

OCT 29 1984

MEMORANDUM FOR: Richard C. DeYoung, Director
Office of Inspection and Enforcement

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

FROM: C. J. Heltemes, Jr., Director
Office for Analysis and Evaluation
of Operational Data

SUBJECT: ENVIRONMENTALLY UNQUALIFIED VALVE ACTUATORS DISCOVERED
IN OPERATING PLANTS

References: (1) LER 84-014, Docket 370, Event date 6/9/84.
(2) LER 84-019, Docket 369, Event date 6/6/84.

The purpose of this memorandum is to bring to your attention a few situations (See references 1 & 2) for which it was discovered that installed valve actuators did not meet environmental qualification requirements that had been specified. There appear to be at least three separate issues raised that could result in installation of unqualified valve actuators. The three issues are as follows:

1. The valve supplier did not attach environmentally qualified actuators before shipment of the valve assembly. However, it appears that valve actuators are not marked as qualified such that there may not be an easy way to confirm whether a qualified actuator was installed. In fact, reference 1 states that the only obvious difference would be the presence of a drain hole in the environmentally qualified actuator.
2. In order to ensure that a valve actuator retains its environmental qualification status, it appears that plant staff must install the drain plug at the plant.
3. Plant staff must also install the drain plug in a manner consistent with the valve actuator orientation in order to maintain environmental qualification status.

The AEOD review of the referenced LERs resulted in a category 2 rating which indicates they are worthy of further review. There were three plants (Catawba and McGuire 1 and 2) identified with situations where unqualified actuators were discovered. In addition, the October 22, 1984 IE Daily Report by Region II identified a similar instance where the valve supplier could not certify that

OFFICE							
SURNAME	8411070324	841029					
DATE	PDR ADOCK	05000369					
	S	PDR					

Richard C. DeYoung
Harold R. Denton

- 2 -

OCT 29 1984

qualified valve operators were furnished for four valves in the charging pump mini flow lines at Vogtle 1 and 2. Although we believe there are potential generic aspects, we have not been able to determine how broad the subject may be and the scope is outside the normal areas for AEOD investigations. For instance, we don't know whether only the cited supplier of the valves was unaware of the difference between qualified or unqualified actuators, and whether procedures at each plant are adequate to ensure proper installation of the drain plugs.

Therefore, we believe these events are appropriate to include in the Vendor Program Branch (IE) reviews and inspections related to qualification of valve actuators. In addition, the Equipment Qualification Branch (NRR) may wish to consider implications relative to inspections and audits of licensee valve actuator qualification programs.

These concerns were discussed between Earl J. Brown of my staff, Edward Baker in IE and Robert LaGrange in NRR. If you have further questions, please call Mr. Brown on extension 24437. A copy of each LER is enclosed.

Original signed by
Thomas A. Ippolito

for C. J. Heltemes, Jr., Director
Office for Analysis and Evaluation
of Operational Data

Enclosure
As stated

cc:

D. Eisenhut, NRR
D. Crutchfield, NRR
G. Lainas, NRR
F. Miraglia, NRR
R. Vollmer, NRR
G. Zech, IE
J. Partlow, IE

bcc:

C. Hsu, AEOD
V. Noonan, NRR
R. LaGrange, NRR
E. Baker, IE
R. Kiessel, IR

~~DCS PDR~~

ROAB CF

ROAB SF

E. Brown

K. Seyfrit

TR. Ippolito

C. Heltemes

AEOD CF

OFFICE	ROAB	C/ROAB	DU/AEOD	U/AEOD			
SURNAME	E. Brown: jz	K. Seyfrit	T. Ippolito	J. Heltemes			
DATE	10/26/84	10/26/84	10/26/84	10/29/84			

NRC FORM 423
0-83

U.S. NUCLEAR REGULATORY COMMISSION
WORK ASSIGNMENT MANAGEMENT SYSTEM
EVENT, OR IRS, SER, AND SOER SCREENING RECORDS

SCREENING RECORD TYPE	SEQUENCE NUMBER (100)
<input type="checkbox"/> EVENT (Do not complete IRS, SER, SOER boxes) <input type="checkbox"/> IRS, SER, SOER (Do not complete shaded items)	839563

DOCKET NUMBER (112)		LER NUMBER (114)		A. DOCUMENT INFORMATION DCS# (132): 8407200100			
369		84-019-00		DATE OF (Year, Month, Day)			
EVENT (116)	REPORT (108)	ASSIGNMENT (106)	COMPLETION (110)				
84 06 06	84 07 06	84 08 06	84 09 04				
LICENSEE (122) (EVENT) - SOURCE (ALL OTHER)			RESPONSIBLE LEAD ENGINEER (102)				
McGuire 1			Lanning				

DESCRIPTION (124)
 Insp revealed several active valves w/Limitorque SMB actuators installed w/o T-drains. Cause unknown. Limitorque installation & instruction manual will be revised to include T-drain plug installation. W/840706 ltr.

B. ACTION INFORMATION							
REVIEWER (210)	ZUKOR			BROWN			
	RESPONSE			RESPONSE			RESPONSE
	(Check)			(Check)			(Check)
SIGNIFICANT EVENT (300)	YES	NO		YES	NO		YES NO
CONTRIBUTING EVENT (302)		X		X			
POTENTIAL ABNORMAL OCCURRENCE (304)		X			X		
	DATE COMPLETED (232)	WATCH LIST		DATE COMPLETED (232)	WATCH LIST		DATE COMPLETED (232)
	YEAR MONTH DAY	AC234		YEAR MONTH DAY	AC234		YEAR MONTH DAY
	8 4 10 8 15			8 4 10 1 17			
	CATEGORY (270)			CATEGORY (270)			CATEGORY (270)
	1 2 3 4			1 2 3 4			1 2 3 4
REMARKS (230)	Refer to E. Brown for info.			Letter sent to Vendor program Branch. No AEDD action.			

C. ROAB CHIEF RESPONSE							
ROAB CHIEF (134)	EVENT SIGNIFICANT (140)	CONTRIBUTING EVENT (141)	REPORT AS AO (142)	DISPOSITION CATEGORY (136)	DATE COMPLETED (137)		
	YES NO	YES NO	YES NO	1 2 4	YEAR MONTH DAY		
COMMENTS (138)							

ACTION TO: (150)	CASE STUDY (149)	ENG EVAL (147)	OTHER (148)	EXPECTED COMPLETION DATE (146)	CASE STUDY TAC NO. (151)	ENG EVAL TAC NO. (152)
	YES NO	YES NO	YES NO	YEAR MONTH DAY		

D. CLOSEDOUT INFORMATION							
TYPE ACTION (420)	DRAFT TO TYPST			FINAL PRODUCT			ENG EVAL NUMBER (435)
	YEAR	MONTH	DAY	YEAR	MONTH	DAY	CASE STUDY NUMBER (436)
1. TECHNICAL REVIEW (421) / (422)							FINAL REMARKS (437)
2. ENGINEER EVAL (423) / (424)							
3. CASE STUDY (425) / (426)							
4. NEA REPORT (427) / (428)							

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) McGuire Nuclear Station, Unit 1 DOCKET NUMBER (2) 0500031691 OF 013 PAGE (3) 1 OF 013

TITLE (4) Failure to install T-Drains in Limitorque SMB Electrical motor operators

EVENT DATE (6) 060684 84 LER NUMBER (8) 019-00 REPORT DATE (7) 070684 84 OTHER FACILITIES INVOLVED (9) McGuire Unit 2 DOCKET NUMBER(S) 050003170

OPERATING MODE (5) 1 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)

20.402(b)	20.406(a)	80.73(a)(2)(iv)	73.71(b)
20.408(a)(1)(E)	80.38(a)(1)	<input checked="" type="checkbox"/> 80.73(a)(2)(iv)	73.71(c)
20.408(a)(1)(B)	80.38(a)(2)	80.73(a)(2)(v)	OTHER (Specify in Abstract below and in Text, NRC Form 305A)
20.408(a)(1)(W)	80.73(a)(2)(i)	80.73(a)(2)(iv)(A)	
20.408(a)(1)(v)	80.73(a)(2)(B)	80.73(a)(2)(v)(B)	
20.408(a)(1)(H)	80.73(a)(2)(W)	80.73(a)(2)(K)	

LICENSEE CONTACT FOR THIS LER (12) NAME Phillip B. Nardoci, Licensing Engineer TELEPHONE NUMBER 704 373-7432 AREA CODE 704

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14) YES (If yes, complete EXPECTED SUBMISSION DATE) NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

ABBREVIATE (LIMIT TO 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Limitorque SMB electric motor actuators are qualified for active inside containment service per Limitorque Qualification Type Test Report 600456. The actuators were qualified with T-drain plugs installed in the bottom of the actuator motor housing to prevent accumulation of condensation during a LOCA or MSLE. Duke Power utilizes actuators qualified to Report 600456 for active valves in both the Containment and Doghouses. The T-drain plugs are packaged inside the actuator switch compartment and tagged with field installation instructions. An inspection conducted (6/6-10/84) at McGuire as a result of deficiencies identified on the Catawba Nuclear Station revealed several active valves with Limitorque SMB actuators were installed in the Containment and Doghouses without the T-drains in place. Both units were in Mode 1 at 100% power at the time of discovery.

Investigation was unable to determine a cause for the failure to install the T-drains. Evaluation indicated there is a very high degree of confidence that the valves would have functioned without T-drain plugs in place. The valve actuators were fitted with T-drain plugs as soon as they became accessible. Limitorque installation and instruction manuals will be revised to include T-drain plug installation requirements.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/83

FACILITY NAME (1) McGuire Nuclear Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 6 9	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	0 1 1 9	0 1 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Limatorque Corporation SMB "Containment Chamber" electric motor valve actuators (EIIS:XCV) are qualified for active inside containment service per limatorque qualification type test report 600456. Limatorque operators are not designed to be completely sealed from the DBE (LOCA or Main Steam Line Break) environment. The actuator configuration qualified in the Limatorque LOCA Chamber Test had T-drain plugs installed in the bottom of the actuator motor (EIIS:MO) housing to prevent accumulation of condensation due to the harsh environment created during a LOCA or MSLB. In the event of steam entrapment in the motor compartment, the T-drains would allow drainage of condensate, thus preventing possible saturation of the motor insulation and short circuiting of the motor leading to operator failure. Failure of the motor to operate would prevent the actuator from performing its intended safety function; therefore, T-drains are required to maintain the nuclear qualification of the operators. Duke Power utilizes actuators qualified to report 600456 for active valves in both the containment and doghouses.

On May 16, 1984 a deficiency was identified on the Catawba Nuclear Station in which the T-drain plugs had not been field installed, as required by the vendor, on certain Limatorque electric motor valve operators (Ref. Significant Deficiency Report SD 413-414/84-15). Subsequent inspection of McGuire revealed (June 6-10, 1984) that several active valves (EIIS:V) with Limatorque SMB actuators were installed in the containment vessel and doghouses without the T-drains in place. Both units were in Mode 1 at 100% power at the time of the discovery. The following is a list of all the McGuire valves with Limatorque actuators without T-drains for which T-drains are required (note that various other active valves have T-drains missing or don't have provisions for T-drains but don't require them for their application):

UNIT 1

-Inside Containment:

Containment Air Return Exchange & Hydrogen Skimmer System (VX) (EIIS:VD) valves 1VX-1A and 1VX-2B

-Safety Injection System (NI) (EIIS:BP) valves 1NI-430A and 1NI-431B

-Doghouse:

Auxiliary Feedwater System (CA) (EIIS:BA) valves 1CA-38B, 1CA-50B, 1CA-54A, & 1CA-66A

UNIT 2

-Inside containment:

Containment Air Return Exchange & Hydrogen Skimmer System (VX) valves 2VX-1A and 2VX-2B

Reactor Coolant System (NC) (EIIS:AB) valves 2NC-54A and 2NC-196A

Safety Injection System (NI) valves 2NI-430A and 2NI-431B

Component Cooling System (KC) (EIIS:CC) valve 2KC-424B

(Note that the unit 1 valves corresponding to 2NI-430A, 2NI-431B, and 2KC-424B do not have Limatorque operators)

-Doghouse:

Auxiliary Feedwater System (CA) valves 2CA-38B, 2CA-50B, 2CA-54A, and 2CA-66A.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) McGuire Nuclear Station, Unit 1	DOCKET NUMBER (2) 0500036984	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		84	019	00	03	OF	03

TEXT (if more space is required, use additional NRC Form 305A's) (17)

The T-drains should be field installed (according to actuator orientation) in place of the two lowest (existing) solid pipe plugs in the motor end bells. The T-drain plugs are shipped packaged inside the actuator switch compartment and tagged with field installation instructions. Limitorque Nuclear Qualification Report B-0058 also briefly states T-drain installation requirements. Investigation was unable to determine a cause for the failure to install the T-drains.

Of the valves listed, only the Auxiliary Feedwater System (CA) valves and Unit 2 Containment Isolation valves 2KC-424B and 2NC-54A must function in the event of a LOCA or MSLB. All others are active but are not required to function to mitigate a LOCA or MSLB. 2KC-424B and 2NC-54A receive an automatic containment isolation signal, initiated by high containment pressure, and will reach their safety position within 40 seconds and 10 seconds, respectively, after receipt of signal. The valves are not required to operate thereafter. Condensation is not expected to form in the motor housing before the valves reach their safety position.

Auxiliary Feedwater System (CA) valves receive a manual signal from the control room operator. Several minutes could pass before the CA valves receive their signal so some condensation may form in the motor housing due to worst case 5 psig Doghouse environment. Even if condensation actually formed and it was not allowed to drain, it would have negligible affect on the Class RH motor insulation. In support of this, Limitorque has demonstrated operability of similar actuators with less durable Class H motor insulation, without motor housing drains, in a seven day LOCA test (as documented in Limitorque Report 600198).

All valve actuators listed were fitted with T-drain plugs as soon as they became accessible in order for the actuators to match the tested condition. Work was completed 6/10/84 for all valves except 2KC-424B (refer to LER-370/84-14 for discussion of this valve).

Limitorque installation and instruction manuals will be revised by Duke Power Company to include T-drain plug installation requirements.

Based on the above technical evaluation there is a very high degree of confidence that all valves in question would have functioned without T-drain plugs in place. Therefore, safety consequences to the station were negligible prior to installation of the T-drains. The health and safety of the public were unaffected by this deficiency.

DUKE POWER COMPANY
P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

July 6, 1984

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369 and 50-370

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 369/84-19 concerning the failure to install T-Drains in Limitorque SMB Electrical Motor Operators which is submitted in accordance with §50.73(a) (2) (v)/(vi). This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H. B. Tucker / HBS

Hal B. Tucker

PBN:slb
Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange, Suite 245
270 Farmington, CT 06032

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NRC FORM 423 (3-83)	U.S. NUCLEAR REGULATORY COMMISSION WORK ASSIGNMENT MANAGEMENT SYSTEM EVENT, OR IRS, SER, AND SOER SCREENING RECORDS	SCREENING RECORD TYPE <input type="checkbox"/> EVENT (Do not complete IRS, SER, SOER boxes) <input type="checkbox"/> IRS, SER, SOER (Do not complete shaded items)	SEQUENCE NUMBER (100) 839561
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A. DOCUMENT INFORMATION				DCS# (132): 8407190362			
DOCKET NUMBER (112)		LER NUMBER (114)		DATE OF (Year, Month, Day)			
370		84-017-00					
IRS NUMBER	SER NUMBER	SOER NUMBER	EVENT (116)	REPORT (108)	ASSIGNMENT (106)	COMPLETION (110)	
			84 06 09	84 07 09	84 08 06	84 09 04	

LICENSEE (122) (EVENT) - SOURCE (ALL OTHER)	RESPONSIBLE LEAD ENGINEER (102)
McGuire 2	Lanning

DESCRIPTION (124)
 Discovered Fisher Controls failed to provide environmentally qualified actuators for component cooling sys containment isolation valves. Caused by nameplates not distinguishing actuators. W/840709 ltr.

B. ACTION INFORMATION					
REVIEWER (219)	ZUKOR		BROWN		
	RESPONSE		RESPONSE		RESPONSE
	(Check)		(Check)		(Check)
SIGNIFICANT EVENT (300)	YES	NO	YES	NO	YES
CONTRIBUTING EVENT (302)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
POTENTIAL ABNORMAL OCCURRENCE (304)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
	DATE COMPLETED (232)	WATCH LIST	DATE COMPLETED (232)	WATCH LIST	DATE COMPLETED (232)
	YEAR MONTH DAY		YEAR MONTH DAY		YEAR MONTH DAY
	8 4 0 8 1 1 5		8 4 1 1 0 1 7		
	CATEGORY (220)		CATEGORY (220)		CATEGORY (220)
	1 2 3 4		1 2 3 4		1 2 3 4
REMARKS (220)	Refs to E Brown for info. Letter sent to Vendor Program Branch. No AEOO action.				

C. ROAB CHIEF RESPONSE					
ROAB CHIEF (134)	EVENT SIGNIFICANT (140)	CONTRIBUTING EVENT (141)	REPORT AS AG (142)	DISPOSITION CATEGORY (148)	DATE COMPLETED (137)
	YES	YES	YES		YEAR MONTH DAY
	NO	NO	NO	1 2 4	

COMMENTS (136)

ACTION TO: (150)	CASE STUDY (146)	ENG EVAL (147)	OTHER (148)	EXPECTED COMPLETION DATE (149)	CASE STUDY TAG NO. (151)	ENG EVAL TAG NO. (152)
	YES	YES	YES	YEAR MONTH DAY		
	NO	NO	NO			

D. CLOSEOUT INFORMATION						
TYPE ACTION (420)	DRAFT TO FIRST			FINAL PRODUCT		ENG EVAL NUMBER (435)
	YEAR	MONTH	DAY	YEAR	MONTH	DAY
1. TECHNICAL REVIEW (421) / (422)						
2. ENGINEER EVAL (423) / (424)						
3. CASE STUDY (425) / (426)						
4. NEA REPORT (427) / (428)						
FINAL REMARKS (437)						

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)		DOCKET NUMBER (2)	PAGE (3)
McGuire Nuclear Station, Unit 2		0 5 0 0 0 3 7 0	1 OF 0 2

TITLE (4)
Active Valves With Commercial Limitorque Actuators

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	
0 6	0 9	8 4	8 4	0 1 4	0 0	0 7	0 9	8 4		
									DOCKET NUMBER(S)	
									0 5 0 0 0 0	
									0 5 0 0 0 0	

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) 1 0 0	20.402(b)	20.406(a)	80.736(2)(iv)	73.716(b)							
	20.406(a)(1)(ii)	80.38(a)(1)	X 80.736(2)(v)	73.716(a)							
	20.406(a)(1)(iii)	80.38(a)(2)	80.736(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
	20.406(a)(1)(iv)	80.736(2)(i)	80.736(2)(vii)(A)								
	20.406(a)(1)(v)	80.736(2)(ii)	80.736(2)(vii)(B)								
	20.406(a)(1)(vi)	80.736(2)(iii)	80.736(2)(viii)								

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Phillip B. Nardoci, Licensing Engineer	AREA CODE: 7 0 4 3 7 3 - 7 4 3 2

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if you complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Commercial grade Limitorque actuators are installed on Unit 2 component cooling system (KC) containment isolation valves 2KC-424B (Inside Containment) and KC-425A (Auxiliary Building). Fisher Controls, the supplier for both Class 1E active valves, failed to provide environmentally qualified actuators as required by Duke specifications. The commercial grade actuators were discovered during an attempt (on June 9, 1984) to install T-drain plugs in the motor housing of valve 2KC-424B when it was discovered there was no provision for the plugs. Unit 2 was in Mode 1 100% power at the time of discovery.

This error went undetected because Limitorque model numbers/nameplates do not distinguish qualified actuators and their qualification level from commercial type actuators. Only Limitorque can determine the qualification level by tracing their factory order number back to a bill of material.

Based on evaluation there is a very high confidence level that the subject valves will operate at the onset of an accident, and the probability of a DBE occurring and challenging the KC System before actuator replacement can be made is quite remote. Therefore, actual safety consequences to the station is considered negligible and continued operation for a reasonable period of time is justified. The actuators will be replaced with qualified units as soon as plant availability permits. The qualification level of all other active valves furnished by Fisher Controls will be confirmed, and any necessary corrective actions taken.

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PDR ADOCK 05000370
S PDR

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) McGuire Nuclear Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 7 0 8 4	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		— 0 1 4	— 0 0	0 2	OF	0 2

TEXT IS MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 3624's (17)

Commercial grade Limitorque actuators [EIIS:XCV] are installed on Unit 2 component cooling system (KC) [EIIS:CC] containment isolation valves [EIIS:V] 2KC-424B (Inside Containment) and 2KC-425A (Aux. Bldg.). Fisher Controls, the supplier for both Class 1E active valves, failed to provide environmentally qualified actuators as required by Duke specifications. The commercial grade actuators were discovered during an attempt (on June 9, 1984) to install T-drain plugs in the motor [EIIS:MO] housing of valve 2KC-424B when it was discovered there was no provision for the plugs (Ref. LER 369/84-19 for discussion of the T-drain deficiency). Unit 2 was in Mode 1 at 100% power at the time of discovery. (The corresponding Unit 1 valves do not have Limitorque actuators.)

This error went undetected because Limitorque model numbers/nameplates do not distinguish qualified actuators and their qualification level from commercial type actuators. Only Limitorque can determine the qualification level by tracing their factory order number back to a bill of material.

It is felt that the above deficiency is an isolated case at the McGuire Nuclear Station. Valves 2KC-424B and 2KC-425A receive an automatic containment isolation signal at the onset of an accident; after which the valves would not be required to operate again. Valves are secured in their safety position 40 seconds after they receive their signal and prior to accident environment having any detrimental effect on the actuators. With the exception of some quality control inspections during manufacturing, these actuators are similar to actuators qualified for active outside containment service per Limitorque Qualification Type Test Report B-0003.

All electrical power and control components associated with the subject valves are Class 1E qualified (e.g., feeder breakers, reversing starters, cabling, etc.). The Class 1E feeder breakers [EIIS:BRK] are acceptably coordinated with the associated Class 1E bus breaker, such that electrical faults at the valve operator (postulated to occur only well into the DBE) would be isolated without degrading the Class 1E bus [EIIS:CON] and other safety-related loads. In addition, the two valves have passed their timing requirements in all surveillances performed since Unit 2 startup.

Based on the above technical evaluation, there is a very high confidence level that the subject valves will operate at the onset of an accident, and the probability of a DBE occurring and challenging the KC System before actuator replacement can be made is quite remote. Therefore, actual safety consequences to the station is considered negligible and continued operation for a reasonable period of time is justified. The health and safety of the public were unaffected by this deficiency.

Non-nuclear grade actuators on valves 2KC-424B and 2KC-425A will be replaced with qualified units as soon as necessary equipment is received and plant availability allows adequate time to make the replacement, but no later than during McGuire Unit 2 refueling outage, presently scheduled for January 6, 1985. In addition, the qualification level of all other active electric motor operated valves furnished by Fisher Controls will be confirmed by obtaining the order numbers from operator nameplates and tracing them back through Limitorque. Any additional deficiencies identified through this review will be evaluated, justified or corrected as required.

This deficiency is being reviewed in parallel at other Duke Nuclear Stations and appropriate actions will be taken and reported as required.

DUKE POWER COMPANY
P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

July 9, 1984

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Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: McGuire Nuclear Station, Unit 2
Docket No. 50-370
LER 370/84-14

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 370/84-14 concerning active valves with commercial limitorque actuators which is submitted in accordance with §50.73(a)(2)(v)/(vi). This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H. B. Tucker

Hal B. Tucker

PBN:scs

Attachment

cc: Mr. James P. O'Reilly
Regional Administrator
U. S. Nuclear Regulatory Commission
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange, Suite 245
270 Farmington Avenue
Farmington, Connecticut 06032

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