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*Designated  
Original*

September 27, 2006

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555-0001

Subject: Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC  
Oconee Nuclear Site, Units 1, 2, and 3  
Docket Numbers 50-269, 50-270, and 50-287  
License Amendment Request Applicable to Technical Specification 3.8.1,  
AC Sources - Operating  
License Amendment Request (LAR) 2006-16

In accordance with the provisions of 10 CFR 50.90, Duke Power Company LLC d/b/a Duke Energy Carolinas (Duke) is submitting a License Amendment Request (LAR) for the Facility Operating Licenses and Technical Specifications (TS) for Oconee Nuclear Station. The proposed amendment requests that the Completion Time (CT) of Technical Specification (TS) 3.8.1, AC Sources - Operating, Required Action (RA) C.2.2.5 be extended to allow for a total completion time of 75 days. This is a one time change that will expire at 1029 hours on November 3, 2006.

TS 3.8.1, RA C.2.1, was entered for all three Oconee Units beginning on Saturday, September 23, 2006 at 1050 hours. The condition was initially entered for Keowee Hydro Unit 2 (KHU #2) routine surveillance testing. Shortly thereafter, KHU #2 experienced an emergency lockout condition. While logged into TS 3.8.1, RA C.2.1, the operability of the remaining Keowee Hydro Unit 1 (KHU #1) and associated underground power path was verified in accordance with RA C.1.

Pursuant to TS 3.8.1, RA C.2.1, if an inoperable KHU can not be restored within 72 hours (in this case by 1050 hours on Tuesday, September 26, 2006), Condition M applies and all three Oconee Units must be in MODE 3 within 12 hours and MODE 5 within 84 hours. The alternate 2<sup>nd</sup> CT (45 days) of RA 2.2.5 may be used provided RAs C.2.2.1 - C.2.2.4 are performed prior to exceeding 72 hours. These RAs require both standby buses be energized from a Lee Combustion Turbine, KHU generation to the grid be suspended, verification that the remaining KHU and its

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underground path and both required offsite sources are operable, verification that several electrical power system related LCOs are met, and verification of alternate power source capability. Since troubleshooting revealed that extensive repair was required and the Unit could not be returned to service within 72 hours the alternate RAs were used. RA C.2.2.5 provides an extended CT of 45 days in a three year period to allow for major maintenance of KHUs. Historically this provision has rarely been used. In fact, C.2.2.5 has only been entered two times for KHU #2 in the last 20 years.

During the current three year period, the provisions of RA C.2.2.5 have only been utilized during an extended outage of KHU #2 from January 8, 2005 to February 11, 2005 for a total of 34 days, 0 hours and 21 minutes. The CT for RA C.2.2.5 is cumulative, so an additional 10 days, 23 hours, 39 minutes remain relative to the CT. Since the repair is extensive and will require more than the remaining CT, this proposed change seeks to add an additional 30 days to the CT for RA C.2.2.5 in order to return KHU #2 to service.

The risk analysis included in the attached submittal supports an extension of approximately 55 days including the effects of common cause. For purposes of this TS revision, an extension of 30 days is being requested, which would result in an Incremental Conditional Core Damage Probability (ICCDP) of  $9.0E-08$  if no common cause is included and an ICCDP of  $2.7E-07$  if common cause is included. For reference, although not a permanent change request, these values are well below the guideline described in Regulatory Guide 1.177.

Implementation of this proposed TS change will not require revision to the Oconee Updated Final Safety Analysis Reports (UFSAR). Duke is requesting Nuclear Regulatory Commission (NRC) review and approval of this LAR by close of business October 2, 2006 with implementation to occur immediately.

Additional risk reduction actions to be implemented during the TS extension period as detailed in the LAR are considered to be NRC commitments. These commitments are listed in Attachment 3 and will remain in effect for the duration of the extended CT.

In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, these proposed changes have been reviewed and approved by the Plant Operations Review Committee and Nuclear Safety Review Board. Additionally, a copy of this license amendment request is being sent to the State of South Carolina in accordance with 10 CFR 50.91 requirements.

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Inquiries on this proposed amendment request should be directed to Reese' Gambrell of the  
Oconee Regulatory Compliance Group at (864) 885-3364.

Sincerely,

A handwritten signature in cursive script that reads "Bruce Hamilton".

B. H. Hamilton, Vice President  
Oconee Nuclear Site

Enclosures:

1. Notarized Affidavit
2. Evaluation of Proposed Change

Attachments:

1. Technical Specifications – Mark Ups
2. Technical Specifications - Reprinted Pages
3. Commitments

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bcc w/enclosures and attachments:

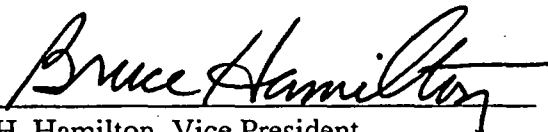
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**ENCLOSURE 1**

**NOTARIZED AFFIDAVIT**

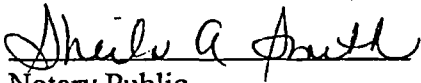
**AFFIDAVIT**

B. H. Hamilton, being duly sworn, states that he is Vice President, Oconee Nuclear Site, Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC 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 Renewed Facility Operating License Nos. DPR-38, DPR-47, and DPR-55; and that all statements and matters set forth herein are true and correct to the best of his knowledge.



B. H. Hamilton, Vice President  
Oconee Nuclear Site

Subscribed and sworn to before me this 27 day of September, 2006



Notary Public

My Commission Expires:

6-12-2013

Date

SEAL

**ENCLOSURE 2**

**EVALUATION OF PROPOSED CHANGE**

Subject: License Amendment Request Applicable to Technical Specification 3.8.1,  
AC Sources - Operating  
License Amendment Request No. 2006-16

1. DESCRIPTION
2. PROPOSED CHANGE
3. BACKGROUND
4. TECHNICAL ANALYSIS
5. REGULATORY SAFETY ANALYSIS
6. ENVIRONMENTAL CONSIDERATION

## 1.0 DESCRIPTION

Technical Specification (TS) 3.8.1, Required Action (RA) C.2.1 was entered for all three Oconee Units beginning on Saturday, September 23, 2006 at 1050 hours. The condition was initially entered for Keowee Hydro Unit 2 (KHU #2) to perform routine surveillance testing. Shortly thereafter, KHU #2 experienced an emergency lockout condition. While logged into TS 3.8.1, RA C.2.1, the operability of the remaining Keowee Hydro Unit 1 (KHU #1) and associated underground power path was verified in accordance with RA C.1.

During troubleshooting on KHU #2, it was determined that one field coil pole connector had melted. The generator field coil poles are connected in series by flexible straps consisting of laminated copper. The straps are connected to each coil winding by a brazement. Oconee is still evaluating what caused the damage to the field coil pole connector.

Major repair steps include the following: pulling the Generator rotor; installing a turbine bracing bar; removing the damaged field coils; stator inspection and testing; repairing and testing the damaged field coils; removing the turbine bracing bar; installing the rotor and balancing; and testing to return KHU #2 to service. The time to complete repair could take up to approximately 40 days.

The other field coils on KHU #2 have been visually inspected with no signs of degradation. Additional testing will be performed once the rotor is removed.

During the routine surveillance testing associated with the event, both KHUs were being tested sequentially on the same day. KHU #1 voltages and currents were normal. No exciter alarm or abnormal indications were noted during operation. The exciter data indicated that there was no change in the field impedance on KHU #1.

RA C.2.2.5 provides an extended CT of 45 days in a three year period to allow for major maintenance of KHUs. Since troubleshooting revealed that extensive repair was required and KHU #2 would not be returned to service within the 72 hours required by RA C.2.1, the extended CT of RA C.2.2.5 was used and both standby buses were energized from a Lee Combustion Turbine (LCT), KHU #1 commercial generation to the grid was suspended, KHU # 1 and its underground path and both required offsite sources were verified OPERABLE, various electrical power system related Limiting Conditions for Operation (LCOs) were verified are met, an alternate power source was verified, and RA C.2.2.5 was entered to restore KHU #2 and its required overhead emergency power path to OPERABLE status. During the current three year period, the provisions of RA C.2.2.5 have only been utilized during an extended outage of KHU #2 from January 8, 2005 to

February 11, 2005 for a total of 34 days, 0 hours and 21 minutes. The 45 day CT for RA C.2.2.5 is cumulative, so an additional 10 days, 23 hours, 39 minutes remain to be utilized. Historically this provision has rarely been used. In fact, C.2.2.5 has only been entered two times for KHU #2 in the last 20 years.

Since the repair is extensive and will require more than the remaining CT, this License Amendment requests review and approval for use of an additional 30 days to the CT of TS 3.8.1 RA C.2.2.5 in order to avoid an unplanned forced shutdown of all three Oconee Units and the potential safety consequences and operational risks associated with that action. Conservative risk analysis fully supports the requested additional time. Due to the urgent nature of this License Amendment Request (LAR), an exigent one-time TS extension is being requested.

The Probabilistic Risk Assessment (PRA) analysis has been conducted by assuming the KHU aligned to the overhead path (i.e. KHU #2) is failed. Two cases are considered. In the first case, the remaining operable KHU aligned to the underground path (i.e. KHU #1) is assumed to not be affected by a similar component failure and its failure probability is the normal random failure probability. In the second case, the KHU aligned to the underground path (KHU #1) is assumed to be potentially affected by a similar component failure. A common cause multiplier is assumed as the failure probability of the underground unit.

In both cases the risk results support the requested 30 day extension of the completion time.

## 2.0 PROPOSED CHANGE

### TS 3.8.1, AC Sources - Operating

Current TS 3.8.1, Condition C RA C.2.2.5 requires that the KHU and its required overhead emergency power path be restored to an OPERABLE status within 45 days. The Completion Time will be modified by a NOTE to allow for a one-time extension of 30 days to expire on November 3, 2006 at 1029 hours.

### TS Bases 3.8.1, AC Sources - Operating

TS Bases 3.8.1 will be revised to reflect addition of the NOTE to TS 3.8.1, Condition C, RA C.2.2.5 requesting the one time extension.

### 3.0 BACKGROUND

#### AC Sources

The AC Power System consists of the offsite power sources (preferred power) and the onsite standby power sources, Keowee Hydro Units (KHU). This system is designed to supply the required Engineered Safeguards (ES) loads of one unit and safe shutdown loads of the other two units and is so arranged that no single failure can disable enough loads to jeopardize plant safety. The design of the AC Power System provides independence and redundancy to ensure an available source of power to the ES systems. The KHU turbine generators are powered through a common penstock by water taken from Lake Keowee. The use of a common penstock is justified on the basis of past hydro plant experience of the licensee (since 1919) which indicates that the cumulative need to dewater the penstock can be expected to be limited to about one day a year, principally for inspection, plus perhaps four days every tenth year.

The preferred power source is provided from offsite power to the red or yellow bus in the 230 kV switchyard to the units startup transformer and the startup incoming breakers (E breakers). The 230 kV switchyard is electrically connected to the 525 kV switchyard via the autobank transformer. Emergency power is provided using two power paths, an overhead path and an underground path. The underground emergency power path is from one KHU through the underground feeder circuit, transformer CT-4, the CT-4 incoming breakers (SK breakers), standby bus and the standby breakers (S breakers). The overhead emergency power path is from the other KHU through the startup transformer and the E breakers. In addition to supplying emergency power for Oconee, the KHUs provide peaking power to the generation system. During periods of commercial power generation, the KHUs are operated within the acceptable region of the KHU operating restrictions. This ensures that the KHUs are able to perform their emergency power functions from an initial condition of commercial power generation.

The standby buses can also receive power from a combustion turbine generator at the Lee Steam Station through a dedicated 100 kV transmission line, transformer CT-5, and both SL breakers. The 100 kV transmission line can be supplied from a Lee combustion turbine (LCT), electrically separated from the system grid and offsite loads. The minimum capacity available from any of the multiple sources of AC power is 22.4 MVA (limited by CT-4 and CT-5 transformer capacities). This ensures sufficient AC power to shut down all three Oconee Units. Figure 1, Emergency Power Distribution, is provided on page 7.

### **Keowee Hydro Station**

The Keowee Hydro Station contains two units rated at 87,500 kVA each, which generate at 13.8 kV. Upon loss of power from the Oconee generating unit and 230 kV switchyard, power is supplied from both KHUs through two separate and independent routes. One route is a 4000 ft. underground 13.8 kV cable feeder to transformer CT4 which supplies the redundant 4160 volt standby power buses. The underground emergency power feeder is arranged with double air circuit breakers (equipped with low air pressure monitoring switches) so that it can be connected to either Keowee generator bus. The connection to the generator bus is made with a metal-enclosed bus. This underground feeder is selected at all times to one hydroelectric generator on a predetermined basis and is automatically energized along with transformer CT4 whenever that generator is in service in either emergency or normal mode. The underground feeder and associated transformer are sized to carry full engineered safeguards auxiliaries of one unit plus auxiliaries for safe shutdown of the other two units.

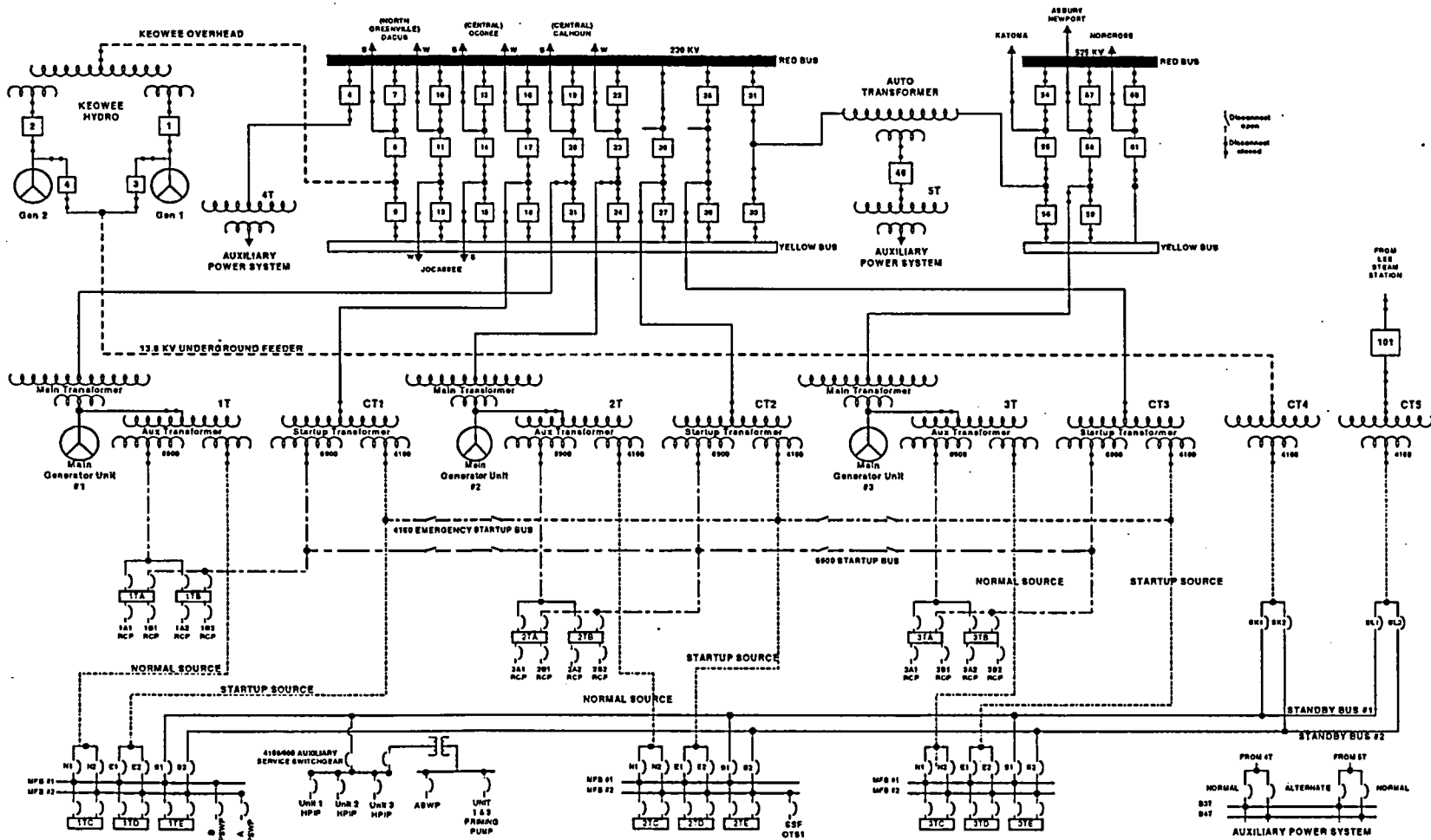
The second route is an overhead 230 kV transmission line to the 230 kV switching station at Oconee which supplies each unit's startup transformer. Each Keowee generator is connected to a common 230 kV stepup transformer through a 13.8 kV metal-enclosed bus and synchronizing air circuit breaker equipped with low air pressure monitoring switches.

Each KHU is provided with its own automatic startup equipment located in separate cubicles within the Keowee control room. The initiation of emergency startup is accomplished by control signals from either Oconee control area. Normal startup of either unit is by operator action while emergency startup is automatic. Both units are started automatically and simultaneously and run on standby on either of three conditions: 1) external grid trouble protection system actuation, 2) engineered safeguards actuation or 3) main feeder bus monitor undervoltage actuation. If the units are already operating when any of the above conditions occur, they are separated from the network (and momentarily from the underground path) and continue to run on standby until needed.

Each unit's voltage regulator is equipped with a volts-per-cycle limiting feature which permits it to accept full emergency power load as it accelerates from zero to full speed within 23 seconds from receipt of the emergency startup initiation signal. On normal automatic startup, each unit is automatically connected and supplies power to the Oconee 230 kV switching station through the stepup transformer by its respective generator air circuit breaker. This is accomplished by the automatic synchronizing equipment of each unit.

On emergency automatic startup, both KHUs are started; the KHU with the underground feeder selected to it supplies that feeder and the other KHU is available to supply the Oconee 230 kV switching station. If there is a system disturbance, this unit is connected automatically to the Oconee 230 kV Yellow Bus only after the Oconee 230 kV Yellow Bus is isolated automatically from the system and the preset time delay has elapsed. Redundant External Grid Trouble Protective Systems are provided to isolate the 230 kV switching station on failure of the external transmission network. Therefore, on loss of the external transmission network, both of the KHUs can provide emergency power to any of the Oconee units through either the 230 kV switching station to the unit's respective startup transformer or the underground feeder and Transformer CT4 at Oconee. Power from the hydro units is available except when: 1. Both units are out of service, or 2. There is a coincident failure of the underground feeder circuit and a complete outage of the 230 kV feeder circuit through the switching station.

Figure 1 – Emergency Power Distribution



### **Technical Specifications**

TS 3.8.1, RA C.2.1, was entered for all three Oconee Units beginning on Saturday, September 23, 2006 at 1050 hours. The condition was initially entered for Keowee Hydro Unit 2 (KHU #2) to support Keowee routine surveillance testing. Shortly thereafter, KHU #2 experienced an emergency lockout condition. While logged into TS 3.8.1, RA C.2.1, the operability of the remaining Keowee Hydro Unit 1 (KHU #1) and associated underground power path was verified in accordance with RA C.1.

Pursuant to TS 3.8.1, RA C.2.1, if the inoperable KHU is not restored by 1050 hours on Tuesday, September 26, 2006, the alternate CTs of RA C.2.2.5 must be used. Otherwise, condition M applies and all three Oconee Units must be in MODE 3 within 12 hours and MODE 5 within 84 hours.

A similar event occurred to KHU # 2 on August 10, 2005 and again on August 20, 2005. On August 10, 2005, during a normal start, an emergency lockout signal was received. LCO 3.8.1 RA C.2.1 was entered at time of lockout. Exhaustive troubleshooting singled out a Bus Differential Relay as the most probable cause of the event. This relay was replaced with a refurbished and tested spare, and post-maintenance testing was determined to be acceptable. At that time, there was reasonable assurance that this relay had caused the lockout condition. Approximately 10 start cycles of KHU # 2 occurred with no further lockout indications until the August 20, 2005 event. On August 20, 2005, TS 3.8.1, RA C.2.1 was entered for all three Oconee Units due to testing. During testing, KHU #2 experienced an emergency lockout condition. The root cause for the KHU #2 trip was mal-operation of the generator bus differential relay 87GB-2, which in turn actuated the KHU #2 emergency lockout relay 86E-2, which resulted in the KHU #2 trip. A one-time extension to facilitate resolution of this problem was approved by the NRC in a Safety Evaluation Report (SER) dated August 23, 2005.

With the KHU or its required overhead emergency power path inoperable due to reasons other than an inoperable startup transformer (Condition A), sufficient AC power sources remain available to ensure safe shutdown of the unit in the event of a transient or accident. Operation may continue if the OPERABILITY of the remaining KHU and its required underground emergency power path is determined by performing Surveillance Requirement (SR) 3.8.1.3 within 1 hour if not performed in the previous 12 hours and once every 7 days thereafter. This demonstration assures the remaining emergency power path is not inoperable due to a common cause or other failure.

If the inoperable KHU or its required overhead emergency power path is not restored to OPERABLE status within 72 hours as required by RA C.2.1, a controlled shutdown of all

three Oconee Units must be initiated as required by the RA for Condition M unless the extended CTs of RA C.2.2.5 are applicable.

The extended CT of RA C.2.2.5 apply when the KHU or its required overhead emergency power path is inoperable due to an inoperable Keowee main step-up transformer or an inoperable KHU (if not used for that KHU in the previous 3 years). In order to use the extended CT, within 72 hours of entering Condition C both standby buses must be energized from an LCT (RA C.2.2.1), KHU generation to the grid except for testing must be suspended (RA C.2.2.2), the remaining KHU and its required underground emergency power path and both required offsite sources must be verified OPERABLE, the LCOs indicated in RA C.2.2.3 must be verified to be met, and alternate power source capability must be verified by performing SR 3.8.1.16.

#### **4.0 TECHNICAL ANALYSIS**

Revision 3a of the Oconee PRA, the current PRA model of record, was used to perform a risk evaluation to justify the extension of 45 days of TS 3.8.1 RA C.2.2.5 by 30 days. This evaluation is documented in an approved Duke calculation. The incremental frequencies and probabilities listed below reflect the increase in risk for the requested TS extension.

In order to perform the required repairs on KHU #2, KHU #1 must be removed from service due to the necessity of dewatering the common intake. Specifically, the added risk associated with removing KHU #1 from service was not modeled, even though it is known that this evolution is planned. This evolution (and its associated risk) is already allowed by TS and the risk aspects will be managed by the 10 CFR 50.65 (a)(4) Maintenance Rule configuration program.

##### **Results and conclusions:**

##### **Case 1: Nominal PRA Values- No Common Cause Effects**

The Incremental Conditional Core Damage Frequency (ICCDF) and Incremental Conditional Large Early Release Frequency (ICLERF) are estimated on a per day basis as follows:

$$\text{ICCDF} = (\text{CCDF} - \text{Base Case CDF})/0.9/365$$

$$\text{ICLERF} = (\text{CLERF} - \text{Base Case LERF})/0.9/365$$

$$\text{ICCDF} = (3.6\text{E-}05 - 3.5\text{E-}05)/0.9/365 = 3.0\text{E-}09/\text{Rx day}.$$

$$\text{ICLERF} = (2.0\text{E-}06 - 2.0\text{E-}06)/0.9/365 = 0/\text{Rx day}.$$

From Regulatory Guide (RG) 1.177, the guidance for the Incremental Conditional Core Damage Probability (ICCDP) and Incremental Conditional Large Early Release Probability (ICLERP) is less than 5E-07 and 5E-08 respectively.

Using the above estimates the limiting duration can be calculated as:

$$X = \text{ICCDP}/\text{ICCDF}$$

$$X = 5\text{E-}07/3.0\text{E-}09 = 166.7 \text{ days}$$

and would justify an extension of approximately 166 days.

#### **Case 2: Common Cause Effects**

For the common cause case:

The ICCDF is  $(3.8\text{E-}05 - 3.5\text{E-}05)/0.9/365 = 9.1\text{E-}09/\text{Rx day}$ .

The ICLERF is  $(2.0\text{E-}06 - 2.0\text{E-}06)/0.9/365 = 0/\text{Rx day}$ .

Including the effects of common cause would justify an extension of approximately 55 days.

$$X = 5\text{E-}07/9.1\text{E-}09 = 55.0 \text{ days}$$

For purposes of this TS revision, an extension of 30 days is being requested.

The requested 30 day extension request would result in an ICCDP of 9.0E-08 if no common cause is included and an ICCDP of 2.7E-07 if common cause is included. For reference, although not a permanent change request, these values are well below the guideline described in RG 1.177.

**Bases for the extension:**

The ICCDF and ICLERF have been conservatively evaluated to be  $3.0\text{E-}09/\text{Rx}$  day and  $0/\text{Rx}$  day respectively. These values would justify an extension of 166 days of operation to restore KHU #2.

There is no data that would support a conclusion of a common cause failure. However, if the impacts of common cause are considered, the ICCDF and ICLERF have been conservatively evaluated to be  $9.1\text{E-}09/\text{Rx}$  day and  $0/\text{Rx}$  day respectively. These values would justify an extension of 55 days to restore KHU #2.

Conservatively, applying the common cause failure case, Duke is requesting an extension of 30 days beyond the TS CT of 45 days to restore KHU #2 to operable status.

The PRA results are conservative as many new cut sets containing previously unanalyzed combinations of human errors are present in the results. The human error probability is assumed to be 1.0 for those human actions not included in the dependency analysis, that is, complete dependency is assumed for the additional human actions in the cut set.

The dominant contributors to the CDF risk are weather related Loss of Offsite Power (LOOP) initiated sequences. With KHU #2 unavailable, PRA assumes a station blackout results if KHU #1 fails. Subsequent failure of the Standby Shutdown Facility (SSF) would lead to a seal Loss of Coolant Accident (LOCA) with no injection capability available and results in core damage.

Additionally, the time frame for this extension occurs when tornado activity in the Oconee area is at its lowest. Specifically, data from the National Severe Storms Forecast Center (1950-1993) show that the number of tornados within 125 nautical miles of the Oconee site is at its lowest of the year in the months of September and October. This seasonal impact is not factored into the PRA analysis which uses an average annual value for the tornado initiating event frequency. This represents a conservatism of the analysis.

**Additional risk reduction actions which will be taken during the extension period:**

The following items are not credited in the PRA evaluation but performed as additional risk reduction measures:

- I. **No discretionary T1 activities will be undertaken during the extension period.** Work activities assigned Special Emphasis code T1 are activities that may result in a direct Unit trip or transient from the loss or failure of the affected component.
- II. **Start a second LCT and maintain in standby conditions.** During the 30 day extension period, a Lee Combustion Turbine (LCT) will be energizing the standby bus via an isolated power path. A second LCT will be operating in standby. The third remaining LCT is also available and can be started and used to supply both standby buses should the running LCT fail. To enhance unit availability, no major preventative maintenance work will be performed on the third LCT. Additionally, the onsite power path including CT5 will be treated as a protected train.
- III. **No discretionary work on KHU #1.**
- IV. **No discretionary work on SSF (including support systems) or Emergency Feedwater (EFW).** This applies only to Oconee Units in the Mode of Applicability for these systems.
- V. **Appropriate actions will be taken to limit physical access to the backup emergency power transformer CT-5.**

**Existing Risk Mitigation Strategies:**

- I. **Actions to be taken for severe weather or grid stability concerns.** For severe weather conditions, Oconee Abnormal Procedure AP/0/A/1700/006 will be entered for each Oconee Unit. This procedure is entered for a variety of weather conditions, including severe thunderstorms, high wind, and tornado watches or warnings. Potential flood conditions also require use of this AP. Guidance is provided to restore critical equipment to service that is undergoing maintenance or testing (SSF, KHU power paths, 4160V power system, EFW, etc.). The SSF will be manned as required by the AP.

Additionally, Keowee Natural Disaster AP/0/A/2000/001 is entered for similar conditions which direct detailed damage assessments of critical structures and components.

For grid stability issues, Oconee Procedure AP/1,2,3/A/1700/034 will be utilized. These unit-specific procedures are entered for actual/suspected voltage or frequency disturbances based on alarms or notification from the Transmissions Control Center (TCC). Appropriate indications are monitored and steps taken to either restore grid

conditions, or shutdown units to separate Oconee from the grid.

- II. **Formal communication protocols in place between Oconee and the local transmission and distribution system operator.** The TCC will utilize the "Real Time Contingency Analyses" (RTCA) computer program to determine and predict grid conditions so that any problems can be anticipated prior to expected occurrence. Oconee Operations personnel will be notified if this program becomes unavailable (which is a normal practice).
- III. **Maintenance performed on normal AC power paths will be evaluated under 10 CFR 50.65 (a)(4) Maintenance Rule Configuration Program.** Work activities affecting 1T, 2T, and 3T transformers will be included in this evaluation.

## 5.0 REGULATORY SAFETY ANALYSIS

### No Significant Hazards Consideration

Pursuant to 10 CFR 50.91, 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.

The request involves a one-time extension of the Completion Time for Required Action C.2.2.5 associated with restoring compliance with TS 3.8.1.

The likelihood of an event occurring during the additional Completion Time of 30 days is essentially the same as that which would occur during the existing 45 day Completion Time; therefore, the probability of an accident previously evaluated is not significantly increased.

The consequences associated with extending the Completion Time by 30 days have been evaluated and results in no change for a previously evaluated accident. In addition, the additional time to effect repairs to the Keowee Hydro Unit will permit Duke to avoid an unplanned forced shutdown of all three Oconee Units and the potential safety consequences and operational risks associated with that action.

There are no adverse impacts 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.

A Lee Combustion Turbine will be energizing both standby buses via an isolated power path. As an additional conservative measure, a second Lee Combustion Turbine will be operating in standby. The third remaining Lee Combustion Turbine is also available and can be started and used to supply both standby buses should the running Lee Combustion Turbine fail. These actions will be implemented to further reduce the risk impact during the extension period.

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

The request for this one-time Technical Specification change involves an extension of the Completion Time for Technical Specification 3.8.1, Required Action C.2.2.5, associated with restoring compliance with the Technical Specification. The proposed change will not physically alter the present plant configuration nor adversely affect how the plant is currently operated. Consequently, this request does not create the possibility of a new or different kind of accident from any kind of accident previously evaluated. Measures previously specified in this submittal are in place as additional risk minimizing actions

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

Since the proposed change will not physically alter the present plant configuration nor adversely affect how the plant is currently operated, the proposed change does not adversely affect any plant safety limits, setpoints, or design parameters. The change also does not adversely affect the fuel, fuel cladding, Reactor Coolant System, or containment integrity. Therefore, the proposed change does not involve a reduction in a margin of safety. Measures previously specified in this submittal are in place as additional risk minimizing actions.

## CONCLUSION

Based upon the preceding evaluation, performed pursuant to 10CFR50.92, Duke has concluded that approval and implementation of this license amendment request at the Oconee Nuclear Station will not involve a significant hazards consideration.

## 6.0 ENVIRONMENTAL CONSIDERATION

Duke has evaluated this license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. Duke has determined that this license amendment request meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9). This determination is based on the fact that this change is being proposed as an amendment to a license issued pursuant to 10 CFR 50 that changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or that changes an inspection or a surveillance requirement, and the amendment meets the following specific criteria.

- (i) The amendment involves no significant hazards consideration.

The likelihood of an event occurring during the additional Completion Time of 30 days is the same as those that would occur during the existing 45 day Completion Time. Therefore, the probability or consequences of an accident previously evaluated is not significantly increased.

This conclusion is supported by the determination of no significant hazards contained in section 5.0.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

This License Amendment Request will not change the types or amounts of any effluents that may be released offsite.

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

This License Amendment Request will not increase the individual or cumulative occupational radiation exposure.

**ATTACHMENT 1**

**TECHNICAL SPECIFICATIONS – MARK UPS**

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2.2.4 Verify alternate power source capability by performing SR 3.8.1.16.  <u>AND</u>	72 hours  <u>AND</u> Every 31 days thereafter
	C.2.2.5 Restore KHU and its required overhead emergency power path to OPERABLE status.	28 days when Condition due to an inoperable Keowee main step-up transformer  <u>AND</u> 45 days from discovery of initial inoperability when Condition due to an inoperable KHU if not used for that KHU in the previous 3 years

(continued)

-----NOTE-----  
An additional 30 days is  
allowed prior to  
November 3, 2006 at  
1029 hours  
-----

BASES

ACTIONS

C.1, C.2.1, C.2.2.1, C.2.2.2, C.2.2.3, C.2.2.4, and C.2.2.5 (continued)

The Completion Time is modified by a note indicating an additional 30 days is allowed when entering Condition C prior to November 3, 2006 at 1029 hours.

repairs which are estimated to be necessary every six to eight years. Also, generator thrust and guide bearing replacements are necessary. Other items which manifest as failures are expected to be rare and may be performed during the permitted maintenance periods. As such, the 45 day restoration time of Required Action C.2.2.5 is allowed only once in a three year period for each KHU. This Completion Time is 45 days from discovery of initial inoperability of the KHU. This effectively limits the time the KHU can be inoperable to 45 days from discovery of initial inoperability rather than 45 days from entry into Condition C and precludes any additional time that may be gained as a result of switching an inoperable KHU from the underground to the overhead emergency power path.

Required Actions C.2.2.1, C.2.2.2, C.2.2.3, and C.2.2.4 must be met in order to allow the longer restoration times of Required Action C.2.2.5. Required Action C.2.2.1 requires that both standby buses be energized using an LCT through the 100 kV transmission circuit. With this arrangement (100 kV transmission circuit electrically separated from the system grid and all offsite loads), a high degree of reliability for the emergency power system is provided. In this configuration, the LCT is serving as a second emergency power source, however, since the 100 kV transmission circuit is vulnerable to severe weather a time limit is imposed. The second Completion Time of Required Action C.2.2.1 permits the standby buses to be re-energized by an LCT within 1 hour in the event this source is subsequently lost. Required Action C.2.2.2 requires suspension of KHU generation to the grid except for testing. The restriction reduces the number of possible failures which could cause loss of the underground emergency power path. Required Action C.2.2.3 requires verifying by administrative means that the remaining KHU and its required underground emergency power path and both required offsite sources are OPERABLE. This provides additional assurance that offsite power will be available. In addition, this assures that the KHU and its required underground emergency power path are available.

Required Action C.2.2.3 also requires verifying by administrative means that the requirements of the following LCOs are met:

## **ATTACHMENT 2**

### **TECHNICAL SPECIFICATIONS– REPRINTED PAGES**

#### **Remove Page**

3.8.1-5  
B 3.8.1-10

#### **Insert Page**

3.8.1-5  
B 3.8.1-10

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	<p>C.2.2.4 Verify alternate power source capability by performing SR 3.8.1.16.</p> <p><u>AND</u></p>	<p>72 hours</p> <p><u>AND</u></p> <p>Every 31 days thereafter</p>
	<p>C.2.2.5 Restore KHU and its required overhead emergency power path to OPERABLE status.</p>	<p>28 days when Condition due to an inoperable Keowee main step-up transformer</p> <p><u>AND</u></p> <p>-----NOTE----- An additional 30 days is allowed prior to November 3, 2006 at 1029 hours -----</p> <p>45 days from discovery of initial inoperability when Condition due to an inoperable KHU if not used for that KHU in the previous 3 years</p>

(continued)

## BASES

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### ACTIONS

#### C.1, C.2.1, C.2.2.1, C.2.2.2, C.2.2.3, C.2.2.4, and C.2.2.5 (continued)

repairs which are estimated to be necessary every six to eight years. Also, generator thrust and guide bearing replacements are necessary. Other items which manifest as failures are expected to be rare and may be performed during the permitted maintenance periods. As such, the 45 day restoration time of Required Action C.2.2.5 is allowed only once in a three year period for each KHU. This Completion Time is 45 days from discovery of initial inoperability of the KHU. This effectively limits the time the KHU can be inoperable to 45 days from discovery of initial inoperability rather than 45 days from entry into Condition C and precludes any additional time that may be gained as a result of switching an inoperable KHU from the underground to the overhead emergency power path. The Completion Time is modified by a note indicating an additional 30 days is allowed when entering Condition C prior to November 3, 2006 at 1029 hours.

Required Actions C.2.2.1, C.2.2.2, C.2.2.3, and C.2.2.4 must be met in order to allow the longer restoration times of Required Action C.2.2.5. Required Action C.2.2.1 requires that both standby buses be energized using an LCT through the 100 kV transmission circuit. With this arrangement (100 kV transmission circuit electrically separated from the system grid and all offsite loads), a high degree of reliability for the emergency power system is provided. In this configuration, the LCT is serving as a second emergency power source, however, since the 100 kV transmission circuit is vulnerable to severe weather a time limit is imposed. The second Completion Time of Required Action C.2.2.1 permits the standby buses to be re-energized by an LCT within 1 hour in the event this source is subsequently lost. Required Action C.2.2.2 requires suspension of KHU generation to the grid except for testing. The restriction reduces the number of possible failures which could cause loss of the underground emergency power path. Required Action C.2.2.3 requires verifying by administrative means that the remaining KHU and its required underground emergency power path and both required offsite sources are OPERABLE. This provides additional assurance that offsite power will be available. In addition, this assures that the KHU and its required underground emergency power path are available.

Required Action C.2.2.3 also requires verifying by administrative means that the requirements of the following LCOs are met:

**ATTACHMENT 3**

**COMMITMENTS**

The following commitment table identifies those actions committed to by Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC (Duke) in this submittal. These commitments will remain in effect for the duration of the extended Required Action Statement.

<b>Commitment</b>	<b>Implementation Date</b>
No discretionary T1 work will be undertaken	October 4, 2006 at 1029 hours
A second Lee Combustion Turbine operating and in standby	October 4, 2006 at 1029 hours
No discretionary work on KHU #1	October 4, 2006 at 1029 hours
No discretionary work on Standby Shutdown Facility (including support systems) or Emergency Feedwater allowed	October 4, 2006 at 1029 hours
Appropriate actions will be taken to limit physical access to the backup emergency power transformer CT-5	October 4, 2006 at 1029 hours

Other actions discussed in the submittal represent intended or planned actions by Duke. They are described to the Nuclear Regulatory Commission (NRC) for the NRC's information and are not regulatory commitments.