON Date 4-27 JOD NO. EW& JOB Checked by L. K. BARNES Date 4-27-Subject Velan Check Unlus 1KB with incorrect weights the total w = 272+122+310+648+196 = 15 48 == then for wet for hanger = 1598 = 779 # The existing hanger is a 3' Pipe (standbion Type with concrete andrors which is welded to ELBOWS at Virtical rises. The Allowardle is 4384 is the hanger is of

0-27-79

Attachment

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