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September 7, 2000

U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Document Control Desk

Subject: Oconee Nuclear Station
Docket Numbers 50-269, 270, and 287
License Amendment Request for Keowee Surveillance
Requirement 3.8.1.9
Technical Specification Change (TSC) Number 2000-08

Pursuant to Title 10, Code of Federal Regulations, Part 50, Section 90 (10 CFR 50.90), Duke Energy Corporation (Duke) proposes to amend Appendix A, Technical Specifications, for Facility Operating Licenses DPR-38, DPR-47 and DPR-55 for Oconee Nuclear Station, Units 1, 2, and 3. In discussions between Duke and the Nuclear Regulatory Commission (NRC), it has become apparent that disagreement exists in the interpretation of the upper voltage and frequency limits associated with Technical Specification (TS) Surveillance Requirement (SR) 3.8.1.9.a as it relates to testing of the Keowee Hydro Units (KHU). Duke contends that the limits on voltage and frequency stated in the SR provide the band that the KHU must initially achieve within 23 seconds following an emergency start. The NRC has stated that these limits must be achieved and maintained, within the 23 second time frame. Since the KHU achieves these bands within the required 23 seconds, then temporarily exceeds the bands before returning to operation within these bands at a time beyond 23 seconds, the NRC has stated that they believe that this SR is not being met.

A conference call between the NRC and Duke occurred on September 5, 2000, to discuss this issue. Duke requested a Notice of Enforcement Discretion (NOED) regarding meeting the requirements of the upper voltage and frequency limits associated with TS SR 3.8.1.9.a. On September 5, 2000, the NOED was granted until this License Amendment Request (LAR) is reviewed and approved. This LAR is following up the NOED.

The proposed LAR revises TS 3.8.1, SR 3.8.1.9.a to add a note that will waive the requirements to meet the upper voltage and frequency limits associated with the SR until an amendment to TS can be developed and approved to resolve this issue.

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A proposed date of April 5, 2001, was projected for the future LAR. Due to the unknown scope of the work that is required, the proposed date may change and would require another LAR to revise.

The revised Technical Specification pages are included in Attachment 1. Attachment 2 contains the markup of the current Technical Specification pages. The Technical Justification for the amendment request is included in Attachment 3. Attachments 4 and 5 contain the No Significant Hazards Consideration Evaluation and the Environmental Impact Analysis, respectively.

This proposed change to the TS has been reviewed and approved by the Plant Operations Review Committee and Nuclear Safety Review Board.

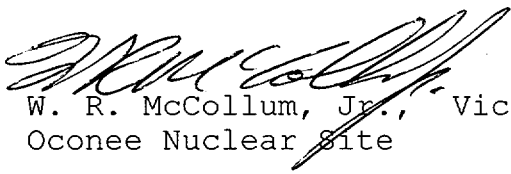
Implementation of these changes will not result in an undue risk to the health and safety of the public.

The Oconee Updated Final Safety Analysis Report has been reviewed and no changes are necessary to support this LAR.

Pursuant to 10 CFR 50.91, a copy of this proposed amendment is being sent to the South Carolina Department of Health and Environmental Control for review, and as deemed necessary and appropriate, subsequent consultation with the NRC staff.

If there are any questions regarding this submittal, please contact Reese' Gambrell at (864)885-3364.

Very truly yours,


W. R. McCollum, Jr., Vice President
Oconee Nuclear Site

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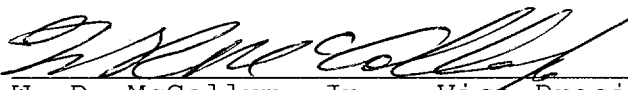
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Oconee Nuclear Station

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Division of Radioactive Waste Management
Bureau of Land and Waste Management
Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

W. R. McCollum, Jr., being duly sworn, states that he is Vice President, Oconee Nuclear Site, Duke Energy Corporation, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this revision to the Facility Operating License Nos. DPR-38, DPR-47, DPR-55; and that all the statements and matters set forth herein are true and correct to the best of his knowledge.



W. R. McCollum, Jr., Vice President
Oconee Nuclear Site

Subscribed and sworn to before me this 7th day of September
2000



Notary Public

My Commission Expires:

2/12/2003

ATTACHMENT 1
TECHNICAL SPECIFICATION

Remove Pages

3.8.1-15
3.8.1-16
3.8.1-17
B 3.8.1-22

Replace Pages

3.8.1-15
3.8.1-16
3.8.1-17
B 3.8.1-22

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.7	Verify both KHU's underground tie breakers cannot be closed simultaneously.	12 months
SR 3.8.1.8	Verify each KHU's overhead emergency power path tie breaker cannot be closed when tie breaker to underground emergency power path is closed.	12 months
SR 3.8.1.9	<p>-----NOTE----- The upper limits on KHU frequency and voltage are not required to be met until the NRC issues an amendment that removes this Note (license amendment request to be submitted no later than April 5, 2001). -----</p> <p>Verify on an actual or simulated emergency actuation signal each KHU auto starts and:</p> <p>a. Achieves frequency ≥ 57 Hz and ≤ 63 Hz and voltage ≥ 13.5 kV and ≤ 14.49 kV in ≤ 23 seconds; and</p> <p>b. Supplies the equivalent of one Unit's maximum safeguard loads plus two Unit's hot shutdown loads when synchronized to system grid and loaded at maximum practical rate.</p>	12 months

12 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.10	Verify each KHU's battery capacity is adequate to supply, and maintain in OPERABLE status, required emergency loads for design duty cycle when subjected to a battery service test.	12 months
SR 3.8.1.11	Verify each KHU's battery cells, cell end plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.	12 months
SR 3.8.1.12	Verify each KHU's battery cell to cell and terminal connections are clean and tight, and are coated with anti-corrosion material.	12 months
SR 3.8.1.13	<p>-----NOTE-----</p> <p>Only applicable when the overhead electrical disconnects for the KHU associated with the underground emergency power path are closed.</p> <p>-----</p> <p>Verify on an actual or simulated zone overlap fault signal each KHU's overhead tie breaker and underground tie breaker actuate to the correct position.</p>	12 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.14 -----NOTES----- Not required to be performed for an SL breaker when its standby bus is energized from a LCT via an isolated power path. ----- Verify each closed SL and closed N breaker opens on an actuation of each redundant trip coil.</p>	<p>18 months</p>
<p>SR 3.8.1.15 -----NOTE----- Redundant breaker trip coils shall be verified on a STAGGERED TEST BASIS. ----- Verify each 230 kV switchyard circuit breaker actuates to the correct position on a switchyard isolation actuation signal.</p>	<p>18 months</p>
<p>SR 3.8.1.16 -----NOTE----- Only applicable when complying with Required Action C.2.2.4. ----- Verify one KHU provides an alternate manual AC power source capability by manual or automatic KHU start with manual synchronize, or breaker closure, to energize its non-required emergency power path.</p>	<p>As specified by Required Action C.2.2.4</p>

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.1.9

This surveillance verifies the KHUs' response time to an Emergency Start signal (normally performed using a pushbutton in the control room) to ensure ES equipment will have adequate power for accident mitigation. UFSAR Section 6.3.3.3 (Ref. 9) establishes the 23 second time requirement for each KHU to achieve rated frequency and voltage. Since the only available loads of adequate magnitude for simulating an accident is the grid, subsequent loading on the grid is required to verify the KHU's ability to assume rapid loading under accident conditions. Sequential block loads are not available to fully test this feature. This is the reason for the requirement to load the KHUs at the maximum practical rate. The 12 month Frequency for this SR is adequate based on operating experience to provide reliability verification without excessive equipment cycling for testing.

This SR is modified by a Note that allows the upper limits on KHU frequency and voltage to not be met until the NRC issues an amendment which removes this Note, with the license amendment request to be submitted no later than April 5, 2001.

SR 3.8.1.10

A battery service test is a special test of the battery capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length should correspond to the design duty cycle requirements as specified in Reference 4.

The Surveillance Frequency of 12 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 6) and Regulatory Guide 1.129 (Ref. 7), which state that the battery service test should be performed with intervals between tests not to exceed 18 months.

SR 3.8.1.11

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The 12 month Frequency for this SR is consistent with manufacturers recommendations and IEEE-450 (Ref. 8), which recommends detailed visual inspection of cell condition and rack integrity on a yearly basis.

ATTACHMENT 2

MARKUP OF TECHNICAL SPECIFICATION

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.7 Verify both KHU's underground tie breakers cannot be closed simultaneously.	12 months
SR 3.8.1.8 Verify each KHU's overhead emergency power path tie breaker cannot be closed when tie breaker to underground emergency power path is closed.	12 months
<div data-bbox="535 747 698 798">Insert</div> SR 3.8.1.9 Verify on an actual or simulated emergency actuation signal each KHU auto starts and: <ul style="list-style-type: none"> a. Achieves frequency ≥ 57 Hz and ≤ 63 Hz and voltage ≥ 13.5 kV and ≤ 14.49 kV in ≤ 23 seconds; and b. Supplies the equivalent of one Unit's maximum safeguard loads plus two Unit's hot shutdown loads when synchronized to system grid and loaded at maximum practical rate. 	12 months <div data-bbox="974 840 1607 1260"> <p>NOTE</p> <p>The upper limits on KHU frequency and voltage are not required to be met until the NRC issues an amendment that removes this Note (license amendment request to be submitted no later than April 5, 2001).</p> </div>
SR 3.8.1.10 Verify each KHU's battery capacity is adequate to supply, and maintain in OPERABLE status, required emergency loads for design duty cycle when subjected to a battery service test.	12 months
SR 3.8.1.11 Verify each KHU's battery cells, cell end plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.	12 months

(continued)

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.8.1.9

This surveillance verifies the KHUs' response time to an Emergency Start signal (normally performed using a pushbutton in the control room) to ensure ES equipment will have adequate power for accident mitigation. UFSAR Section 6.3.3.3 (Ref. 9) establishes the 23 second time requirement for each KHU to achieve rated frequency and voltage. Since the only available loads of adequate magnitude for simulating an accident is the grid, subsequent loading on the grid is required to verify the KHU's ability to assume rapid loading under accident conditions. Sequential block loads are not available to fully test this feature. This is the reason for the requirement to load the KHUs at the maximum practical rate. The 12 month Frequency for this SR is adequate based on operating experience to provide reliability verification without excessive equipment cycling for testing.

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SR 3.8.1.10

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SR 3.8.1.11

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. The 12 month Frequency for this SR is consistent with manufacturers recommendations and IEEE-450 (Ref. 8), which recommends detailed visual inspection of cell condition and rack integrity on a yearly basis.

This SR is modified by a Note that allows the upper limits on KHU frequency and voltage to not be met until the NRC issues an amendment which removes this Note, with the license amendment request to be submitted no later than April 5, 2001.

ATTACHMENT 3

TECHNICAL JUSTIFICATION

ATTACHMENT 3

TECHNICAL JUSTIFICATION

Background

In approved Amendment Numbers 232, 232, 231, prior to Improved Technical Specifications (ITS), the Nuclear Regulatory Commission (NRC) approved a Surveillance Requirement (SR) (3.7.1.11) that required Duke Energy Corporation (Duke) to "Verify each Keowee Hydro Unit can:... 2) Attain rated speed and voltage within 23 seconds of an emergency start initiate...". This amendment was consistent with the way the KHU had previously been tested.

During the conversion to ITS, this requirement was modified to add the upper and lower voltage and frequency limits associated with rated speed and voltage. These limits are reflected in SR 3.8.1.9.a as it exists today and were added for consistency with ITS conventions, not as a change in technical requirements. This modification is documented in the Justification for Deviations associated with Section 3.8 of the ITS (Amendment Numbers 300, 300 & 300), where it is stated that "The ONS CTS 3.7.1 requirements for AC Sources when operating are retained in ITS LCO 3.8.1. Limited modifications are made to the CTS requirements for consistency with the ISTS Writer's Guide and ITS conventions." No SR requirements were added during the ITS conversion in regard to requirements for steady state operation of the KHUs. These were not added, as they did not exist in the current licensing bases prior to ITS conversion.

In recent discussions between Duke and the NRC, it has become clear that interpretation differences exist in the requirements of SR 3.8.1.9.a. SR 3.8.1.9.a states "Verify on an actual or simulated emergency actuation signal each KHU auto starts and: a. Achieves frequency ≥ 57 Hz and ≤ 63 Hz and voltage ≥ 13.5 kV and ≤ 14.49 kV in ≤ 23 seconds, and...". The NRC has stated that their interpretation of this requirement is that the bands on frequency constitute upper and lower limits for operation of the Keowee Hydro Unit (KHU). When a KHU is started, it reaches rated frequency and voltage within the required 23 seconds. Due to the characteristics of the KHUs, the speed of the KHUs continues to increase, causing the frequency to exceed the bands specified in SR 3.8.1.9 for a short (approximately 9 seconds) period of time. Following this brief overshoot, the frequency returns to within the limits specified in SR 3.8.1.9.a.

Given the interpretation of the upper voltage and frequency limits associated with the requirements of SR 3.8.1.9.a by the

NRC, and the overshoot characteristics of the KHUs, this SR cannot be met. Consequently, based on this SR interpretation, both KHUs were declared inoperable at 1440 hours on September 5, 2000, and Notice of Enforcement Discretion (NOED) was requested and granted at 1525 hours on September 5, 2000.

Description of the Technical Specification Change

A Note will be added to SR 3.8.1.9 that allows the upper limits of KHU voltage and frequency to not be met until the NRC issues an amendment that removes this Note. The license amendment request is to be submitted no later than April 5, 2001. A statement that says this SR is modified by a Note that allows the upper limits on KHU voltage and frequency to not be met until the NRC issues an amendment which removes this Note, with the license amendment request to be submitted no later than April 5, 2001 will also be added to the Bases for SR 3.8.1.9.

Technical Justification

The KHUs would function as required during applicable accident scenarios. The KHUs remain capable of attaining rated frequency and voltage within 23 seconds as delineated in UFSAR Section 6.3.3.3 (Loss of Normal Power Source). However, the frequency overshoot associated with the emergency start of the KHUs causes the frequency band in SR 3.8.1.9.a to be temporarily exceeded. KHU frequency typically comes back into the range of the values in SR 3.8.1.9.a within approximately 26 seconds after the emergency start. Special tests conducted in January 1997 and November 1998 demonstrated expected Emergency Core Cooling System and Engineered Safeguards functions when powered through emergency start of Keowee. The NRC reviewed and documented testing of the KHUs in the NRC's Final Report - Emergency Electrical Power System dated January 19, 1999. The Final Report concluded that testing was adequate.

Testing, as previously approved by the NRC, will continue. This amendment does not relieve the requirement to conduct full range of required tests.

Routine testing of the KHUs per SR 3.8.1.9.a is conducted to confirm that the KHUs will start and will be capable of accepting load within 23 seconds, as required by the UFSAR. Duke believes that this testing adequately confirms design basis requirements regarding the ability of the KHUs to accept loads within 23 seconds. The testing is performed by emergency starting the KHUs from the Oconee Control Room per procedure PT/O/A/0620/016. The

KHUs are normally capable of accepting load within approximately 15-18 seconds.

Additional testing is also performed to confirm the operability of the KHUs. Monthly, a separate test (PT/O/A/620/009) is performed which includes verification that the KHU operates within a steady voltage and frequency band. This band is identical to the bands for frequency and voltage provided in SR 3.8.1.9.a. While the steady state voltage and frequency bands are not called out in TS as specific acceptance criteria for this SR, Duke uses these acceptance criteria to verify KHU operability. Also, other surveillance procedures are performed in accordance with TS 5.5.18 (KHU Commercial Power Generation Testing Program) when the KHUs are used for commercial power generation.

Upon an emergency start signal, the KHU wicket gates open to accelerate the turbine-generator, then throttle to control at rated speed. To control at rated speed after acceleration, the wicket gates reposition to balance power provided (flow and head) against friction and electrical load. Friction and electrical load (loss of coolant accident loads up to 22 MWe) are small in comparison to the power provided during acceleration, so significant repositioning of the wicket gates is necessary. The wicket gates are massive and cannot respond instantly. Therefore, overshoot occurs as a necessary physical consequence of equipment design and the requirement to accelerate to rated frequency and voltage within a short time (23 seconds in accordance with SR 3.8.1.9.a). Due to the physical limitations of the KHU, overshoot cannot be prevented, and has been a characteristic of KHU operation since original construction.

Duke has extensively reviewed the emergency power system design. No credible single failure exists that would cause an extended out of tolerance frequency. Circuitry has been added to the KHUs, which will prevent a unit from loading if that unit has a runaway governor. The circuitry was installed by modification ON-52966. Modification ON-52966 was reviewed and approved by the NRC in Amendment Numbers 210, 210, 207 dated August 15, 1995.

Based on engineering judgement and the assessment of integrated KHU tests, Duke concludes that there is no safety significance, nor are there any potential consequences associated with the waiver of the upper voltage and frequency limits associated with the requirements of SR 3.8.1.9.a.

This LAR will allow Duke to avoid an unplanned forced shutdown of all three Oconee units, and the potential safety consequences and operational risks associated with that action. It will also allow Duke the opportunity to work with the NRC to resolve any technical concerns.

ATTACHMENT 4

NO SIGNIFICANT HAZARDS CONSIDERATION

Attachment 4
No Significant Hazards Consideration

Pursuant to 10 CFR 50.91, Duke Power Company (Duke) has made the determination that this amendment request involves a No Significant Hazards Consideration by applying the standards established by the NRC regulations in 10 CFR 50.92. This ensures that operation of the facility in accordance with the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

No. The License Amendment Request (LAR) involves adding a note to Surveillance Requirement (SR) 3.8.1.9 to waive the surveillance requirements associated with the upper limits for KHU voltage and frequency. The waiver of these requirements will allow Duke to avoid an unplanned forced shutdown of all three Oconee units, and the potential safety consequences and operational risks associated with that action. It will also provide an opportunity for Duke to work with the NRC to resolve any technical concerns.

This LAR involves an interpretation issue, rather than the inability of the KHU to perform its intended safety function.

Waiving the requirements to meet the upper voltage and frequency limits associated with SR 3.8.1.9.a does not involve: 1) a physical alteration to the Oconee Units; 2) the installation of new or different equipment; 3) operating any installed equipment in a new or different manner; or 4) a change to any set points for parameters which initiate protective or mitigative action.

There is no adverse impact on containment integrity, radiological release pathways, fuel design, filtration systems, main steam relief valve set points, or radwaste systems. No new radiological release pathways are created.

Therefore, the probability or consequences of an accident previously evaluated is not significantly increased.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

No. The LAR involves adding a note to allow for a temporary waiver of SR 3.8.1.9.a associated with the KHUs.

Waiver of this surveillance requirement does not involve a physical effect on the unit, nor is there any increased risk of a unit trip or reactivity excursion. No new failure modes or credible accident scenarios are postulated from this activity.

Therefore, the possibility of a new or different kind of accident from any kind of accident previously evaluated is not created.

3. Involve a significant reduction in a margin of safety.

No. The LAR involves adding a note to allow waiver of the requirements to meet SR 3.8.1.9.a. Temporarily waiving the requirement to meet this SR will allow Duke to avoid an unplanned forced shutdown of all three Oconee Units and the potential safety consequences and operational risks associated with that action. It will also allow Duke the opportunity to work with the NRC to resolve any technical concerns.

Temporarily waiving the requirement to meet the upper voltage and frequency limits associated with SR 3.8.1.9.a does not involve: 1) a physical alteration of the Oconee Units; 2) the installation of new or different equipment; 3) operating any installed equipment in a new or different manner; 4) a change to any set points for parameters which initiate protective or mitigative action; or 5) any impact on the fission product barriers or safety limits.

Therefore, this request does not involve a significant reduction in a margin of safety.

ATTACHMENT 5
ENVIRONMENTAL IMPACT ANALYSIS

ATTACHMENT 5

Environmental Impact Analysis

Pursuant to 10 CFR 51.22(b), an evaluation of the license amendment request (LAR) has been performed to determine whether or not it meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)9 of the regulations. The LAR does not involve:

1. A significant hazards consideration.

This conclusion is supported by the determination of no significant hazards contained in Attachment 4.

2. A significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

This LAR does not make physical changes to the plant. The plant will continue to operate as before. Therefore, this LAR will not change the types or amounts of any effluents that may be released offsite.

3. A significant increase in the individual or cumulative occupational radiation exposure.

This LAR does not make physical changes to the plant. The plant will continue to operate as before. Therefore, this LAR will not increase the individual or cumulative occupational radiation exposure.

In summary, this LAR meets the criteria set forth in 10 CFR 51.22 (c)9 of the regulations for categorical exclusion from an environmental impact statement.