



CHARLES CENTER • P. O. BOX 1475 • BALTIMORE, MARYLAND 21203

February 28, 1985

ARTHUR E. LUNDVALL, JR.  
VICE PRESIDENT  
SUPPLY

Director of Nuclear Reactor Regulation  
Attention: Mr. J. R. Miller, Chief  
Operating Reactors Branch #3  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Calvert Cliffs Nuclear Power Plant  
Units Nos. 1 & 2; Dockets Nos. 50-317 and 50-318  
Supplemental Response to NRC Generic Letter 84-24

Reference: BG&E letter from Mr. A. E. Lundvall to Mr. J. R. Miller (NRC),  
dated February 11, 1985.

Gentlemen:

As discussed in the referenced letter, the Baltimore Gas and Electric Company hereby requests schedular relief under the provisions of 10 CFR 50 paragraph 50.49(g) for completion of certain environmental qualification activities. This request covers various equipment replacement and upgrade activities, and upgrade of the qualification files to ensure auditability in accordance with 10 CFR 50, paragraph 50.49(j).

A description of each qualification activity subject to this extension request is provided in the attachment to this letter. A justification for continued operation is provided in support of each extension request.

If you should have any questions, please do not hesitate to contact us.

Very truly yours,

AEL/BSM/ALW/vf

Attachment

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ATTACHMENT

February 28, 1985

JUSTIFICATION FOR CONTINUED OPERATION

GENERAL ITEM

(Common to Units 1 and 2)

Upgrade of Qualification Files (Auditability)

Description:

NRC Inspection Report No. 50-317/84-27 dated January 29, 1985 stated that the qualification files were not in an auditable form as required by Paragraph (j) of 10 CFR 50.49. To facilitate compliance with the auditability requirement, three activities are being implemented to upgrade the files: (1) a technical review of each file to verify completeness and to provide convenient summary information in the front of each file, (2) reorganization of each file into a standard format for ease of reference, and (3) implementation of the record control and storage requirements of ANSI N45.2.9 (refer to BG&E QA audit report No. 84-24-01).

Extension Request:

An extension is requested until November 30, 1985, to complete the qualification file upgrade.

Technical Discussion

Continued operation during the interim period is justified because sufficient documentation currently exists in the files to support environmental qualification for all previously qualified equipment. The purpose of the file upgrades is to provide for ease of auditability by regulatory personnel.

# JUSTIFICATION FOR CONTINUED OPERATION

## UNIT 1 MODIFICATIONS

### Component Numbers, Model, Locations and Descriptions

1. Replace solenoid valve ISV 5178, currently an ASCO HT 8320, with an ASCO NP8320 which is fully qualified. This valve is located in Room A228 and is used on the ECCS pump room air cooler water outlet path.
2. Complete the qualification of ISV 516 and 517 by either rerouting conduit to the valves or installing Raychem or Conax termination seals to preclude water entering the valves. Both valves are pilot solenoids on air operated valves and both are located inside containment. ISV 516 is on the containment isolation valve in the letdown path. ISV 517 is on the containment isolation valve in the auxiliary spray path. Both valves are currently ASCO Model WPHTX8320A21V but are being replaced with ASCO Model NP8320A185E due to a replacement parts problem with the WPHTX8320A21V valves.
3. Replace existing qualified limit switches, as detailed below, with qualified Namco EA 180-24302 limit switches.\*

<u>Component Number</u>	<u>Current Model Number</u>	<u>Location</u>	<u>Description</u>
A. 1ZS 505 A, B	Namco EA 740-500-00	A326	RCP Controlled Bleed Off to RCDT Containment Iso Valve Limit Switches
B. 1ZS 506 A, B	Namco EA740-500-00	Containment	RCP Controlled Bleed Off to RCDT Containment Iso Valve Limit Switches
C. 1ZS 515 A, B	Namco EA740-500-00	Containment	Letdown to Regenerative Heat Exchanger Iso Valve Limit Switches
D. 1ZS 516 A, B	Namco EA740-4500-00	Containment	Letdown Containment Iso Valve (In board) Limit Switch
E. 1ZS 517 A, B	Honeywell MTE-4N	Containment	Auxiliary Spray Containment Iso Valve (In board) Limit Switch
F. 1ZS 518 A, B	Namco EA740-500-00	Containment	Charging Line 2A Containment Iso Valve (In board) Limit Switch

<u>Component Number</u>	<u>Current Model Number</u>	<u>Location</u>	<u>Description</u>
G. 1ZS 519 A, B	Namco EA740-500-00	Containment	Charging Line 1A Con- tainment Iso Valve (In board) Limit Switch
H. 1ZS 661 A, B	Honeywell DTE6-2RN2	Containment	Safety Injection Bleed Off to RCDT Iso Valve Limit Switch
I. 1ZS 1582 A, B	Honeywell BZE6-2RQ2	A316	Containment Cooler 11 Service Water Out- let Iso Valve Limit Switch
J. 1ZS 1585 A, B	Honeywell BZE6-2RQ2	A326	Containment Cooler 12 Service Water Out- let Iso Valve Limit Switch
K. 1ZS 1590 A, B	Honeywell BZE6-2RQ2	A316	Containment Cooler 13 Service Water Out- let Iso Valve Limit Switch
L. 1ZS 1593 A, B	Honeywell BZE6-2RQ2	A326	Containment Cooler 14 Service Water Out- let Iso Valve Limit Switch
M. 1ZS 2085 A, B	Namco EA740-500-00	Containment	Containment Instru- ment Air Supply Containment Iso Valve Limit Switch
N. 1ZS 2180 A, B	Honeywell MTE-4RN	A326	RCDT and Quench Tank Vent to Waste Gas Iso Valve Limit Switch
O. 1ZS 3828 A, B	Honeywell BZE6-WRN	A119	Shutdown Cooling Heat Exchanger 11 CCW Outlet Iso Valve Limit Switch
P. 1ZS 3830 A, B	Honeywell BZE6-2RN	A118	Shutdown Cooling Heat Exchanger 12 CCW Outlet Iso Valve Limit Switch
Q. 1ZS 3832 A, B	Honeywell BZE6-2RQ2	A316	CCW Supply to RCPs Containment Iso Valve Limit Switch

<u>Component Number</u>	<u>Current Model Number</u>	<u>Location</u>	<u>Description</u>
R. 1ZS 3833 A, B	Honeywell BZE6-2RQ2	A316	CCW Return from RCPs Containment Iso Valve Limit Switch
S. 1ZS 4011 A, B	Honeywell MTE-4RN	Containment	Steam Generator 11 to Blowdown Tank Con- tainment Iso Valve Limit Switch
T. 1ZS 4013 A, B	Honeywell MTE-4RN	Containment	Steam Generator 12 to Blowdown Tank Containment Iso Valve Limit Switch
U. 1ZS 4043 A, B	Namco SL-2C-11ZL	A315	Main Steam Isolation Valve Limit Switch
V. 1ZS 4048 A, B	Namco SL-2C-11ZL	A315	Main Steam Isolation Valve Limit Switch
W. 1ZS 4150 A, B	Namco EA740-500-00	A326	Containment Spray Header Iso Valve Limit Switch
X. 1ZS 4151 A, B	Namco EA740-500-00	Containment	Containment Spray Header Iso Valve Limit Switch
Y. 1ZS 4260 A, B	Honeywell MTE-4RN	A326	RCDT Pump Discharge Iso Valve Limit Switch
Z. 1ZS 5291 A, B	Namco EA740-500-00	Containment	Containment Purge Sample Iso Valve Limit Switch
AA. 1ZS 5292 A, B	Honeywell MTE-4RN	A315	Containment Atmos- phere Sample Line Containment Iso Valve Limit Switch

\* 1ZS 4043 A, B and 1ZS 4048 A, B will be replaced with qualified Namco EA740-20021 limit switches.

4. Replace existing oscillator-amplifiers (P/N 805B217001) on various Fisher and Porter flow and pressure transmitters outside containment in harsh environments with qualified oscillator-amplifiers (P/N 805B241001) as detailed below. All of the subject transmitters provide indication only.



	<u>Component Number</u>	<u>Location</u>	<u>Description</u>
A.	IFT 311	A224	High Pressure Safety Injection (HPSI) Flow to RCS Loop 11A
B.	IFT 312	A224	Low Pressure Safety Injection (LPSI) Flow to RCS Loop 11A
C.	IFT 321	A224	HPSI Flow to RCS Loop 11B
D.	IFT 322	A224	LPSI Flow to RCS Loop 11B
E.	IFT 331	A221	HPSI Flow to RCS Loop 12A
F.	IFT 332	A221	LPSI Flow to RCS Loop 12A
G.	IFT 341	A221	HPSI Flow to RCS Loop 12B
H.	IFT 342	A221	LPSI Flow to RCS Loop 12B
I.	IFT 1581	A227	Service Water Flow to Containment Cooler 11
J.	IFT 1584	A221	Service Water Flow to Containment Cooler 12
K.	IFT 1589	A227	Service Water Flow to Containment Cooler 13
L.	IFT 1592	A221	Service Water Flow to Containment Cooler 14
M.	IFT 4148	A119	Containment Spray Train 2 Flow to Containment
N.	IFT4149	A118	Containment Spray Train 1 Flow to Containment

5. Replace existing pressure switch IPS 2085 used to close valve 1CV 2085 on low header pressure switch with a fully qualified switch. 1CV 2085 is the control valve in the containment instrument air supply header. The current model is a Custom Component's 604GCRO and the replacement will be a Static-O-Ring 6TA-B5-NX-CIA-TTJJX6 which is fully qualified. The switch is located inside containment.
6. Replace existing sample isolation valve outside containment with fully qualified valves as detailed below. All of the subject valves are currently Dragon Model 10180-1. The replacement valves will be either Valcor Model V256-5295-77 or V256-5295-117, both of which are fully qualified.

	<u>Component Number</u>	<u>Location</u>	<u>Description</u>
	ISV 6507 A thru F	A221	Hydrogen Analyzer Sample Line Containment Isolation Valve

<u>Component Number</u>	<u>Location</u>	<u>Description</u>
ISV 6507G	A221	Hydrogen Analyzer Sample Return Line Containment Isolation Valve
ISV 6529	A326	PASS Sample Return to Reactor Coolant Drain Tank 11 Containment Isolation Valve
ISV 6531	A326	Oxygen Sample Line from Pressurizer Quench Tank Containment Isolation Valve

7. Replace Barksdale pressure switches on the main steam isolation valves with qualified Static-O-Ring pressure switches. See JCO number II. for Unit 2.
8. Replace terminal blocks used for safety-related instrumentation both inside and outside containment with qualified terminations or splices. See JCO number VII. for Unit 2.
9. Install qualified conduit-to-valve seals on safety-related Target Rock solenoid valves located inside containment. See JCO number IV. for Unit 2.
10. Install qualified conduit-to-valve seals on safety-related Valcor solenoid valves located inside containment. See JCO number III. for Unit 2.

Technical Discussion and Extension Request:

All of the above modifications will be completed prior to startup following the upcoming Unit 1 refueling outage. The outage is currently scheduled to commence on April 5, 1985. This means the plant will be operating for approximately 5 days beyond the equipment qualification deadline of March 31, 1985, established in 10 CFR 50.49, paragraph (g). We feel that the probability of a design basis accident occurring between now and the outage is extremely low. We are, therefore, requesting an extension to perform all of the above listed modifications during the Unit 1 refueling outage scheduled for April 5, 1985.



## JUSTIFICATION FOR CONTINUED OPERATION

### UNIT 2 MODIFICATIONS

I. Component Number(s): 2ZS 1585 A & B and 2ZS 1593 A & B

Location: Auxiliary Building - Room A321

Model Number(s): Current - Honeywell BZE6-2RQ2  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 1585 A & B and ZS 1593 A & B are used on valves CV 1585 and 1593, respectively, which are the isolation valves in the service water outlet from containment cooler numbers 2 and 4.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Honeywell limit switches will be replaced with qualified Namco limit switches.

CV 1585 and 1593 are normally closed, fail open valves which open on a containment spray actuation signal (CSAS). The solenoid operators for these valves, SV 1585 and 1593 are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not open. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in their safe position post-LOCA. Additionally, the operator can verify that the valves are open by checking the service water flow to the four coolers with flow transmitters FT 1584 and 1592. These flow transmitters have been physically upgraded and are qualified with the exception of the qualification documentation, which has not yet been updated to reflect this design change due to design document revision lag times.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (1) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area outside containment. Thus, the changeout cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

II. Component Number(s): 2PS 4042, 4044, 4047, 4049

Location(s): Auxiliary Building - Rooms A203 (4042, 4044) and A408 (4047, 4049)

Model Number(s):

Pressure Switch	Current	Replacement
PS 4042	Barksdale B1TB65SS	Static-O-Ring 3TA-B45-S1-C1A-JJTTX6
PS 4044	Barksdale B1TC65SS	Static-O-Ring 3TA-B45-S1-C1A-JJTTX6
PS 4047	Barksdale B1TB65SS	Static-O-Ring 3TA-B45-S1-C1A-JJTTX6
PS 4049	Barksdale B1TB65SS	Static-O-Ring 3TA-B45-S1-C1A-JJTTX6

Description:

Pressure switches PS 4042, 4044, 4047, and 4049 are used on the hydraulic actuators of the main steam isolation valves (MSIVs), CV 4043 and 4048, and function to maintain the design pressure in the actuator accumulators by controlling the hydraulic pump.

Technical Discussion:

The subject pressure switches are all in harsh environments, but for different accidents. Switches in Room A203 are subjected to high radiation post-LOCA while switches in Room A408 are subjected to high temperature post-MSLB. However, the justification for all is the same.

The pressure switches monitor the pressure of the hydraulic fluid in the MSIV accumulators and start the high pressure pump when the pressure drops below 4075 psig. Once the pump has reestablished the design pressure, the pressure switches deenergize it.

The pressure switches have no direct function in the opening or closing of the MSIVs. They are present only to keep the MSIVs ready to close. The MSIVs close on low steam line pressure (SGIS), which would result from an MSLB and on high containment pressure (CSAS), which would result from a LOCA. Seconds after either accident has occurred the MSIVs will receive a signal to close and will stroke closed within 6 seconds. The pressure switches will have already performed their design function and are not required to function after MSIV closure. Thus, failure of the subject pressure switches at any time following the start of the accident will not prevent the MSIVs from closing nor will it cause them to reopen. Additionally, the pressure switches provide no indication so there is no chance an operator can be misled.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), item (4).

Based on the above, continued operation is deemed justified.

Extension Request:

Due to the critical safety function of the main steam isolation valves it is highly undesirable to perform modifications on them while at power. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the modification during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO. The new parts required for the modification are currently on-site.

III. Component Number(s): 2SV 6540A through 6540G

Location(s): Containment - Room C229

Model Number(s): Valcor V526-5295-77

Description:

SV 6540 A through F are solenoid operated containment isolation valves in the sample supply lines to the hydrogen analyzer. SV 6540G is a solenoid operated containment isolation valve in the hydrogen analyzer sample return line. All of the subject valves are located inside containment.

Technical Discussion:

Qualification of these valves is not yet complete as a moisture seal must be installed at the conduit to valve connection in order to make the field installation consistent with the tested configuration. The subject valves were originally Dragon Model 10180-1. Since the valves are containment isolation valves they came under the equipment qualification (EQ) program. The EQ review of the Dragon valves determined that there was not sufficient qualification documentation available on the valves to consider them qualified. Therefore, the Dragon valves were replaced with qualified Valcor valves. The valves were judged to be qualified after the replacement, without the moisture seal, since their only function was to remain closed post-LOCA and all postulated failure modes left the valves in the closed position. At this time the hydrogen analyzer system was classified non-safety related. In response to NUREG-0737 the hydrogen analyzer system was reclassified safety-related and a new, qualified hydrogen analyzer was installed. Additionally, the subject valves qualification status changed in that they are now required to reopen post-LOCA. The equipment qualification review of the new hydrogen analyzer system and the subject valves was completed in October of 1984. It was this review that verified that moisture seals were required on the subject valves. Since the last refueling outage for Unit 2 was around June of 1984 it has not yet been possible to fully qualify the subject valves with the addition of the termination seal. The seal will either be a Raychem termination seal series NEIS or the Patel conduit seal.

All of the subject valves are normally closed, fail closed valves and are normally de-energized. They are all remote manually controlled. Failure of the valves post-LOCA due to the harsh environment will leave them in the closed position, which is safe from a containment isolation standpoint. Failure of the valves will also leave the operators with no method of monitoring the post-LOCA containment hydrogen concentration, as required by NUREG-0737. Therefore, administrative controls will be implemented which instruct the operators to start the qualified hydrogen recombiners following a LOCA. It has been verified that the hydrogen recombiners can maintain the containment hydrogen content at a safe level regardless of the size of the LOCA.

Each valve is equipped with two limit switches which are subject to the same failure mode. Should the limit switches indicate that the valves are closed there is no problem as the valves will be closed and the operators will be aware that the hydrogen analyzer cannot be used. Should the limit switches indicate any or all of the valves are open the operator will be able to ascertain that no samples are being taken by checking the instrumentation and indication from the hydrogen analyzer.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject valves are inside containment, at an elevation requiring extensive scaffolding in order to perform the modification. Thus the seal addition cannot be performed non-outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the modification during the scheduled Fall 1985 Unit 2 refueling outage based on the above JCO. The Raychem materials required for the modification are currently on-site.



IV. Component Number(s): SV 103, 104, 105, 106

Location(s): Containment - Room C229

Model Number(s): Target Rock 79UU-001

Description:

The subject solenoid valves are isolation valves in the reactor coolant system vent paths. SV 103 and 104 are in the reactor head vent path to the quench tank. SV 105 and 106 are in the pressurizer vent path to the quench tank.

Technical Discussion:

The subject solenoid valves and the vent paths which they serve were added to the plant as a post-TMI "Lessons Learned" fix. The paths serve to vent non-condensable gas generated during a LOCA from the reactor coolant system to the quench tank. Qualification of these valves is not yet complete as a moisture seal must be installed at the conduit to valve connection in order to make the field installation agree with the tested, qualified installation.

The subject valves are normally closed, fail closed and are normally de-energized. The valves are all remote manually controlled. Each is equipped with two limit switches for position indication.

During the qualification test on these valves, performed by Target Rock, the seal at the conduit to valve connection degraded and allowed borated water spray into the valve. The seal used in the test was rubber cement which is not as effective as a qualified Raychem termination kit seal, series NEIS, or the newly developed Patel conduit seal. In spite of the seal failure allowing water into the valve during the test, the valve and its limit switches still performed normally, stroking open and closed.

On the basis of these test results, as detailed in Target Rock Report No. 2375, dated 9/26/79, it is judged that the subject valves would remain operable post-LOCA. It is agreed that sealing the valve is desirable, therefore the Raychem seals shall be installed during the next outage.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), item (2).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject valves are located inside containment in areas of high radiation. Thus, the seal addition cannot be performed non-outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the modification during the scheduled Fall 1985 Unit 2 refueling outage based on the above JCO. The materials required for the modification are currently on-site.



V. Component Number(s): 2ZS 4043 A & B and 2ZS 4048 A & B

Location: Auxiliary Building - Room A203

Model Number(s): Current - Namco SL-2C-11ZL  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 4043 A & B and ZS 4048 A & B are located on the main steam isolation valves CV 4043 and 4048.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Namco limit switches will be replaced with qualified Namco limit switches.

CV 4043 and 4048 are normally open valves which close on a SGIS and CSAS. The solenoid operators for these valves, SV 4043 and 4048, are fully qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (1) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located outside containment, however, due to personnel protection concerns the valve must be taken out of service to perform the changeout. Neither MSIV can be taken out of service during operation. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

VI. Component Number(s): 2ZS 3828 A & B and 2ZS 3830 A & B

Location: Auxiliary Building - Room A101 (ZS 3828) and A102 (ZS 3830)

Model Number(s): Current - Honeywell BZE6-2RN  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 3828 A & B and ZS 3830 A & B are located on valves CV 3828 and 3830 which are the isolation valves in the shutdown cooling heat exchangers component cooling water discharge line.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Honeywell limit switches will be replaced with qualified Namco limit switches.

CV 3828 and 3839 are normally closed, fail open valves which open on a SIAS. The solenoid operators for these valves, SV 3828 and 3820, are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not open. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are fully qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (1) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located outside containment and can be replaced during normal operation. However, there is a parts delivery problem and it is not known at this time what the delivery schedule will be. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO. Should the required parts become available prior to this, the replacement will be made as soon as possible.

VII. Component Number(s): Terminal Blocks for the Following Instruments

Inside Containment - Room C229

2LT 4146, 4147	Containment Sump Level Transmitters
2PT 103, 103-1	Pressurizer Pressure Transmitters
2TE 112CA through 112CD	RCS Hot and Cold Leg RTDs
2TE 112HA through 112HD	RCS Hot and Cold Leg RTDs
2TE 122CA through 122CD	RCS Hot and Cold Leg RTDs
2TE 122HA through 122HD	RCS Hot and Cold Leg RTDs
2PT 102A through 102D	Pressurizer Pressure Transmitters
2LT 1113A through 1113D	Steam Generator 1 Level Transmitters
2LT 1123A through 1123D	Steam Generator 2 Level Transmitters

Outside Containment

Room A316

2PT 4521A, B - AFW to Steam Generator 1 Pressure Transmitters  
2PT 4531A, B - AFW to Steam Generator 2 Pressure Transmitters

Room A428

2I/P 3938, 3939 - Steam Generator Atmospheric Dump Valve Signal Converters

Model Number(s): Current - Buchanan B112, Weidmuller SAK, or Marathon 1600 Series Terminal Blocks

Replacements - Raychem Series WCSF-N Ring/Tongue and Inline Splice Seals

Description:

The subject terminal blocks are used on safety related instrumentation inside and outside containment in harsh environments. Upon receipt of IE Information Notice 84-47 Calvert Cliffs performed a review of safety related terminal blocks and determined which terminal blocks might be subject to the deficiencies detailed in the Notice. The subject terminal blocks comprise the list of potentially deficient terminal blocks. These terminal blocks will be modified with either a ring/tongue heat shrink seal or an inline splice, both of which employ qualified Raychem seal kits.

Technical Discussion:

We are confident that the subject terminal blocks will perform adequately in a post-accident environment based on the existing qualification test reports. However, since there is some question as to the validity of these tests, Calvert Cliffs is performing the terminal block modifications in order to preclude any further questions on the qualification of the subject terminal blocks.

At this time no other justification is deemed necessary as NRC's formal position on the matter has not been presented to the utilities. The information presented in IE Notice 84-47 appears to be preliminary in nature as it is based on a single series of tests by Sandia described in NUREG/CR-3418.

Based on the above, continued operation is deemed justified.

Extension Request:

Of the subject terminal blocks, those inside containment are all in high radiation areas and as such cannot be modified non-outage. The two blocks in Room A428 are associated with the steam generator atmospheric dump valves and due to the valves' highly critical safety function it is deemed undesirable to modify them while at power. The remaining four terminal blocks are located in Room A316 which has an ambient temperature of 140°F during plant operations. It would thus be preferable to modify these terminal blocks during an outage for personnel protection reasons. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the subject terminal block modifications during the scheduled Fall 1985 Unit 2 refueling outage based on the above JCO.

VIII. Component Number(s): 2ZS 515 A & B and 2ZS 516 A & B

Location: Containment - Room C229

Model Number(s): Current - Namco EA740-500-00  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 515 A & B and ZS 516 A & B are located on valves CV 515 and 516 which are isolation valves in the letdown path to the regenerative heat exchange.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Namco limit switches will be replaced with qualified Namco limit switches.

CV 515 and 516 are normally open, fail closed valves which close on a CVCS isolation signal and a SIAS. The solenoid operators for these valves, SV 515, 516, are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the changeout cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

IX. Component Number(s): 2ZS 505 A & B and 2ZS 506 A & B

Location: Containment - Room 229 (ZS 506)  
Auxiliary Building - Room A321 (ZS 505)

Model Number(s): Current - Namco EA-740-500-00  
Replacement - Namco EA-180-24302

Description:

Limit switches ZS 505 A & B and ZS 506 A & B are used on valves CV 505 and 506 which are containment isolation valves in the controlled reactor coolant pump bleed off to the reactor coolant drain tank.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Namco limit switches will be replaced with qualified Namco limit switches.

CV 505 and 506 are normally open, fail closed valves which receive a SIAS to close. The solenoid operators for these valves, SV 505 and 506, are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that CV 505 and 506 failed to close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

ZS 506 A & B are located in a high radiation area inside containment. Thus, the changeout cannot be made prior to an outage. ZS 505 A & B are located outside containment and can be replaced during normal operation. However, there is a parts delivery problem and it is not known at this time what the delivery schedule will be. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO. Should the required parts become available prior to this, the replacement will be made as soon as possible.



X. Component Number(s): 2ZS 518 A & B and 2ZS 519 A & B

Location: Containment - Room C229

Model Number(s): Current - Namco EA740-500-00  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 518 A & B and ZS 519 A & B are located on valves CV 518 and 519 which are the containment isolation valves in the normal charging flow path, downstream of the regenerative heat exchanger.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Namco limit switches will be replaced with qualified Namco limit switches.

CV 518 and 519 are normally open, fail open valves which are remote manually operated. The solenoid operators for these valves, SV 518 and 519, are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are fully qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the changeout cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

XI. Component Number(s): 2ZS 661 A & B

Location: Containment - Room C229

Model Number(s): Current - Honeywell DTE6-2RN2  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 661 A & B are located on valve CV 661 which is the isolation valve in the safety injection path bleed off to the reactor coolant drain tank.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Honeywell limit switches will be replaced with qualified Namco limit switches.

CV 661 is a normally open, fail closed valve which closes on a SIAS. The solenoid operator for this valve, SV 661, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valve is qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the changeout cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

XII. Component Number(s): 2ZS 517 A & B

Location: Containment - Room C229

Model Number(s): Current - Honeywell MTE-4RN  
Replacement - Namco EA180-24304

Description:

Limit switches ZS 517 A & B are located on valve CV 517 which is the containment isolation valve in the auxiliary spray line off the regenerative heat exchanger.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Honeywell limit switches have been replaced with qualified Namco limit switches. However, pending the installation of qualified conduit-to-limit switch seals the switches are judged to be unqualified.

CV 517 is a normally closed, fail closed valve which is remote manually operated. The solenoid operator for this valve, SV-517, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valve did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valve is fully qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (1) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the seal additions cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

XIII. Component Number(s): 2ZS 2085 A & B

Location: Containment - Room C229

Model Number(s): Current - Namco EA740-500-00  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 2085 A & B are located on valve CV 2085 which is the control valve on the containment instrument air supply header.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety-related status. The existing Namco limit switches will be replaced with qualified Namco limit switches.

CV 2085 is a normally open, fail closed valve which is remote manually operated and closes on a low header pressure signal from PS 2085. The solenoid operator for this valve, SV 2085, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valve did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valve is fully qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (1) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the changeout cannot be made prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

XIV. Component Number: 2ZS 2180 A & B

Location: Auxiliary Building - Room A321

Model Number: Current - Honeywell MTE-4RN  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 2180 A, B are located on valve CV 2180 which is a containment isolation valve in the vent path from the reactor coolant drain tank and pressurizer quench tank to the waste gas processing system.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety related status. The existing Honeywell limit switches will be replaced with qualified Namco limit switches

CV 2180 is a normally open, fail closed valve which closes on a CIS. The solenoid operator for this valve, SV 2180, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located outside containment and can be replaced during normal operation. However, there is a parts delivery problem and it is not known at this time what the delivery schedule will be. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO. Should the required parts become available prior to this, the replacement will be made immediately.

XV. Component Number: 2ZS 4260 A & B  
Location: Auxiliary Building - Room A321  
Model Number: Current - Honeywell MTE-4RN  
Replacement - Namco EA180-2403

Description:

Limit switches ZS 4260 A, B are located on valve CV 4260 which is a containment isolation valve in the reactor coolant drain tank pump discharge path.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety related status. The existing Honeywell limit switches will be replaced with qualified Namco limit switches

CV 4260 is a normally open, fail closed valve which closes on a SIAS. The solenoid operator for this valve, SV 4260, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valve did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valve is qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located outside containment and can be replaced during normal operation. However, there is a parts delivery problem and it is not known at this time what the delivery schedule will be. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO. Should the required parts become available prior to this, the replacement will be made immediately.



XVI. Component Number: 2ZS 4150 A & B and 2ZS 4151 A & B

Location: Containment - Room C229

Model Number: Current - Namco EA740-500-00  
Replacement - Namco EA180-24302

Description:

Limit switches ZS 4150 A & B and ZS 4151 A & B are located on valves CV 4150 and 4151 which are isolation valves in the containment spray headers.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety related status. The existing Namco limit switches will be replaced with qualified Namco limit switches

CV 4150 and 4151 are normally closed, fail open valves which open on a SIAS. The solenoid operators for these valves, SV 4150 and 4151, are qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valves failed to open. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valves are qualified and will be in their safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. Thus, the changeout cannot be performed prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.

XVII. Component Number: 2ZS 5291 A & B

Location: Containment - Room C229

Model Number: Current - Namco EA740-500-00  
Replacement - Namco EA180-24302

Description:

Limit switches 5291 A, B are located on valve CV 5291 which is a containment isolation valve in the containment atmosphere radiation monitor line.

Technical Discussion:

The subject limit switches were formerly classified as non-safety related but have been upgraded to a safety related status. The existing Namco limit switches will be replaced with qualified Namco limit switches

CV 5291 is a normally open, fail closed valve which closes on a SIAS. The solenoid operator for this valve, SV 5291, is qualified. The limit switches provide indication only. Should the currently installed limit switches fail post-LOCA, at worst, they may indicate that the valve did not close. Therefore, the operators will be made aware that the subject limit switches are currently unreliable and that the affected valve is qualified and will be in its safe position post-LOCA.

This analysis meets the criteria of 10 CFR 50.49, paragraph (i), items (3) and (5).

Based on the above, continued operation is deemed justified.

Extension Request:

The subject limit switches are located in a high radiation area inside containment. The the changeout cannot be performed prior to an outage. Therefore, per 10 CFR 50.49, paragraph (g), an extension is requested to perform the replacement during the scheduled Fall 1985 Unit 2 refueling outage, based on the above JCO.