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October 14, 2003

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 2; Docket No. 50-318
Request for Regional Enforcement Discretion

Calvert Cliffs Nuclear Power Plant hereby requests regional enforcement discretion from certain requirements of Calvert Cliffs Technical Specification 3.8.1, "A.C. Sources-Operating." Unit 2 is at full power and Diesel Generator No. 2A has been removed from service to perform the biennial inspection. During this inspection a degraded condition was discovered on an upper main bearing. The affected upper main bearing is being replaced. Under our expected replacement schedule, the diesel generator will be returned to operable status before 2:00 a.m., October 14, 2003. In fact, the diesel generator was returned to operable status at 1:30 a.m., October 14, 2003 and the associated Technical Specification Condition was exited.

The details contained in this letter were discussed with the Nuclear Regulatory Commission staff in a phone call at 2:00 p.m., October 10, 2003. Regional enforcement discretion was granted at 5:45 p.m., October 10, 2003. This letter documents the information provided to the staff during that phone call.

Calvert Cliffs Nuclear Power Plant has evaluated this situation and determined that the impact of this extension of the Diesel Generator Completion Time does not warrant an unnecessary plant transient to shutdown Unit 2. Therefore, we are requesting enforcement discretion to allow Calvert Cliffs Nuclear Power Plant to not comply with a Completion Time for a maximum of three days. This enforcement discretion will allow an extension of the diesel generator out-of-service time from 72 hours to a maximum of 6 days, ending no later than 2:00 a.m., October 14, 2003.

A discussion of the circumstances that led to this request and the safety basis for the request is contained in Attachment (1).

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 14, 2003.

Should you wish to discuss this request, please contact me at (410) 495-4101.

Very truly yours,

KJN/DJM/bjd

Attachment: (1) Description of Circumstances and Safety Basis

cc: J. Petro, Esquire
J. E. Silberg, Esquire
Director, Project Directorate I-1, NRC
G. S. Vissing, NRC
H. J. Miller, NRC
Resident Inspector, NRC
R. I. McLean, DNR

ATTACHMENT (1)

DESCRIPTION OF CIRCUMSTANCES AND SAFETY BASIS

ATTACHMENT (1)

DESCRIPTION OF CIRCUMSTANCES AND SAFETY BASIS

The criteria for evaluating a request for a Notice of Enforcement Discretion are contained in Reference 1. Each of the criteria is addressed below.

Criteria 1: The TS or other license conditions that will be violated.

Calvert Cliffs Nuclear Power Plant hereby requests regional enforcement discretion from certain requirements of Calvert Cliffs Technical Specification 3.8.1, "A.C. Sources-Operating." Condition B of that Specification requires that, when in Modes 1-4 with one of the separate and independent diesel generators (DGs) inoperable, the inoperable diesel generator must be restored to Operable status within 72 hours. If the inoperable diesel generator is not restored to operable status, Condition H must be entered. This Condition requires that the Unit be placed in Mode 3 within 6 hours and Mode 5 within 36 hours. This request for regional enforcement discretion is being made to avoid an unnecessary plant transient as the result of compliance with Technical Specification 3.8.1, Condition H.

Technical Specification 3.8.1, Condition B, was entered for the inspection on the No. 2A DG at2:00 a.m. on October 8, 2003. A degraded condition was found on the No. 2A DG and repairs are scheduled to take longer than the Completion Time of Condition B (72 hours). The repairs are scheduled to be completed by 9:00 p.m. on October 13, 2003. Therefore, we are requesting enforcement discretion to allow Calvert Cliffs Nuclear Power Plant to not comply with a Completion Time for a maximum of three days. This enforcement discretion will allow an extension of the DG out-of-service time from 72 hours to a maximum of 6 days, ending no later than 2:00 a.m. October 14, 2003. Additional schedule details are provided below. Note that the repairs were completed and the DG was returned to operable status at 1:30 a.m. on October 14, 2003.

Criteria 2: The circumstances surrounding the situation, including root causes, the need for prompt action and identification of any relevant historical events.

Background

Calvert Cliffs Nuclear Power Plant is a two-unit site. The Unit 2 Emergency Safety Features electrical system relies on two safety-related DGs. Unit 1 also has two safety-related DGs. In addition, there is a non-safety-related, augmented quality, station blackout 5400 kW DG available. The No. 2A DG is a Fairbanks-Morse diesel generator, as are the Nos. 1B and 2B DGs. The No. 1A DG and No. 0C DG are Societe Alsacienne De Constructions Mecaniques De Mulhouse (SACM) diesel generators.

Plant Condition

On October 8, 2003, a biennial inspection of the No. 2A DG was underway. Technical Specification 3.8.1, Condition B, was entered for the inspection on the No. 2A DG at 2:00 a.m. on October 8, 2003. During the inspection, aluminum particles were found in the suction strainer to the standby lube oil pump. These particles were determined to have originated in an upper main bearing, indicating bearing degradation. The degradation of the bearing was unexpected because the standard vendor recommended bearing inspections were performed successfully during the Unit 2 2003 outage. Unit 2 has remained in Limiting Condition for Operation 3.8.1, Condition B, since taking No. 2A DG out-of-service for inspection. This Technical Specification condition expired at 2:00 a.m. on October 11, 2003. Unit 2 was in Limiting Condition for Operation, Condition H, and was operating under the enforcement discretion granted by the Nuclear Regulatory Commission (NRC) on October 10, 2003. The No. 2A DG has been repaired and the Technical Specification Condition was exited at 1:30 a.m., October 14, 2003.

Apparent Cause

A vendor representative was brought in to support the investigation of the suspected cause, and recommended that we measure the bearing clearances (the bearings are the only source of aluminum). The measurements revealed excessive clearance on the No. 10 upper main bearing. The clearances of the other bearings on the No. 2A DG were measured and found to be within vendor specifications. The No. 10 upper main bearing has been removed and inspection of this bearing showed minor degradation. The No. 9 and No. 11 upper main bearings (the bearings on either side of the No. 10 upper main bearing on the upper crankshaft) were removed for inspection. These bearings were found to be in good condition, with normal wear observed.

The No. 10 connecting rod bearing was also inspected, and was found to have some degradation. This was expected since the lubricating oil flow is from the upper main bearing to the associated connecting rod bearing. The No. 10 connecting rod bearing has been replaced.

Other key points were checked on the No. 2A DG and found to be within vendor specifications. These checks included a straight edge test across the Nos. 9, 10, and 11 saddles. The oil supply line to the No. 10 upper main bearing was inspected and determined to be unobstructed and free of debris or foreign material. The upper crankshaft was checked for straightness using a dial indicator test and found to be straight. Also, the suction strainer for the standby lube oil pump for the No. 1B DG was checked and no debris was found. The No. 2B DG standby lube oil pump suction strainer will be checked after the No. 2A DG is returned to operable status.

A dimensional check was also done on the bearing caps for the Nos. 9, 10 and 11 upper main bearings. The bearing caps for the Nos. 9 and 11 upper main bearings were found to be within vendor specifications. However, the No. 10 bearing cap dimension was found to be out-of-tolerance low by 0.003 inches. This meant that the bearing cap opening was too narrow.

The degradation seen on the No. 10 upper main bearing is believed to be the result of the distorted bearing cap. We believe that the observed distortion of the bearing cap occurred in the 1994/1995 time frame and can be attributed to installation error. During the installation of the No. 10 bearing in 1994, the bearing cap and bearing were not properly aligned. This misalignment likely distorted the bearing cap. After approximately 174 hours of operation the No. 10 bearing was found degraded on August 23, 1995, during a routine inspection. The installation process for the new No. 10 bearing, in 1995, did not detect the distorted bearing cap and the bearing cap was reinstalled. The distorted bearing cap is believed to have caused distortion in the bearing shell, such that after 343 hours of operation, degradation of the bearing was again seen in 2003. Other causes for the observed bearing degradation were evaluated, such as foreign material in the oil, and interruption in the flow of lubricating oil to the bearing. Each of these potential causes was eliminated.

We believe the observed degradation is limited to the No. 10 upper main bearing on the No. 2A DG. Review of past inspection data for the other Fairbanks-Morse DGs has not shown any indications that a similar degradation is occurring on these DGs. Also, degradation of this kind has not been observed in the industry on other Fairbanks-Morse DGs.

Vendor inspection supports the suspected cause at this time. A review of industry experience found no appropriate historical events.

Criteria 3: The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action.

Other Plant Equipment

The other DGs onsite have been tested recently at full load for an hour. The No. 2B DG was tested on October 1, 2003, the No. 1B DG was tested on September 14, 2003, the No. 1A DG was tested on September 29, 2003, and the No. 0C DG was tested on September 1, 2003. The same biennial bearing measurement was completed on the No. 2B DG on September 19, 2002 and the No. 1B DG on June 26, 2001. The No. 2A DG and No. 2B DG bearings were measured during the Unit 2 2003 Refueling Outage, the No. 1B DG bearings were measured during the Unit 1 2002 Refueling Outage. Necessary equipment required for feed and bleed operations in the Reactor Coolant System is operable (e.g., high-pressure safety injection pumps, charging pumps, power-operated relief valves). The auxiliary feedwater pumps are also operable. The condition of the reactor coolant pump seals is normal. There are no significant operator work-around issues on Unit 2, and particularly on the systems mentioned above.

Risk Insights

The effect of remaining in Mode 1 for this extended time was evaluated using risk insights. The Unit 2 risk of operating for three days with the No. 2A DG out-of-service was determined using a Seismic, Fire, Wind, and Internal Events probabilistic risk assessment (PRA) with average unavailabilities. This is the same model used in our DG Required Action Completion Time extension submittal. The only difference is the No. 0C DG heating, ventilation, and air conditioning seismic ruggedness modification is not complete.

The following qualitative issues were not considered in the above analysis:

- By limiting the performance of discretionary maintenance or testing, there is improved defense-in-depth. This results in a reduction in risk.
- Review of the operator actions to be taken on a loss of offsite power improves the likelihood of success of these actions. This results in a reduction in risk.
- The presence of all four offsite circuits maximizes the reliability of offsite power. The Calvert Cliffs PRA does not explicitly provide credit for the benefit of the third 500 kV high-line. A more detailed analysis of the benefit of the additional high-line results in a reduction in risk. No discretionary maintenance or testing on the offsite power system reduces the likelihood of losing offsite power. This specifically applies to switchyard maintenance. In addition, discussions with the System Load Dispatcher indicate no grid instabilities were expected during the requested extension period. Specifically, no severe weather is predicted and no maintenance is scheduled that would impact grid stability for the requested extension period.

The above qualitative actions were not quantified. Compensatory measures were taken to manage the qualitative issues described above. They are described under Criterion 7.

The qualitative portion of our risk assessment included multiple compensatory measures that were not included in our quantitative risk assessment. We believe that the qualitative risk reduction improves the quantitative risk assessment, such that there is no net increase in risk for the requested extension period.

Criteria 4: The justification for the duration of the noncompliance.

A new No. 10 upper main bearing is being installed in the No. 2A DG. An experienced technical representative from the DG vendor is onsite assisting in the repair process. Parts have been delivered. In addition, we have a spare DG engine onsite that we can obtain parts from, if needed. A project management schedule has been developed and is as follows:

- Disassemble engine – 12 hours
- Repair and reassemble the engine – 63 hours
- Activities associated with testing and inspection of the DG – 52 hours

These activities began at noon on October 8, 2003 and are scheduled to be complete and the DG declared operable by 9:00 p.m. on October 13, 2003. To perform these activities, Calvert Cliffs is requesting enforcement discretion in the form of a one-time, three-day extension to the 72-hour Completion Time. Although the schedule time to complete these activities is less than three days, the additional time is requested for contingency activities beyond ones the schedule has already included. Without this discretion, Unit 2 would have commenced shutdown by 2:00 a.m. on October 11, 2003. If additional problems are discovered during the repair process that cannot be resolved in the approved timeframe, we will shutdown Unit 2 as soon as that determination is made. In fact, the No. 2A DG was returned to operable status at 1:30 a.m., October 14, 2003 and the associated Technical Specification Condition was exited.

Criteria 5: The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that a significant hazard consideration is involved.

Calvert Cliffs Nuclear Power Plant is requesting regional enforcement discretion from certain requirements of the Calvert Cliffs Technical Specifications. The Technical Specifications require that, when in Modes 1-4 with one of the separate and independent DGs inoperable, the inoperable DG must be restored to operable status within 72 hours. If the inoperable DG is not restored to operable status, the unit must be placed in Mode 3 within 6 hours and Mode 5 within 36 hours. This request for regional enforcement discretion is being made to avoid an unnecessary plant transient as the result of full compliance with the Technical Specifications. Calvert Cliffs Nuclear Power Plant wishes to extend the 72-hour Completion Time by 3 days. Therefore, Calvert Cliffs is requesting Enforcement Discretion from the NRC to allow the one DG to be inoperable for 3 days longer than the Technical Specification Completion Time of 72 hours without exiting Mode 1. The additional time is needed to repair and test the DG.

The proposed enforcement discretion has been evaluated against the standards in 10 CFR 50.92 and has been determined to not involve a significant hazards consideration, in that operation of the facility during the period of the enforcement discretion:

1. *Would not involve a significant increase in the probability or consequences of an accident previously evaluated.*

   The diesel generators (DGs) provide onsite electrical power to vital systems should offsite electrical power be interrupted. Calvert Cliffs Unit 2 has two safety-related DGs. The DGs are not an initiator to any accident previously evaluated. Therefore, this extended period of operation with the DG out-of-service will not increase the probability of an accident previously evaluated.

The DGs act to mitigate the consequences of design basis accidents that assume a loss of offsite power. For that purpose, redundant DGs are provided to protect against a single-failure. During the Technical Specification 72-hour Completion Time, an operating unit is allowed by the Technical Specifications to remove one of the DGs from service, thereby losing this single-failure protection. This operating condition is considered acceptable. The consequences of a design basis accident coincident with a failure of the redundant DG during the period of Technical Specification non-compliance are the same as those during the 72-hour Completion Time. Furthermore, as a compensatory action, Calvert Cliffs will not perform any discretionary maintenance or testing on any power block equipment or on equipment that would contribute to any increase to the Calvert Cliffs probabilistic risk assessment risk during the period of non-compliance with the Technical Specifications. This will reduce the risk that other mitigating equipment would not be available in the event of a design basis accident. Therefore, during the period of non-compliance, there is no significant increase in consequences of an accident previously evaluated.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. *Would not create the possibility of a new or different type of accident from any accident previously evaluated.*

   During the period of non-compliance with the Technical Specifications, the plant will not be in a new configuration nor will any unusual operator actions be required. The DGs are not an initiator to any accident, but are designed to respond should an accident occur.

   Therefore, the proposed change does not create the possibility of a new or different type of accident from any accident previously evaluated.

3. *Would not involve a significant reduction in a margin of safety.*

   During the period of the 72-hour Technical Specification Completion Time when one DG is out-of-service during power operation, the margin of safety is allowed to be reduced. This time period is a temporary relaxation of the single-failure criteria, which, consistent with overall system reliability considerations, provides a limited time to repair the equipment and conduct testing. Calvert Cliffs is requesting an extension to this limited time. Calvert Cliffs has also instituted a number of compensatory measures that reduce the possibility of a plant transient or a loss of offsite power. Calvert Cliffs concludes that the period of non-compliance with the Technical Specifications beyond that allowed by the Completion Time does not result in a significant further reduction in the margin of safety, based on our management of plant risk, the availability of an alternate DG, the reliability of the redundant DG, and other compensatory measures.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Criteria 6: The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

Operation of Calvert Cliffs Unit 2 during the period of non-compliance with the Technical Specifications will result in no adverse consequences to the environment in that there will be no significant change in

the types or significant increases in the amounts of any effluents that may be released offsite, and in no significant increase in individual or cumulative occupational radiation exposure.

Criteria 7: Any proposed compensatory measure(s).

During the period that we are in non-compliance with the Technical Specifications, we have implemented a number of compensatory, risk-management measures.

- We will not perform elective maintenance on the No. 2B DG.
- The No. 0C DG will remain aligned to the affected bus.
- During the period that we are in non-compliance with the Technical Specifications, we will not perform any discretionary maintenance or testing on any power block equipment or on equipment that would contribute to any increase to the Calvert Cliffs PRA risk. Required surveillance testing will be performed.
- We have reviewed with the control room operators the actions to be taken should a loss of offsite power occur while No. 2A DG is not available.
- If the plant is threatened by a tornado warning or hurricane warning during the period that we are in non-compliance with the Technical Specifications, we will shutdown Unit 2.
- During the period that we are in non-compliance with the Technical Specifications, Calvert Cliffs will not conduct maintenance or testing on the offsite power system.

Criteria 8: A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).

We have evaluated this change and determined that the proposed Condition will not result in an undue risk to the health and safety of the public. The Plant Operations and Safety Review Committee has reviewed the request and concurs with it.

Criteria 9: The request must specifically address which of the criteria specified in Section B is satisfied and how.

This request for regional enforcement discretion is being made to avoid an unnecessary plant transient as the result of compliance with Technical Specification 3.8.1, Condition H (Section B.2.2.1 of Reference 1). Unit 2 is at full power and No. 2A DG is out-of-service to replace an upper main bearing.

Criteria 10: If a follow-up license amendment is required, the written NOED request must include marked-up TS pages showing the proposed TS changes.

Requesting a license amendment would not be practical because the plant will be returned to compliance with the Technical Specifications before a license amendment could be issued. It should also be noted that on May 12, 2003, we submitted a License Amendment Request that would extend the Required Action Completion Time for one DG inoperable to 14 days. This License Amendment Request included quantitative risk analysis and is currently under NRC staff review. Prior adoption of line item improvements in the Technical Specifications would not have obviated the need for this request.

Criteria 11: Provide details for severe weather or other natural phenomena-related NOEDs

We are not requesting a Notice of Enforcement Discretion for a severe weather condition.

Reference

1. NRC Regulatory Issue Summary 2001-20: Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion, dated November 14, 2001

TOTAL P.11