Florida Power
CORPORATION
Crystal River Unit 3
Docket No. 50-302

August 4, 1997
3F0897-22

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Technical Specification Change Request Notice No. 215, Exigent Request for Temporary Extension of Frequency for Emergency Diesel Generator Surveillance Requirement

Dear Sir:

The purpose of this letter is to submit a request for a temporary change to the Crystal River Unit 3 (CR-3) Improved Technical Specifications (ITS) that will extend the frequency of Emergency Diesel Generator (EDG) surveillances during the period of time CR-3 EDGs are being modified. Florida Power Corporation (FPC) is replacing the radiator on both the 'A' and 'B' EDGs at CR-3 power station during the current outage. Performance of this work is scheduled for a minimum of 42 days. Because CR-3 ITS Surveillance Requirements (SR) 3.3.8.1 and 3.8.1.3 have a frequency of 31 days, their performance will be required during the time of radiator replacement on the EDG. Performance of these SRs results in the operable EDG being declared inoperable during the surveillance. For reasons outlined in the supporting information, FPC personnel consider that performing the SRs on one EDG while the other EDG is inoperable would reduce the overall defense in-depth potentially reducing operating safety margins.

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FPC hereby submits TSCRN 215 requesting a temporary amendment to Operating License No. DPR-72 for revisions to CR-3 ITS. This request is being made as an exigent request pursuant to the provisions of 10 CFR 50.91. This request is to change the frequency of Surveillance Requirements 3.3.8.1, Channel Functional Test of EDG Loss of Power Start, and 3.8.1.3, EDG Operation, from the current 31 days to 60 days. This request is for a temporary change which is to be effective from the date of issuance

until November 23, 1997. After that date, the specifications are to revert back to the currently approved frequency of 31 days. Revised BASES pages are also included.

To prevent the interruption of power to the ES buses, work on other electrical power distribution systems during the EDG modifications will be controlled by the CR-3 shift supervisor in accordance with FPC work practices and procedures. The specific controls related to this work are discussed in Attachment A, under Evaluation of Request.

FPC requests NRC review this technical specification change request and provide its approval as soon as possible, but not later than August 29, 1997. Approval by that date is needed based on the performance of the surveillance on August 1, and the next surveillance being due on September 1, 1997. The changes are to be effective on issuance with no implementation period.

If you have any questions regarding this submittal or the schedule, please contact David Kunsemiller, Manager of Nuclear Licensing, at (352) 563-4566.

Sincerely,

Roy A. Anderson
Senior Vice President
Nuclear Operations

RAA:rer
Attachments

xc: Regional Administrator, Region II
Senior Resident Inspector
NRR Project Manager

Attachments:

A. Description of Changes, Reason for Request, and Evaluation of Request

B. Determination of No Significant Hazards Consideration Pursuant to 10 CFR 50.92

C. Basis for Exigent Request for License Amendment

D. Proposed Changes - Strikeout/Shadow Font Pages

E. Proposed Changes - Revision Bar Pages

F. Schedule for Emergency Diesel Generator Outage

STATE OF FLORIDA

COUNTY OF CITRUS

Roy A. Anderson states that he is the Senior Vice President, Nuclear Operations for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Roy A. Anderson
Senior Vice President
Nuclear Operations

Sworn to and subscribed before me this 4th day of August, 1997, by Roy A. Anderson.

Charlene Miller

Signature of Notary Public
State of Florida

NOTARY PUBLIC STATE OF FLORIDA
CHARLENE MILLER
COMMISSION # CC665970
EXPIRES 11/4/2000
BONDED THRU ASA 1-888-NOTARY1

(Print, type, or stamp Commissioned Name of Notary Public)

Personally Known ✓ -OR- Produced Identification _____

ATTACHMENT A

DESCRIPTION OF CHANGES, REASON FOR REQUEST, AND EVALUATION OF REQUEST TSCRN 215

LICENSEE DOCUMENT INVOLVED: Technical Specifications

PORTIONS: Surveillance Requirements 3.3.8.1, Emergency Diesel Generator (EDG) Loss of Power Start (LOPS), and associated Bases; Surveillance Requirement 3.8.1.3, AC Sources - Operating, and associated Bases.

DESCRIPTION OF CHANGES:

A. TEMPORARY: Extend the frequency of Surveillance Requirements 3.3.8.1, Channel Functional test for the EDG LOPS instrumentation from 31-days to 60-days. This change is to be in effect until November 23, 1997.

B. TEMPORARY: Extend the frequency of Surveillance Requirement 3.8.1.3, EDG operation from 31-days to 60-days. This change is to be in effect until November 23, 1997.

This request for extension of the surveillance frequency for SR 3.3.8.1 and SR 3.8.1.3 is for a one-time performance of the surveillances on each of the diesel generators . The 60-day frequency for the surveillances is a temporary condition. This extension is needed only until November 23, 1997. The proposed change provides that the frequency revert to the currently approved 31-day frequency after November 23, 1997.

REASONS FOR REQUEST:

The radiators in the emergency diesel generators (EDGs) at CR-3 are being replaced during the current outage. While the radiator is being replaced, the EDG is in an out-of-service condition. A minimum of 42 days is needed to perform the radiator replacement work, however, this may extend to an estimated 55 days if any one of several contingencies arise. The subject technical specification surveillance requirements have an interval of 31 days. The time required to do the work exceeds the Technical Specification interval. Consequently, performance of these surveillances will be required before the radiator replacement work is completed.

It is possible to perform these surveillances with one EDG inoperable, however, this is not the desired approach and doing so will result in a condition where both EDGs are inoperable at the same time. Surveillance Procedure SP-354A, "Monthly Functional Test of the Emergency Diesel Generator EGDG-1A", and SP-354B for EGDG-1B, requires tripping the fuel racks for a period of approximately 2 hours which makes the EDG not readily available, and the setup and testing of the undervoltage relays which will require approximately eight hours for setup and testing. With both EDGs inoperable, a loss of the operating Decay Heat Removal capability would occur during a loss of normal power, resulting in heatup of the RCS and reliance on the operable OTSG steaming via the Atmospheric Dump Valves for heat removal. Thus, simultaneously having one EDG inoperable due to radiator replacement and performing the monthly surveillances on the other EDG would reduce our overall defense-in-depth due to the potential consequences of a loss of offsite power.

In addition to a loss of offsite power, the plant configuration required to bypass the undervoltage relays in Surveillance Procedures SP-907A, "Monthly Functional Test of 4160V ES Bus 'A' Undervoltage and Degraded Grid Relaying", and SP-907B, "Monthly Functional Test of 4160V ES Bus 'B' Undervoltage and Degraded Grid Relaying," provides the potential for equipment malfunction or personnel error to cause a loss of Decay Heat Removal capability. Relays are used to swap feed to the vital 4160-volt bus from the offsite power source to the EDG through a series of breaker openings and closures upon detection of undervoltage. These relays have a bypass scheme to actually perform the electronic checks. However, during the bypass or restoration phase elements are introduced that can not only drop feed from a EDG or offsite power source but can result in a lockout of that source. The probability is low but the consequences are high that the operating Decay Heat pump would trip and require restoration if possible or rely on steam generators for core cooling. With loss of the Decay Heat pump the earliest time to begin boiling of the reactor coolant system at 50 psia from an initial temperature of 90 degrees F is estimated to be approximately 18 hours.

A similar situation occurred February 7, 1995, at CR-3 in which an undervoltage condition was sensed on 4160V ES Bus 'A' during performance of Surveillance Procedure SP-907A which resulted in an EDG Loss of Power Start signal and stripping of all loads from the bus. This event was documented in LER 50-302/95-002, reported on March 9, 1995.

The EDG radiator modification work is currently the critical path activity for completion of the outage and a major part of CR-3 restart efforts. Completion of EDG 'A' ties directly to work on EDG 'B' which then ties directly into final valve lineups, preoperational testing, and then plant heatup. The startup schedule is being evaluated for opportunities to minimize these impacts.

Based on limited industry experience in replacing radiators a period of 55 days per EDG train may be needed. Therefore, FPC is requesting an extension of the surveillances to 60 days, based on the possible need to handle emergent field activities and to not

place undue pressure on the work force or create a condition that increases shutdown safety risk. However, the safe return to service of the upgraded EDGs will be a priority of CR-3. The date of November 23, 1997, for expiration of the temporary ITS changes is based on starting the work August 2, 1997, and a total time of 110 days, using 55 days as the outage duration on each EDG.

The normal alignment would be to have both OTSGs, Decay Heat Removal trains and both EDGs operable. If the NRC were to not approve the extension, CR-3 will meet the license requirements by performing the surveillance as specified in ITS on the only operable EDG with the above described risks.

EVALUATION OF REQUEST:

Currently, CR-3 is in a cold shutdown condition and will remain in that condition during the entire time that this temporary license amendment would be in effect; i.e., until November 23, 1997. The plant is in an extended outage. In this cold shutdown condition the risk of an event resulting in challenges to safety systems and significant core damage is minimal.

Revising the technical specifications as requested will result in only one interval of the surveillances not being performed on the routine 31-day surveillance interval. This will occur one time on EDG-1A and one time on EDG-1B.

Extending the frequency for performance of these surveillances from 31 days to 60 days for this one-time performance of the surveillances is not expected to result in increased risk to the health and safety of the public.

The performance of these surveillances is being scheduled to coincide with the start of the radiator replacement work. For example, just prior to starting the work on EDG-1A, the surveillances will be performed on EDG-1B. This scheduling coordination will ensure that the EDG-1B is operable prior to initiating work on the EDG-1A. This same approach will be used just prior to commencing the modification work on EDG-1B.

FPC has evaluated several alternatives to submitting this request for changes to the technical specifications. One alternative was to perform the surveillances on the 31-day frequency as required by current technical specifications. Performing this surveillance on the EDG in the operable train, with the other EDG train inoperable, has the potential to result in loss of operating equipment due to undervoltage condition on the ES bus. Another alternative considered was to test the loss-of-voltage and degraded voltage relays one at a time. This was rejected because it would not result in meaningful test results.

CR-3 obtains data from surveillance testing and from operational experience and maintains records of the unavailability of the EDGs and the relays. CR-3 monitors a

parameter referred to as Unavailability Performance Indicator, defined as the sum of known and estimated unavailable hours divided by hours system required. As a limited scope effort the records for 1994 through June, 1997 were reviewed. This data indicates very low values of the performance indicator, with the average value for the 14 quarters being 0.005. This means the EDGs have high availability. The yearly goal for this performance indicator was met in the years reviewed. In total these records reflect low unavailability; i.e., high availability.

During this modification work on the EDGs maintenance, modification, and tests of the electrical distribution system will be controlled in accordance with FPC Administrative Instruction AI-504, "Guidelines for Mode 5 Outages and Reduced Reactor Coolant System Inventory Operations". The AI contains a "CAUTION" to not allow maintenance, modification, or testing of either the 500kV or 230kV switchyards that is supplying power to the running Decay Heat train. A specific configuration for the electrical supply has been approved consistent with the guidelines of AI-504 to account for the electrical power sources that will be available. The approved alignment includes both 230kV power sources connected to CR-3 engineered safeguards (ES) buses, and the 500kV backfeed available. The 500kV source can be connected to either ES bus or the 6900V unit bus with the closure of one breaker. The CR-3 shift supervisor on duty (SSOD) will control access and authorize any work within the 230kV switchyard. Similarly, the SSOD controls any work on the ES buses and associated equipment. Additionally, at least one OTSG will remain available and filled to remove Decay Heat. Numerous sources of water are available to feed the OTSG.

Based on these evaluations FPC concludes that revising the surveillance frequency is the most desirable course of action since it will maintain our outage defense-in-depth.

ATTACHMENT B

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION PURSUANT TO 10 CFR 50.92

Florida Power Corporation (FPC) has reviewed the requirements of 10 CFR 50.92(c) as they relate to the proposed revisions to Technical Specification Surveillance Requirements 3.3.8.1 and 3.8.1.3, and considers the proposed changes do not involve a significant hazards consideration. In support of this conclusion the following analysis is provided:

1. The proposed change will not significantly increase the probability or consequences of an accident previously evaluated.

   An increase in the surveillance interval from 31 days to 60 days does not significantly decrease the reliability of the EDGs nor degrade their ability to perform their intended safety function when required. Based on data obtained over time the EDGs at CR-3 have an excellent record of availability. This extension of the interval will be applied to only one surveillance interval on each EDG and will not be in effect after November 23, 1997.

   CR-3 obtains data from surveillance testing and operational experience and maintains records of the unavailability of the EDGs and the relays. CR-3 monitors a parameter referred to as Unavailability Performance Indicator, defined as the sum of known and estimated unavailable hours divided by hours system required. As a limited scope effort the records for 1994 through June, 1997 were reviewed. This data indicates very low values of the performance indicator, with the average value for the 14 quarters being 0.005. The yearly goal for this performance indicator was met in the years reviewed. In total these records reflect low unavailability; i.e., high availability.

   The EDG that is to remain operable during radiator replacement on the other diesel will be surveilled in accordance with SR 3.3.8.1 and SR 3.8.1.3 just prior to initiation of the EDG outage. This test will ensure its operability.

   Based on the high availability of the EDGs at CR-3 and the fact that this is a one-time extension of the interval for each EDG, it is concluded that this requested extension of the surveillance interval will not result in a significant increased probability or consequences of previously evaluated accidents.

2. The proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

   This request for technical specification changes addresses the interval for performance of the surveillances on a one-time basis for each diesel generator. This requested change to the license by itself does not involve a modification to the EDG. The modifications of the EDGs to replace the radiator have been evaluated pursuant to 10 CFR 50.59. The conclusion of that evaluation is that the radiator replacement does not create the possibility of a new or different kind of accident from any accident previously evaluated.

   Based on the above FPC concludes that changing the surveillance frequency will not create the possibility of a new or different kind of accident.

3. The proposed change will not involve a significant reduction to the margin of safety.

   As discussed above in item number one, the EDGs at CR-3 have a record of high availability. The high availability reflected in those records provides reasonable assurance that the operable EDGs will remain operable during the extended interval between surveillances. By not being required to perform the tests FPC will maintain a higher level of safety than would be possible if the tests were performed. Based on the high availability of the EDGs and the fact that this extension of the surveillance frequency is for one interval only FPC concludes that changing the surveillance interval does not result in a significant reduction to the margin of safety.

Conclusion: Based on the above evaluations, FPC concludes that the proposed technical specifications change to extend surveillance intervals for each EDG one time from 31 to 60 days, effective until November 23, 1997, does not involve a significant safety hazard.

ATTACHMENT C

BASIS FOR EXIGENT REQUEST FOR LICENSE AMENDMENT

Pursuant to 10 CFR 50.91(a)(6)(vi) the following is an explanation of the conditions which resulted in the need for this exigent request for changes to the ITS and why this condition and exigent request for license amendment could not have been avoided. The following discussion shows that FPC made its best efforts to make a timely application after becoming aware of the need for a license amendment. The discussion provides a basis for FPC's conclusion that there is not sufficient time for the normal 30-day period for prior public notice in the Federal Register. The evaluation done pursuant to 10 CFR 50.92 FPC concluded that the requested license amendment involves no significant hazards consideration. As discussed in the following explanation FPC did not willfully create this exigent situation in order to avoid the normal process for a license amendment.

The following demonstrates how FPC did not know of the conditions leading up to the exigent situation until that exigency existed and that the condition could not have been avoided.

During the current CR-3 outage the radiators on the emergency diesel generators (EDG) are being replaced. This work is an essential part of the EDG power uprate that has been identified as necessary in order for CR-3 to accommodate a small break loss-of-coolant accident (SBLOCA) with the assumption of certain limiting single failures.

The EDG radiator replacement outage had originally been planned for the cycle 11R outage, but because of conditions discovered during testing (and reported in LER 97-013-00) it was concluded that the radiator would be replaced during the current outage. As documented in the LER, FPC determined a potential exists for the EDGS to exceed the design basis temperature of 120 degrees F when the outside air temperature is 95 degrees F or greater. Initially, the planned duration for these radiator modifications was scheduled for 25 days. This was based on using a pre-fabricated radiator unit as the replacement and was reflected in the CR-3 restart schedule with the radiator work and normal maintenance overhaul being performed in parallel. As the final design and extent of condition for the EDGs were determined, it was discovered that additional work scope and testing were required to increase the design margins. Much of the additional scope came from critical reviews by the CR-3 Diesel team and System Readiness Reviews of the original EDG and Radiator design versus the EDG loading capability. These discoveries resulted in changes to the design modification package as it was being finalized. In addition, during the week of July 19, 1997, Coltech, the EDG vendor, informed FPC that the pre-fabricated radiator design could not be used. Rather the radiator replacement would involve extensive fabrication onsite of many components in the radiator design.

The incorporation of this revised work scope and the discovery that the bulkhead wall between the engine room and radiator room is inadequate to support the new radiator fan and radiator compartment roof resulted in the 25 day schedule for the radiator replacement being extended to 42 days, including the post-modification test for operability. This schedule is based on a continuous work schedule and contains no contingency for rework, field challenges, or late delivery of parts.

FPC considered alternatives to resolve the problem of the radiator replacement work conflicting with the required surveillance intervals. When it became evident that the most desirable action was to postpone performance of the EDG surveillances while the other diesel was not operable, FPC immediately informed the NRC of the situation. Discussions were held with the NRR Project Manager, the Senior Resident Inspector, and the NRC Region II staff on July 29, 1997. In those discussions it was concluded that an exigent request for technical specification changes would be appropriate. After the telephone call with the NRC Staff, FPC immediately began the preparation of this request for a license amendment.

The current outage situation at CR-3 is such that the radiator replacement work must proceed at this time. This work is currently identified as the critical path activity for the outage. Any delay in start of this work will cause an extension of the outage. The surveillance on EDG-1B was performed August 1, and the outage on EDG-1A began August 2. Based on FPC submittal of this license amendment request in early August, and allowing for the normal 30-day period for prior public review in the Federal Register, the earliest that NRC approval could be expected would be the middle of September. Based on the EDG-1B surveillance on August 1, and a 31-day interval, the next performance of the surveillance would be due on September 1, 1997. To avoid reductions in the defense-in-depth associated with performing the tests FPC needs NRC approval not later than August 29, 1997. This schedule reflects that the time period for normal processing of a license amendment request does not support the date by which NRC approval is needed. An overall timeline reflecting these surveillances and the outages on the EDGs is provided as Attachment F.

The evaluation of whether a significant hazard is involved was performed by FPC and is documented in Attachment B. Based on that evaluation, FPC concluded that the technical specification change does not involve a significant hazard.