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January 3, 1984

ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

Mr. Thomas E. Murley
Regional Administrator, Region I
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Murley:

Subject: Calvert Cliffs Nuclear Power Plant
Units Nos. 1 & 2, Docket Nos. 50-317 & 50-318
Report of Changes, Tests and Experiments

Reference: (a) 10 CFR Part 50, Paragraph 50.59(b)

As required by Reference (a), attached is a report containing a brief description of the changes, tests and experiments completed on Calvert Cliffs Units 1 and/or 2 under the provisions of 10 CFR 50.59(a), including a summary of the safety evaluation of each.

Items in the attached report are referred to by "Facility Change Requests (FCR)" number.

Very truly yours,

AEL/ERZ/vf

Attachment

cc: Director of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20555

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FCR 75-1163 (Unit 1)	The recirculation capacity from Unit 1 Steam Generator Main Feed Pumps back to the condenser was doubled from 2000 gpm to 4000 gpm by adding a second line with a control valve and flow orifice, in order to protect the pumps. This modification was within the bounds of the Loss of Feedwater Accident described in FSAR Section 14.10. There is no effect on the Technical Specifications.
FCR 76-0063 (Unit 1, Unit 2)	Ventilation louvers were added to control panels 1/2C33, 1/2C34, 1/2C43, and 1/2C63 to eliminate problems caused by cabinet temperature exceeding instrument specifications. There was no effect on seismic qualification of the panels or on the Technical Specifications.
FCR 75-0105 (Unit 1, Unit 2)	Local sample lines for safety injection and containment spray systems sample points 1/2-SI-550, 443, 462, & 4167 were extended to improve accessibility and reduce spilling of samples. There was no effect on the Technical Specifications.
FCR 75-0268 (Unit 1, Unit 2)	Low-range pressurizer pressure signals from 1/2-PT-103 were sent to additional pens on pressure recorders 1/2-PR-100, so that rapid pressure transients in this range may be monitored, as required by NRC I&E Bulletin #75-08. Recorder loop loading remained satisfactory, and there was no effect on the Technical Specifications.
FCR 75-1089 (Unit 1, Unit 2)	Operation of 1/2-CV-3832 (Component Cooling Water to Reactor Coolant Pumps) was changed to air to open/fail closed. This is the conservative failure mode to enhance containment isolation. There was no effect on the Technical Specifications.
FCR 75-1103 (Unit 1, Unit 2)	Redundant temperature sensors 1/2-TE-5228A, 5232A, 5236A, 5244A, & 5248A were moved from the condenser discharge to the discharge conduit in order to provide a more representative temperature reading. The remaining temperature elements fulfill the Technical Specification commitments.
FCR 75-1130 (Unit 1, Unit 2)	This FCR modified the documentation associated with the installation of nuclear relief valves. The changes were done to reflect as-built conditions and to make editorial changes. Valve tags were also updated. No actual design changes were made so the operation of the relief valves was not affected.
FCR 76-0128 (Unit 1)	This FCR allowed the use of a new line of Butterfly valves in the Service Water System. The manufacturer, Henry Pratt discontinued the original model. The safety analysis concluded that the replacement model was equivalent to the original model and thus no unreviewed safety question existed.
FCR 76-0129 (Unit 1)	The jackscrew from LPSI (low pressure safety injection) flow control valve 1-CV-306 was removed. The Technical Specification was submitted and approved as Amendment 20 to our operating license. The Technical Specification was

standardized to require power to be removed from the valve, with no reference to the jackscrew, thus deleting the requirement for locking the valve open. Removal of the jackscrew did not impair valve operation, and the seismic design was not affected by this slight decrease in weight.

FCR 76-1012
(Unit 1)

The air supply to control valves 1-CV-517, 518 and 519 (auxiliary spray line and charging lines 2A and 1A, resp.) was modified to ensure control valve operability after an accident, in order to prevent boron precipitation in the reactor vessel. A new air accumulator isolation valve (1-CV-2085) between seismic and non-seismic air, and CIS (containment isolation signal) override to containment air supply isolation valve 1-MOV-2080 were added. Post-accident injection of boric acid by the charging pumps was not impaired. All valves required for safety which are downstream of the new valve 1-CV-2085 are designed to assume their safe positions on loss of air.

FCR 76-1028
(Unit 1)

This FCR provided for design, fabrication and installation of platforms over the Unit 1 steam generators to be used for equipment laydown. No unreviewed safety question exists because the platforms were designed to withstand the seismic loads of this location as well as high live loads.

FCR 76-1071
(Unit 1, Unit 2)

This FCR added supports to the charging pump relief valve discharge lines. The supports (one for each line) were installed to prevent minor cracking in the charging pump relief valve inlet lines, caused by excessive vibration in the lines. The modification does not constitute an unreviewed safety question as the piping system remained as is and the piping analysis remained valid.

FCR 77-0054
(Unit 1, Unit 2)

This FCR replaces the miscellaneous receiving tank inlet "Y" strainer with a duplex strainer. The duplex strainer has a greater capacity than the "Y" strainer and does not need mechanical cleaning as frequently as the "Y" type. The miscellaneous waste system operability was not affected as a result of this change.

FCR 79-0097
(Unit 1, Unit 2)

Temporary differential pressure gauges 1/2-PP-4414, 4421, & 4428 for condensate strainers were mounted permanently. The associated strainers are only used for condensate clean-up for 30 days following an outage. There was no effect on the Technical Specifications.

FCR 79-0099
(Unit 1, Unit 2)

CEDS (Control Element Drive System) wiring for U1 and U2 partial length control rods was disconnected to protect existing rods from any wiring malfunctions. These rods were not used for operations nor required in any safety analysis. A constant signal (jumpered from shutdown group B) for these deleted rods was supplied to the Metroscope to preclude false alarms. There was no effect on the Technical Specifications.

FCR 79-1021
(Common)

An electric driven centrifugal make-up pump was installed as an addition to the fire protection system. The pump takes suction from the fire water tank standpipe and discharges into the fire protection system header. This pump was installed as part of a NRC commitment (NRC Position P-20) to provide adequate capacity to meet the intermittent use of fire water for purposes other than fire protection. Automatic pump controls ensure adequate make-up to the fire protection system and improve the operation and reliability of the system.

FCR 79-1033
(Unit 1, Unit 2)

Part 1 Closure of certain U1 and U2 containment isolation valves was transferred from CIS (containment isolation signal) to SIAS (safety injection actuation signal), in order to provide diversity of CIS-initiating parameters, in accordance with NRC I&E Bulletin #79-06B, Item 3. Closure of the affected valves does not degrade needed safety features nor cooling capability upon SIAS. Initiating parameters for SIAS are consistent with design criteria for CIS. The change does not degrade operability of the containment isolation valves, and is consistent with ensuring containment isolation on high radiation or pressure.

Part 2 Certain U1 and U2 containment isolation valves were modified to allow CIS/SIAS overrides, as described in NUREG-0578. Administrative controls and keylocked override hand-switches ensure containment integrity.

FCR 79-1055
(Unit 1, Unit 2)

The control circuits for U1 and U2 containment isolation valves were modified so that resetting ESFAS CIS (containment isolation signal) would not reopen the valves. This was accomplished by wiring a reset permissive of all valves closed for the control room CIS handswitches and adding interposing lock-in relays to the sample valves. NUREG-0578, Section 2.1.4 requires deliberate operator action to reopen the valves. The change did not affect RPS, original design criteria for ESFAS and valve operation, or the Technical Specification.

FCR 80-0007
(Unit 1, Unit 2)

This FCR provided for tube-type hatches (blockouts) to facilitate installation of component cooling heat exchanger tube replacement. The existing room and corridor configuration does not allow long tubes to be maneuvered into the rooms without significant damage. The blockout has been designed to meet all reinforced wall criteria and therefore does not violate any technical specifications or structural requirements.

FCR 80-0083
(Unit 1, Unit 2)

Turbine plant sampling system conductivity recorders 12-CR-6442 were replaced with L & N 250 multipoint recorders in order to: 1) add Hi-Hi alarm capability to the existing Hi alarm for all points; 2) add individual alarm commutation capability for all points so an alarm will not prevent the operator from knowing when another alarm occurs; and 3) facilitate switching between Hi and Hi-Hi alarm setpoints as warranted by plant conditions such as startup.

This NSR equipment is not mentioned in the Technical Specifications.

FCR 80-0098
(Unit 1, Unit 2)

This FCR increased the minimum required volume of solid granular trisodium phosphate dodecahydrate (TSP) from 75 cubic feet to 100 cubic feet. Since the fuel cycle duration was increased to 18 months, it was necessary to increase the boron concentration to offset the increased core reactivity in accident analysis and for shutdown margin control. With the increased boron concentration, it was necessary that the minimum volume of TSP be increased to return the pH of the borated water of the ECCS to 7.0. This change was reflected in technical specification 3/4.5.2.e.3, per Amendment No. 31.

FCR 80-1012
(Unit 1, Unit 2)

The unlined 24" Pratt butterfly valves 1-CV-5206, 2-CV-5206, 1-CV-5208 and 2-CV-5208 and the 30" Pratt butterfly valves 1-CV-5210, 2-CV-5210, 1-CV-5212 and 2-CV-5212 in the salt water system were replaced with Pratt rubber lined butterfly valves to prevent corrosion. The new valves meet the same design specification and quality requirements as the original valves. The integrity of the valve is improved due to the improved corrosion characteristics. The valves use the existing air operators and the function of the valves remains the same. There is no impact to the technical specifications.

FCR 81-0026
(Unit 1, Unit 2)

CEDS permissives IRG and ISH from the U1 and U2 plant computers to shutdown and regulating CEA programmers were deleted. This allows shutdown CEAs to be inserted within the Technical Specification limits even though the regulating CEAs are not completely inserted, and regulating CEAs to be raised even though the shutdown CEAs are not completely withdrawn. The CEAs may thus be repositioned to reduce CEA guide tube thinning. The shutdown CEAs are limited to a range of 129" to 136" by Technical Specifications. Technical Specifications and administrative controls help to ensure that safe shutdown margins are maintained and that power distribution limits are consistent with RPS setpoints. CEA ejection accident analysis assumptions were maintained and thus no unreviewed safety question existed.

FCR 81-0040
(Unit 1, Unit 2)

This FCR covered the installation of additional eight hour battery-operated emergency lights at the manual operators for the main steam bypass valves to the auxiliary feedwater pumps. This change was necessitated by NRC auxiliary feedwater recommendation which required adequate emergency lighting in these areas. This modification was installed as an aid to operating safety related equipment and did not affect the functional operation of the equipment. There was no impact on the technical specifications.

FCR 81-0047
(Unit 1, Unit 2)

This FCR provides for additional metal Q-Deck ceiling in the ceiling of the hallway adjacent to SFP area. Similar ceiling was installed in the same hallway under Security Plan FCR 77-59. This new portion provides the same level of security. The

installation is NSP except for the installation of wall anchors which conformed to civil installation standard. CS-5 for seismic installation.

FCR 81-0065
(Common)

This FCR covered the installation of additional electrical power feeders to machinery which was either relocated or purchased new for the machine shop on the South end of the North Service Building. This work was consistent with the electrical design criteria contained in Section E of the FSAR and did not effect the operation of the plant nor have any affect on the Technical Specifications.

FCR 81-1004
(Common)

This FCR covered the installation of new remote control consoles in the Main Control Room and Classroom #1 to be used for radio communications in connection with the Emergency Response Plan. This work was consistent with the electrical design criteria contained in Section E of the FSAR and will not affect plant operations nor have any affect on the Technical Specifications.

FCR 82-0101
(Unit 1)

This FCR added a spacer between the drive nut and top of the ICI nozzle flange #6 in position L-4. The instrument was received from the manufacturer with insufficient thread length. The spacer was fabricated from materials equal in properties to the drive nut and served to insure full engagement of the detector shaft with the drive nut. The operation of the ICI assembly is in no way affected by this installation.

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