

83-753-000

Region II



50-413

January 7, 1983

Director, Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20055

Subject: Nuclear Regulatory Commission Regulation 10 CFR Part 21
Reporting of Defects and Noncompliance

Re: Catawba Nuclear Station - Units 1 & 2
SC Highway 274
Newport, SC 29710
c/o Duke Power Co.
422 South Church St.
P. O. Box 33189
Charlotte, NC 28242

Gentlemen:

The purpose of this letter is to inform you that B I F, A Unit of General Signal, 1600 Division Road, West Warwick, RI 02893, has discovered a defect pertaining to six ASME III-3 butterfly valves supplied to the above-referenced nuclear power plant.

The defect consists of a mathematical error in the seismic report for referenced valves, resulting in an undersized actuator mounting plate.

The error adversely effects the safe shutdown earthquake operability of the six units. Deflection of the actuator mounting plate during an SSE event could cause binding between the actuator and the valve shaft resulting in the inability to open or close the valve. The above error does not effect the pressure boundry integrity of the valves during normal or SSE operation.

It should be noted that this mounting bracket arrangement and seismic report was designed for only these six 8" butterfly valves on Duke Power application. No other valves with this arrangement have been shipped to any other nuclear power plant.

To meet the intent of NRC regulation 10 CFR Part 21, B I F confirms that this is not a "generic" design problem.

Upon notification, Duke Power has determined that this error will create a substantial safety hazard.

The corrective action consists of replacing the inadequate actuator mounting plates with heavier ones.

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PDR ADOCK 05000413
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1600 DIVISION ROAD • WEST WARWICK, RI 02893 • BOX 217 • 401-885-1000
CABLE: BIFWRWKRI • TWX 710-382-0402 • TELEX 927-631

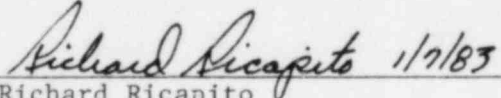
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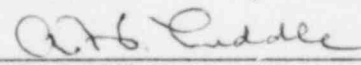
A copy of B I F's January 4, 1983 letter notifying Duke Power of this defect is attached for your reference.

Should you have any questions or further requirements concerning the above, please contact the undersigned at (401) 885-1000.

Sincerely,

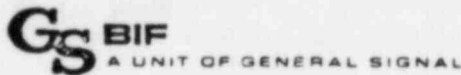

Richard Ricapito
Design Supervisor
Nuclear Butterfly Valves

Approved by:


A. H. Liddle
Sr. Vice President, Engineering
B I F, A Unit of General Signal

Attachment

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January 4, 1983

Duke Power Co.
422 South Church St.
P.O. Box 33189
Charlotte, N.C. 28242

Attention: Mr. S.K. Blackley c/o Mr. R. Oakley

Subject: Catawba Nuclear Station - Units 1 & 2
Misc. ASME Section III Butterfly Valves
Specification CNS-2305.02-4
MPS Co. P.O. C-23599

Re: 8 in. BIF Butterfly Valves with Electric Actuators for
Active Service. Seismic Report No. N53653 Rev. E.

1. Duke Item No. 2B-378: BIF S.N. N68159-1 (At Catawba Site)
2. Duke Item No. 2B-378: BIF S.N. N53652-1,-2,-3,-4, & -5
(At Catawba Site)
3. Duke Item No. 2B-378: BIF S.N. N74166-1 (At BIF).

Gentlemen:

The purpose of this letter is to inform you that B I F has discovered an error in approved Seismic Report No. N53653 Rev. D. The error is in the bracket plate analysis found on page 5.3.9. of the above report. You'll note that the bracket plate is described as ".44 thick SA515 GR70" and that further down in the section modulus equation, .60 is used. Unfortunately, when the correct thickness of .44 is used the resulting load of 40925 psi exceeds the 23958 psi allowable.

B I F recommends that the bracket plate thickness be .75 SA515 GR70 plate and has revised and resubmitted (attached) the corrected pages of the Seismic report for reference. Please insert the corrected pages into your copy of Report No. N53653 Rev. D. With the insertion of the correct pages, the report becomes N53653 Rev. E. Your acknowledgement and approval of this report will be required to make our documentation complete.

NUCLEAR

1/4/83

B I F wishes to advise Duke Power that the above error adversely effects only the SSE operability of the subject valves. The 40,925 P.S.I. load exceeds the 38,000 P.S.I. yield point of SA515 GR.70 plate, therefore, deflection of mounting plate during an SSE event could cause binding between the actuator and the valve shaft resulting in the inability to open or close the valve. The above error does not effect the pressure boundry integrity of the valve during normal or SSE operation.

It should be noted that this mounting bracket arrangement and Seismic report was designed for only these 8 inch butterfly valves on Duke Power application. No other valves with this arrangement have been shipped to any other nuclear power plant.

To meet the intent of NRC regulation 10 CFR Part 21, B I F confirms that this is not a "Generic" design problem.

B I F request that Duke Power evaluate the function of item 2B-378 to determine if the subject error will create a substantial safety hazard. Should Duke Power decide that NRC regulation 10 CFR Part 21 is applicable, then Duke Power should advise B I F accordingly.

As for the required actual material changes, B I F offers the following:

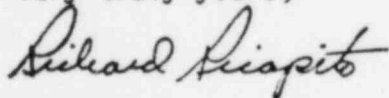
1. Item 2B-378, BIF S.N. N74166-1 is still at B I F and the new .75 thick plate has been provided.
2. Item 2B-378, BIF S.N. N68159-1 and N53651-1,-2,-3,-4 & -5 are at the job site. B I F would like to make arrangements to have a B I F Serviceman make the necessary corrections at the job site.

The corrective action consist of removing the actuator and replacing the .44 thick mounting plate with a new .75 thick one.

Please contact the undersigned to implement corrective action or for additional information.

B I F apologizes for any inconveniences caused by this error. Your cooperation in this matter will be appreciated.

Very truly yours,



Richard Ricapito/mh
Design Supervisor
Nuclear Butterfly Valves

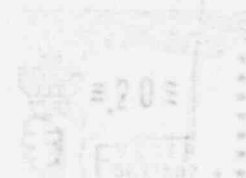
cc: B. Cox
D. Cyronak
J. MacDonald
H. O'Brien
PLOF N53652
(N04942-T)

GS BIF

A UNIT OF GENERAL SIGNAL

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Washington, DC 20055

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