Duke Power

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August 22, 2005

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

SUBJECT: Duke Energy Corporation
Oconee Nuclear Station Units 1, 2, and 3
Docket Nos. 50-269, 270, and 287
Response for Additional Information for Technical Specification 3.8.1, "AC Sources - Operating"
Technical Specification Change (TSC) 2005-07

In a letter dated August 21, 2005, Duke Energy Corporation (Duke) submitted a License Amendment Request (LAR) for the Facility Operating Licenses and Technical Specifications (TS) for Oconee Nuclear Station. The proposed amendment requested that the Completion Time (CT) of Technical Specification (TS) 3.8.1, AC Sources – Operating, Required Action (RA) C.2.1 be extended to allow for a total completion time of 168 hours. This was a one time change that will expire at 1058 hours on August 27, 2005.

In support of the Nuclear Regulatory Commission review of the proposed amendment request, on August 22, 2005, the Staff submitted several Requests for Additional Information (RAIs). Pursuant to this request, the enclosure to this letter provides Duke's responses to these additional questions.

If there are any inquiries on this submittal or additional information is required, please contact Stephen C. Newman of the Oconee Nuclear Site Regulatory Compliance Group at 864-885-4388.

Very truly yours,

R. A. Jones, Vice President
Oconee Nuclear Site

Enclosure

A001

xc w/Enclosure:

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R. A. Jones, affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.

R. A. Jones, Vice President

Subscribed and sworn to me: 8/22/05
Date

Rebecca M Burrell, Notary Public

My commission expires: May 21, 2007
Date

SEAL

bxc w/Enclosure:

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NRIA File/ELL
Oconee Master File – ON03DM (File OS 801.01)

ENCLOSURE

RESPONSES FOR ADDITIONAL INFORMATION FOR
LICENSE AMENDMENT REQUEST, TECHNICAL SPECIFICATION 3.8.1,
"AC SOURCES - OPERATING"
TECHNICAL SPECIFICATION CHANGE (TSC) 2005-07

RAI #1: Please provide brief description of onsite and alternate ac (AAC) power source.

Duke Response: An offsite power system and an onsite power system are provided for each unit at the Oconee Nuclear station to supply the unit auxiliaries during normal operation and the Reactor Protection System and Engineered Safeguards Protection Systems during abnormal and accident conditions.

Each Oconee unit has six available sources of power to the Engineered Safeguards Systems as shown in the following figure (Figure 1). These are:

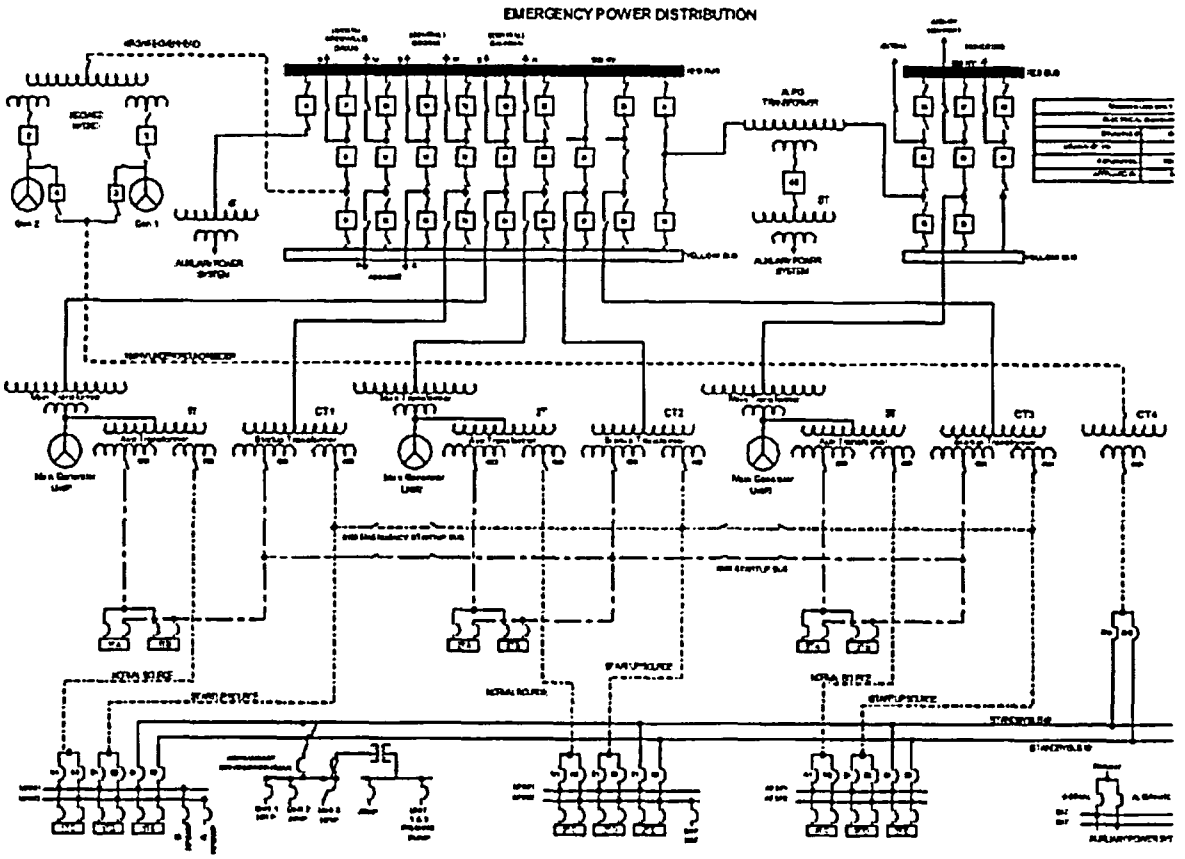
- The 230 kV transmission system and/or the 525 transmission system
- Two Keowee hydro units
- The 100 kV transmission system
- The two other nuclear units

The normal arrangement is for three of these to service any or all units and to be switched in the preferential order as follows: (1) the 230 kV transmission network through the unit startup transformers, (2) one Keowee hydro unit through an overhead 230 kV circuit, and (3) the other Keowee hydro unit through an underground circuit.

Whenever the underground circuit from Keowee is unavailable, a circuit from the 100 kV transmission network can be connected to the Standby Buses and serve as an emergency power source.

Any unit can provide power to another unit's Auxiliary System via the switchyard.

Figure 1



RAI #2: Please describe what actions will be taken if severe weather or grid stability concerns arise during the exigent allowed outage time (EAOT) extension.

Duke Response: 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 winds, 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, Keowee power path, 4160V power system, Emergency Feedwater, etc.). Also, the SSF is manned with Operators. Since KHU # 2 and the overhead power path are already out of service, the following actions have been taken as a preliminary conservative measure:

- SSF has been manned by Operators full time
- A second Lee Combustion Turbine will be running
- No Engineered Safeguards (ES) testing is allowed
- No work on SSF (including support systems) or EFDW allowed
- No work on KHU #1
- Except for testing, KHU #1 is not allowed to generate to the grid
- No "T" Code work (no high risk trip/transient work will be allowed)

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.

Note: Refer to Duke Responses to NRC TI 2515/156 and 2515/163 for additional details regarding Grid Stability questions. Both documents have previously been forwarded as Word files to the Staff.

RAI #3: Please describe the formal communication protocols and agreement that are presently in place between the Oconee and the local transmission and distribution system operator to (a) reduce the probability of loss of offsite power to the Oconee and (b) maintain adequate offsite power system voltage at Oconee assuming a trip of one unit.

Duke Response: a) The TCC utilizes 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 (a normal practice); b) The Duke system reserve conditions will be maintained at an "adequate" level or better (greater than 1200MW's, significantly higher that the output of a single Oconee unit) by the System Operating System (SOC).

Work will be coordinated such that system grid status will also be maintained at a "Green" or "Yellow" status by the SOC during this period. Definitions are as follows:

Overall System Indicator

During the highest load months (June, July, and August) schedules will be developed such that only one T1 activity is scheduled on the Duke nuclear system at any one time. Moving of any T1 activities during this time frame requires coordination between the three sites. During other periods of the year the following criteria apply to T1 activities.

Green = Normal activities, good scheduling practices, no restrictions on testing, routine PT's, PM's.

Yellow = NGD Duty will evaluate for reschedule and contact the SWM (WCC SRO, ONS) for additional reschedule evaluation. Adjust scheduled activities (GRID) to ensure that:

Only one T1/G1coded work order at a site at any one time.

Only oneT2/G2 coded work order on any unit at any one time. (i.e. there may be 7 in progress at any one time on the system)

Approval level to reschedule: On-Line Work Manager

Orange = Reschedule (postpone) all generation risk activities. Station Manger may approve proceeding with scheduled generation risk activities up to the following limits:

Only one T1/G1coded work order at any one time on the Duke nuclear system

Only oneT2/G2 coded work order at any site at any one time. (i.e. there may be 3 in progress at any one time on the system)

Red = Evaluate all work, pursue extension of deadlines, consider work stand down. Station Manager shall authorize a stand down and approve the performance on any T1/G1/T2/G2 work that has been determined to be essential for continued operation

Work Codes T1/G1, T2/G2 are defined as follows:

Nuclear Generation Risk Activity

Work activities identified by each site that when executed pose a credible risk to unit megawatt production. These work activities will be assigned a Special Emphasis code in the work management system indicating the risk significance associated with the activity. Any work activity that has resulted in an unplanned generation loss in the past 24 months should receive additional review for consideration as a generation risk

Trip or Transient Special Emphasis Codes

T1: Indicates that loss or failure of the component can result in a direct unit trip or transient. (ex. Rx trip bkr testing).

T2: Indicates that loss or failure of the component will not result in a direct unit trip or transient, but loss or failure of a redundant component can result in a unit trip or transient. (ex. Excore Power Range detector testing)

Generation Loss Activity Special Emphasis Codes

G1: Any task or activity that could result in an efficiency loss or requires a power reduction greater than 20 MW electrical

G2: Any task or activity that could result in an efficiency loss or requires a power reduction of less than 20 MW electrical activity

The Duke System grid status is projected to be GREEN throughout this EAOT extension period (1058 hours on August 27). However, if the EAOT is not approved, all three Oconee units are taken out of service; grid status will degrade to ORANGE.

RAI #4: Provide a description of planned maintenance on required systems, subsystems, trains, components and devices that depend on the other trains of equipment during EAOT extension.

Duke Response: During the period of the EAOT, planned maintenance activities on critical electrical, mechanical, and support systems /subsystems /trains /components /devices are being carefully controlled. In most cases, all maintenance activities are being deferred. Specifically, maintenance work on systems/equipment will be suspended as addressed in the answer to Question #7. However, the following are examples of TS work is planned to be performed between August 23 and August 27, 2005 due to low risk potential:

- Siphon Seal Water header - Required Preventative Maintenance (PM)
- Control room booster fans - Required PM
- Reactor building spray system - Required PM
- Hydrogen analyzer - Required PM
- Spent fuel pool ventilation - Required PM
- Waste gas system - Required PM
- Reactor building isolation - Required PM
- Modification on control room booster fan - TS Related Work

RAI #5: Provide verification that no adverse weather conditions exist in the areas of offsite power supplies that challenge the stability of the grid.

Duke Response: The Duke Energy Weather Office forecast for Oconee County indicates a potential for showers and thunderstorms (none deemed severe or threatening) between August 22 and August 23, 2005. Chance of rain ranges between 40 - 60% during this period, with temperatures ranging between the lower 70s to the lower 90s. From August 24 through August 27, 2005 the forecast calls for cloudy conditions with a 30 - 50% chance of rain. Temperatures are expected to range between the lower 70s to the upper 80s, with conditions improving toward the weekend. This forecast has been confirmed with the Duke Meteorologist as of 1155 hours this morning. The Duke service area forecast predicts similar weather conditions, with no adverse weather that would challenge the stability of the grid.

RAI #6: Provide verification that station is not under hurricane, tornado or flood watches or warnings.

Duke Response: There are no tornado watches or warnings in the Oconee/Pickens County and none are forecast for the next four days. Additionally, there are no tropical storms or hurricanes forecast to effect the Oconee/Pickens county area for the next four days until expiration of the EAOT period.

RAI #7: Describe other compensatory measures to be taken during EAOT extension (i.e., Turbine driven auxiliary feedwater pump, auxiliary feedwater pump, etc.)

Duke Response: The Operations Shift Manager Turnover Sheet notes the following additional compensatory measures for the period KHU #2 and associated overhead power path are out of service:

- SSF has been manned by Operators full time
- A second Lee Combustion Turbine will be running
- No Engineered Safeguards (ES) testing is allowed
- No work on SSF (including support systems) or EFDW allowed
- No work on KHU #1
- Except for testing, KHU #1 is not allowed to generate to the grid
- No "T" Code work (no high risk trip/transient work will be allowed)

RAI #8: Does the condition affecting KHU #2 also affect KHU #1 (common cause issue)?

Duke Response: While the cause for the Keowee Unit 2 failure is unknown, it is not considered, at this time, to be common to a Keowee Unit 1 condition. This conclusion is based upon the following facts:

- Keowee Units 1 and 2 have similar operating histories. KHU#2 has experienced two emergency lock outs within the last 15 unit starts with no associated indication of a valid fault condition. KHU#1 has not experienced any emergency lockout during it's recent operating history.
- Ongoing testing, troubleshooting efforts and engineering judgment have not identified any deficiencies that are common to KHU#1.

A component of the root cause evaluation will be to address the cause's extent of condition. If at any time during the investigation a common cause is identified affecting KHU#1 operability the appropriate TS condition will be entered.

RAI #9: Is one Lee Combustion Turbine (LCT) sufficient to handle all Oconee safe shutdown equipment loads?

Duke Response: Yes. A single LCT is rated at 44.1 MVA and is tested per TS annually to produce greater than 25 MW(e). Associated transformer CT5 is rated at 22.4 MVA, and the safe shutdown loads three unit LOCA/LOOP event are equal to or less than 16 MVA.