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July 29, 1999

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

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Technical Specification Change Request NPF-38-220
Emergency Diesel Generator Allowed Outage Time Increase

Gentlemen:

In accordance with 10CFR50.90, Entergy is hereby proposing to amend Operating License NPF-38 for Waterford 3 by requesting the attached changes to the Technical Specifications (TS). The attached description and safety analysis supports this change to the Waterford 3 TS. The proposed change modifies Specification 3.8.1.1 and associated Bases by extending the Emergency Diesel Generator allowed outage time (AOT) from 72 hours to ten days. This request is a collaborative effort of participating Combustion Engineering Owners Group members based on an integrated review and assessment of plant operations, deterministic and design basis considerations and plant risk. Joint Application Report CE NPSD-996, referenced herein in support of this change, has been submitted to the NRC Staff for review and approval under separate letter CEOG-95-344 dated July 10, 1995. A change to the TS Bases 3/4.8.1, 3/4.8.2 and 3/4.8.3 has been included to support this change.

Additionally, this proposed change adds a Section 6.16 "Configuration Risk Management Program" to the Administrative Controls of the TS. The purpose of the Configuration Risk Management Program (CRMP) is to ensure that a proceduralized Probabilistic Risk Assessment-informed process is in place that assesses the overall impact of plant maintenance on plant risk. Implementation of the CRMP will enable appropriate actions to be taken or decisions to be made to minimize and control risk when performing on-line maintenance for Systems, Structures, and Components with

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a risk-informed Completion Time. TS 6.16 will be applicable to TS 3.8.1.1 because the Completion Time for TS 3.8.1.1 is a "risk-informed Completion Time." The CRMP is consistent with the Amendment Application approved for San Onofre Nuclear Generating Station.

This proposed change has been evaluated in accordance with 10CFR50.91(a)(1), using the criteria in 10CFR50.92(c), and it has been determined that this request involves no significant hazards consideration.

The circumstances surrounding this change do not meet the NRC's criteria for exigent or emergency review. However, Entergy is requesting NRC approval of the TS change prior to April 31, 1999 to allow on-line maintenance in support of Refuel 10, which is currently scheduled to begin September 15, 2000. Entergy Operations requests the effective date for this change be within 60 days of approval.

There are no commitments associated with this request. Should you have any questions or comments concerning this request, please contact Everett Perkins at (504) 739-6379 or Gene Wemett at (504) 739-6692.

Very truly yours,

C.M. Dugger
Vice President, Operations
Waterford 3

CMD/CWT/rtk
Attachments: Affidavit
NPF-38-220

cc: E.W. Merschoff, NRC Region IV, C.P. Patel, NRC-NRR, J. Smith, N.S. Reynolds, NRC Resident Inspectors Office, Administrator Radiation Protection Division (State of Louisiana), American Nuclear Insurers

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of	)	
	)	
Entergy Operations, Incorporated	)	Docket No. 50-382
Waterford 3 Steam Electric Station	)	

AFFIDAVIT

Charles Marshall Dugger, being duly sworn, hereby deposes and says that he is Vice President, Operations - Waterford 3 of Entergy Operations, Incorporated; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached _____; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Charles Marshall Dugger
Vice President, Operations
Waterford 3

STATE OF LOUISIANA)
) ss
PARISH OF ST. CHARLES)

Subscribed and sworn to before me, a Notary Public in and for the Parish and State above named this 29th day of July, 1999.

Notary Public

My Commission expires at death.

DESCRIPTION AND NO SIGNIFICANT HAZARDS CONSIDERATION
DETERMINATION OF PROPOSED CHANGE NPF-38-220

Summary of Proposed Changes

The proposed change requests a change to Technical Specifications (TS) 3.8.1.1. The purpose of this Technical Specification Change Request is to extend the allowed outage time (AOT) for the emergency diesel generators (EDG) from the existing limit of 72 hours to ten days (240 hours). A change to the TS Bases 3/4.8.1, 3/4.8.2 and 3/4.8.3 has been included to support this change. Additionally, this proposed change adds a Section 6.16 "Configuration Risk Management Program" to the Administrative Controls of the TS and the index.

Existing Specification

See Attachment A

Proposed Marked-up Specification

See Attachment B

Proposed Specification

See Attachment C

Background

Waterford 3 is equipped with two seismically qualified, class 1E, diesel engine driven generators which supply backup electrical power to the 4160 volt (V) vital AC busses. Each engine is designed to automatically start and tie-on to its respective 4160V engineered safety features (ESF) bus in the event of a bus undervoltage condition on either the 4160V bus or its associated 480V motor control center. The EDGs also receive an auto start command on a safety injection actuation signal, but will not load unless a bus undervoltage condition exists.

Each EDG is designed to start automatically upon receipt of a start signal, attain rated speed and voltage within 10 seconds, and sequentially accept ESF loads. The EDG is

sized to supply reliable power to all safety-related loads in its respective division, as well as specific nonsafety related loads. The EDGs have a continuous load rating of 4400 kilowatts (kW) with a 2-hour rating of 4840 kW.

The EDGs are designed for manual operation from either the local control panel or the control room operating panel. This provision allows operation for surveillance testing and manual start and load operations as well as local operations in an event, which renders the control room inaccessible.

The EDGs are described in chapter 8.3.1 of the Waterford 3 Final Safety Analysis Report.

Description and Safety Considerations

The current Waterford 3 Technical Specification (TS) 3.8.1.1 requires that if an EDG is declared inoperable for any reason, the EDG be restored to an operable status within 72 hours or place the plant in at least hot standby within the next six hours and in cold shutdown within the following 30 hours. The proposed TS amendment would allow up to ten days to restore operability to an EDG.

This AOT extension is sought to provide needed flexibility in the performance of both corrective and preventative maintenance during power operation. Furthermore, adoption of the proposed AOT extension reduces the risk of unscheduled plant shutdowns. The desire to perform selected maintenance on-line is based on a number of expected enhancements to the maintenance process. Some examples are:

- Allow for increased flexibility in the scheduling and performance of preventative maintenance.

- Reduction in the number of individual entries into limiting conditions for operation action statements by providing sufficient time to perform related maintenance tasks within a single entry.

- Allow better control of resource allocation. During outage maintenance windows, plant personnel and resources are spread across a large number and wide variety of maintenance tasks. Allowing on-line maintenance gives the plant the flexibility to focus more quality resources on any required or elected EDG maintenance.

- Avert unplanned plant shutdown and minimize the potential for notice of enforcement discretion requests. Risks incurred by unexpected plant shutdowns

can be comparable to and often exceed those associated with continued power operation.

- Improve EDG availability during shutdown modes.

The Combustion Engineering Owners Group (CEOG) "Joint Applications Report for Emergency Diesel Generators AOT Extension," CE NPSD-996, has explored and evaluated the various risk contributors associated with the proposed AOT extensions. This evaluation includes a consideration of the risk associated with "at power", "transition" and "shutdown" operations.

The evaluation of "at power risk" change resulting from the extended EDG AOT was performed using plant specific information from each of the participating CEOG members. The results for Waterford 3 show that the proposed AOT changes could increase the average core damage frequency (CDF) by approximately 14%.

The CEOG Report identifies the "at power risk" increase in CDF at Waterford 3 as being higher than the other plants in the study. This increased impact is primarily due to conservative treatment of the Station Blackout event within Waterford 3's Individual Plant Evaluation (IPE). Specifically, the Waterford 3 IPE assumes that all EDG failures occur at the time of loss of offsite power (i.e. all EDG failures are conservatively assumed to be start failures). Even with this conservative modeling approach, Waterford 3 has a relatively low plant baseline CDF (1.54 x 10-5 per year). By using a more realistic approach to the treatment of EDG failure, the "at power risk" increase should generally be comparable to those associated with the CE groups as a whole.

Transition risk represents the risk associated with reducing power and going to hot or cold shutdown. This risk is of interest in understanding the tradeoff between shutting down the plant and restoring EDG operability while the plant continues operation. The results of this risk assessment indicate that performing a ten-day EDG corrective maintenance activity "at power" would be risk beneficial.

Shutdown risk is an assessment of the risk associated with removing an EDG from service while the plant is in a shutdown mode of operation. The results of this risk assessment indicate that performing corrective or preventative maintenance at power would be risk neutral when compared with early outage maintenance and result in a slight increase in risk when compared with late outage maintenance. Performing preventative maintenance at power will however provide greater EDG reliability upon entering shutdown modes than if maintenance had been performed at the end of a refueling outage.

The CEOG report also performed an assessment of the proposed change on large early release scenarios. The assessment of the three classes of events considered for these scenarios concluded that increased unavailability of one EDG will result in a negligible impact on the large early release probability for Waterford 3.

The CEOG report concludes that an EDG AOT extension to ten days may potentially result in a small increase in the "at power" risk. However, when the full scope of plant risk is considered, the risks incurred by extending the AOT for either corrective or preventive maintenance will be substantially offset by plant benefits associated with avoiding unnecessary plant transitions, reducing risks during plant shutdown operations and improved EDG reliability upon entering shutdown.

The implementation of the proposed EDG AOT extension will vary from being risk beneficial to posing a negligible increase in plant risk. The precise impact will depend on the specific circumstances of the entry into the LCO Action Statement.

This TS and Bases change is consistent with the guidelines of NUREG 1432, "Standard Technical Specifications - Combustion Engineering Plants."

This proposed change adds a new Section 6.16, "Configuration Risk Management Program" (CRMP) to the TS. The purpose of the CRMP is to ensure that a proceduralized Probabilistic Risk Assessment-informed process is in place that assesses the overall impact of plant maintenance on plant risk. Implementation of the CRMP will enable appropriate actions to be taken or decisions to be made to minimize and control risk when performing on-line maintenance for Systems, Structures, and Components with a risk-informed Completion Time. TS 6.16 will be applicable to TS 3.8.1.1 ACTION b because the Completion Time for TS 3.8.1.1 ACTION b is a "risk-informed Completion Time."

To ensure plant safety is maintained and monitored, Entergy will implement a Configuration Risk Management Program at Waterford 3, which is to be applicable to TS 3.8.1.1 ACTION b for the EDG.

1. Purpose of CRMP

The purpose of the Configuration Risk Management Program is to ensure that a proceduralized Probabilistic Risk Assessment (PRA)-informed process is in place that assesses the overall impact of plant maintenance on plant risk. Implementation of the CRMP will enable appropriate actions to be taken or decisions to be made to minimize and control risk when performing on-line maintenance for Systems, Structures, and Components (SSCs) with a risk-informed Completion Time.

2. Scope of CRMP

The scope of the SSCs included in the CRMP are all SSCs modeled in the plant PRA, in addition to all SSCs considered to be of High Safety Significance per the Maintenance Rule Regulatory Guide (Regulatory Guide 1.160, Rev. 2).

The CRMP includes the following components and key elements:

Components

a. Risk Assessment Tool
b. Tier 2 restrictions
c. Level 2 and External Events
d. Decision Making Process
e. Associated Procedures

Key Element 1. Implementation of CRMP

The intent of the CRMP is to implement a(3) of the Maintenance Rule (10CFR50.65) with respect to on-line maintenance for risk-informed technical specifications, with the following additions/clarifications:

a. The scope of SSCs to be included in the CRMP will be all SSCs modeled in the plant PRA, in addition to all SSCs considered to be of High Safety Significance per Regulatory Guide 1.160, Rev. 2.

b. The CRMP assessment tool is PRA informed, and may be in the form of either a risk matrix, an on-line assessment, or a direct PRA assessment.

c. CRMP will be invoked as follows for:

Risk-Informed Inoperability: A risk assessment will be performed prior to entering the LCO Condition for preplanned activities. For unplanned entry into the LCO Condition, a risk assessment will be performed in an appropriate timeframe.

Additional SSC Inoperability and/or Loss of Functionality: When in the risk-informed Completion Time, if an additional high safety significant SSC becomes inoperable/non-functional, a risk assessment shall be performed in an appropriate timeframe.

d. Any applicable Tier 2 commitments apply for planned maintenance only, but will be evaluated as part of the Tier 3 assessment for unplanned occurrences.

Key Element 2. Control & Use of the CRMP Assessment Tool

a. Plant modifications and procedure changes will be monitored, assessed, and dispositioned.

- Evaluation of changes in plant configuration or PRA model features can be dispositioned by implementing PRA model changes or by the qualitative assessment of the impact of the changes on the CRMP assessment tool. This qualitative assessment recognizes that changes to the PRA take time to implement and that changes can be effectively compensated for without compromising the ability to make sound engineering judgments.

- Limitations of the CRMP assessment tool are identified and understood for each specific Completion Time extension.

b. Procedures exist for the control and application of CRMP assessment tools, including description of the process when outside the scope of the CRMP assessment tool.

Key Element 3. Level 1 Risk-Informed Assessment

The CRMP assessment tool is based on a Level 1, at power, internal events PRA model. The CRMP assessment may use any combination of quantitative and qualitative input. Quantitative assessments can include reference to a risk matrix, risk monitor, pre-existing calculations, or new PRA analyses.

a. Quantitative assessments should be performed whenever necessary for sound decision-making.

b. When quantitative assessments are not necessary for sound decision making, qualitative assessments will be performed. Qualitative assessments will consider applicable, existing insights from quantitative assessments previously performed.

Key Element 4. Level 2 Issues/External Events

External events and Level 2 issues are treated qualitatively and/or quantitatively.

Guidance for implementing the CRMP is provided by plant procedures.

No Significant Hazards Consideration Determination

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response:

   The emergency diesel generators (EDGs) are backup alternating current power sources designed to power essential safety systems in the event of a loss of offsite power. EDGs are not an accident initiator in any accident previously evaluated. Therefore, this change does not involve an increase in the probability of an accident previously evaluated.

   The EDGs provide backup power to components that mitigate the consequences of accidents. The proposed changes to allowed outage times (AOTs) do not affect any of the assumptions used in deterministic safety analyses.

   In order to fully evaluate the EDG AOT extension, probabilistic safety analysis methods were utilized. The results of these analyses indicate no significant increase in the risk of an accident previously evaluated. These analyses are detailed in CE NPSD-996, Combustion Engineering Owners Group "Joint Applications Report for Emergency Diesel Generators AOT Extension."

   The Configuration Risk Management Program is an Administrative Program that assesses risk based on plant status. Adding the requirement to implement this program for Technical Specification 3.8.1.1 ACTION b does not affect the probability or the consequences of an accident.

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

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different type of accident from any accident previously evaluated?

Response:

The proposed change does not change the design or configuration of the plant. No new method of plant operation is involved.

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

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

Response:

The proposed changes do not affect the Technical Specification limiting conditions for operation or their bases which support the deterministic analyses used to establish the margin of safety. Evaluations used to support the requested Technical Specification changes have been demonstrated to be either risk neutral or risk beneficial depending on precise plant conditions. These evaluations are detailed in CE NPSD-996.

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

Safety and Significant Hazards Determination

Based on the above No Significant Hazards Evaluation, it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92; and (2) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC final environmental statement.