Duke Energy®

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June 2, 2011

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

SUBJECT: Duke Energy Carolinas, LLC
Docket Nos. 50-270, -287
Oconee Nuclear Station, Units 2 and 3
Request for Enforcement Discretion Regarding Technical Specification 3.6.3, Required Action A.1

Duke Energy Carolinas, LLC (Duke Energy) requests the Nuclear Regulatory Commission (NRC) grant discretion from enforcing the requirements of Technical Specification (TS) 3.6.3 Required Action (RA) A on Containment Isolation Valves. This request was discussed with the NRC staff in a telephone conference call on June 2, 2011. The enforcement discretion was granted verbally by the NRC following the conference call. This submittal fulfills the requirement to submit the written enforcement discretion request within a few hours of the oral request.

On June 2, 2011, at approximately 1210 hours, containment isolation valves 2HP-5, 2HP-21, 3HP-5, and 3HP-21 were declared inoperable upon confirmation that errors were discovered in approved calculations which resulted in a reduction in the valve(s) closing margin. On-going evaluations indicated the valves' required spring closing forces were inadequate, resulting in a negative closing margin at normal reactor coolant system pressures.

Technical Specification Limiting Condition for Operation (TS LCO) 3.6.3, "Containment Isolation Valves," requires that each containment isolation valve shall be OPERABLE in MODES 1, 2, 3 and 4 or isolate the affected penetration flow path within 4 hours. If the penetration is not isolated within 4 hours, then the Unit must be placed in MODE 3 within 12 hours and MODE 5 within 36 hours.

This request applies to Condition A for one or more flow paths with one Containment Isolation valve inoperable. Duke Energy requests that the Completion Time for TS 3.6.3, Required Action A.1 for Units 2 and 3 be extended to 14 days or until grid conditions are predicted to improve enough, either by weather or available capacity, for a period of at least 10 days, to ensure the safe and orderly shutdown of one or both units to effect repairs or take other actions to restore compliance with the TS. The total time for this discretion will not exceed 14 days.

The Attachment provides the information required by Section D of the NRC's Technical Guidance document for Notices of Enforcement Discretion provided in Part 9900 of the NRC Inspection Manual. This request for enforcement discretion satisfies Criteria B.2.2 (i.e., a severe-weather NOED) of the Technical Guidance regarding Notices of Enforcement Discretion provided in Part 9900 of the NRC Inspection Manual.

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Enforcement discretion is required to address power delivery challenges during a time of significant grid vulnerability that would be encountered should Oconee Units 2 and 3 be shut down as a result of complying with the requirements of TS 3.6.3, Required Actions D.1 and D.2.

This NOED request was reviewed and approved by the Oconee Plant Operations Review Committee (PORC) on June 2, 2011.

This NOED request was approved by the NRC on June 2, 2011, at approximately 1830 hours.

Inquiries on this matter should be directed to Stephen C. Newman, Oconee Regulatory Compliance Group, at 864-873-4388.

Sincerely,

T Gillespie

T. Preston Gillespie Jr.
Vice President
Oconee Nuclear Site

Attachment
Enclosure

xc (w/attachment/enclosure):

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Attachment
Oconee Nuclear Station, Units 2 and 3
Request for Enforcement Discretion
Technical Specification 3.6.3, Required Action A

Background

TS LCO 3.6.3, Containment Isolation Valves, requires that each containment isolation valve shall be OPERABLE in MODES 1, 2, 3 and 4. Condition A states that, for penetration flow paths that have two isolation valves, with one or more penetration flow paths with one containment isolation valve inoperable, at least one isolation valve in the affected flow path must be isolated by use of at least one closed and de-activated automatic valve, one closed and de-activated non-automatic power operated valve, closed manual valve, blind flange, or check valve with flow through the valve secured within 4 hours. If the penetration is not isolated within 4 hours, then the Unit must be placed in MODE 3 within 12 hours and MODE 5 within 36 hours per Condition D.

For Oconee Units 2 and 3, the respective unit's HP-5 is a containment isolation valve in the Letdown System. This air operated valve (AOV) has an instrument air operated piston actuator. It shall go to the closed position on loss of air. The valve is normally open when High Pressure Injection (HPI) is in service to allow letdown flow from the Reactor Coolant System. The valve serves as the outside containment isolation valve on penetration number 6 and is automatically closed by an Engineered Safeguards (ES) signal. ES channel 2 automatically de-energizes a solenoid valve to bleed off air, allowing HP-5 to close. An ES Channel 2 signal is generated on low RCS pressure or high containment building pressure. The valve also receives a close signal on high letdown temperature to terminate letdown flow; however, this function is provided to prevent damage to the Purification Demineralizers (equipment protection) rather than for nuclear safety.

For Oconee Units 2 and 3, the respective unit's HP-21 is a containment isolation valve in the flowpath that returns Reactor Coolant Pump Seal Water to the Seal Return Coolers. This valve is normally open during unit power operation and serves as the outside containment isolation valve on penetration number 7. HP-21 is automatically closed by an ES signal. ES channel 2 automatically energizes a solenoid valve to close HP-21.

For Technical Specification Operability, HP-5 and HP-21 are credited to close during Large Break LOCA, Small Break LOCA, and Rod Ejection Accident events.

On June 2, 2011, at approximately 1210 hours, it was determined that 2HP-5, 2HP-21, 3HP-5, and 3HP-21 may not close on an ES Signal on low RCS pressure or high Reactor Building (RB) pressure due to low actuator margin. Duke Energy hereby requests that the Nuclear Regulatory Commission (NRC) grant discretion in enforcing compliance with Technical Specification (TS) 3.6.3 Required Action (RA) A.1. This request for enforcement discretion is applicable to Oconee Units 2 and 3. The following information is provided to address the items contained in Section D of the NRC's Technical Guidance document for Notices of Enforcement Discretion provided in Part 9900 of the NRC Inspection Manual.

Need for NOED

Removing all three Oconee Units from service (Oconee Unit 1 is currently shutdown for refueling outage 1EOC26) would exacerbate an already fragile power grid situation. The loss of generation could have an immediate detrimental impact on the public health and safety from resultant rolling blackouts as demand exceeds capacity on the system. Additionally, the shutdown of three units at Oconee Nuclear Station will create voltage support challenges based on the system demands due to the location of ONS on the Duke Energy grid. The approval of this NOED will allow both Units 2 and 3 to remain in service while benefitting the public by improving grid reliability. Currently, the Duke grid status is predicted to be challenged through Friday, June 3, 2011, as well the following week, starting on Monday June 6, 2011. Temperatures in the Duke Energy service area for the next 10 days are predicted to be in the mid-90s. Due to the potential impact on public health and safety due to power delivery challenges, as opposed to only radiological safety consideration, this event meets the severe weather NOED entrance criteria.

Duke Energy is requesting that the NRC exercise discretion to not require compliance with TS 3.6.3, Required Action A for the Units 2 and 3 inoperable containment isolation valves 2HP-5, 2HP-21, 3HP-5, and 3HP-21. Specifically, Duke Energy requests that the Completion Time for TS 3.6.3, Required Action A.1 for Units 2 and 3 be extended to 14 days or until grid conditions are predicted to improve enough, either by weather or available capacity, for a period of at least 10 days, to ensure the safe and orderly shutdown of one or both units to effect repairs. The total time for this discretion will not exceed 14 days.

Basis for NOED

Duke Energy has reviewed NRC Regulatory Issue Summary 2005-01, "Changes to Notice of Enforcement Discretion (NOED) Process and Staff Guidance," and the accompanying NRC Inspection Manual Part 9900 Technical Guidance, "Operations - Notices of Enforcement Discretion". Duke Energy has concluded that Part 9900 Section B.2.2, "Situations Arising from Severe Weather or Other Natural Phenomena" is satisfied. Enforcement discretion is required to avoid an unplanned unit shutdown, as a result of complying with the requirements of TS 3.6.3 Condition A, which would worsen power grid conditions.

Enforcement Discretion does not negate the need for Duke Energy to place Units 2 and 3 in Mode 5 for valve repairs, but this action would minimize potential power delivery challenges. The basis for this conclusion and other information required to support a request for NOED is provided below.

1. The TS or other license conditions that will be violated.

Duke Energy Response:

TS 3.6.3, Containment Isolation Valves, requires that each containment isolation valve shall be operable. Should a containment isolation valve be inoperable, Required Action (RA) A requires that with one or more penetration flow paths

with one containment isolation valve inoperable, verify the affected penetration flow path is isolated within 4 hours. This condition is modified by a NOTE that says it is only applicable to penetration flow paths with two containment isolation valves. If the RA A is not met, Condition D is entered with the associated RA to place the Units in Mode 3 within 12 hours and MODE 5 within 36 hours. The 4-hour completion time of RA A would be violated.

2. The circumstances surrounding the situations, including apparent root causes, the need for prompt action and identification of any relevant historical events.

Duke Energy Response:

On January 8, 2011, during the performance of IP/0/A/030/013A for testing Unit 1 ES digital channel 2, the wiring jumper intended to prevent travel by valve 1HP-5 became dislodged. This causes the valve to receive a close signal, but the valve stopped short of its ES position of fully closed. Technical Specification (TS) 3.6.3 was entered and ultimately Unit 1 was taken to MODE 5 to allow the valve to be repaired.

Root cause investigation and determination activities, as specified in Problem Investigation Program (PIP) O-11-0218, were performed on valve 1HP-5, and similar valves 1HP-6 and 1HP-21. During the root cause investigation of the past replacement and testing activities, it was discovered that improper material selection for the gland ring (resulting in gland ring galling between the gland ring and the valve body) and the lack of rigor in evaluation of the seat material changes (resulting in higher coefficient of friction) resulted in the loss of margin for the actuator (because of increased friction effects and resultant higher closing forces). The loss of margin has resulted in questioning the actuator's capability to close the valves under all design conditions.

On May 31, 2011, discussion with Kalsi Engineering identified that the KVAP Program (Kalsi Engineering Valve and Actuator Program) may calculate non-conservative torque values for ball valves. On June 2, 2011, Kalsi confirmed the non-conservative torque values were calculated for the ball valves in question based upon the information available at the time for valve mean seat diameter and coefficient of friction. Using the new data, Oconee confirmed negative actuator margins for 2HP-5, 2HP-21, 3HP-5, and 3HP-21 at normal RCS pressures. Thus, the operability of the subject valves is not assured, and TS 3.6.3 was entered for Units 2 and 3. Unit 1 is currently in MODE 6 during a refueling outage.

Duke Energy has already implemented equipment modifications on the Unit 1 valves to address the gland ring galling issue during a forced outage earlier in the year. During the current refueling outage, the actuator spring was modified to provide additional margin. The restart of the unit will not take place until adequate valve actuator margin is validated and documented in the site's corrective action program.

3. **Information to show that the cause and proposed path to resolve the situation are understood by the licensee, such that there is a high likelihood that planned actions to resolve the situation can be completed within the proposed NOED time frame.**

Duke Energy Response:

Oconee has determined the causes to be low valve actuator margin resulting from a valve seat material change in 2003/2004, in conjunction with gland ring galling. The seat material in the valves was changed due to material qualification concerns. The new seat material has a higher coefficient of friction, but sufficient testing (i.e., equivalent to the original testing) had not been conducted to identify the increase in the required closing forces. Recently completed analysis, with the information currently available, indicates that the actuator has a negative closing margin at normal RCS pressures.

Duke Energy requests that the Completion Time for TS 3.6.3, Required Action A.1 for Units 2 and 3 be extended to 14 days or until grid conditions are predicted to improve enough, either by weather or available capacity, for a period of at least 10 days, to ensure the safe and orderly shutdown of one or both units to effect repairs. The total time for this discretion will not exceed 14 days.

4. **The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. The following information should be provided in support of this evaluation. To the extent practicable, the licensee should address the quantitative and qualitative aspects notes below: The numerical guidance for acceptance was established to augment qualitative arguments that the continued operation of the plant during the period of enforcement discretion will not cause risk to exceed the level determined acceptable during normal work controls and, therefore, there is no net increase in radiological risk to the public.**

a. **Use the zero maintenance PRA model to establish the plants baseline risk and the estimated risk increase associated with the period of enforcement discretion. For the plant specific configuration the plant intends to operate in during the period of enforcement discretion, the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP) should be quantified and compared with guidance thresholds of less than or equal to an ICCDP of 5E-7 and an ICLERP of 5E-8. These numerical guidance values are not pass-fail criteria**

Duke Energy Response:

Since the valves in question are related to containment bypass sequences, all core damage events involving these valves effectively become LERF sequences with a more limiting risk criterion. Therefore, LERF is the controlling risk metric and CDF risk criteria may be ignored.

For the NOED period of 14 days, the estimated ICLERP is 8.6E-09 for Unit 2 and 7.8E-09 for Unit 3. These values are well below the ICLERP acceptance criterion of 5E-08.

The Standby Shutdown Facility (SSF) is currently inoperable due to a Pressurizer heater environmental qualification issue. However, the SSF is capable of closing HP-3, HP-4, and HP-20 during scenarios where normal and emergency power are not available. This issue does not increase the ICLERP values stated above.

b. Discuss the dominant risk contributors (cut sets/sequences) and summarize the risk insights for the plant-specific configuration the plant intends to operate in during the period of enforcement discretion. This discussion should focus primarily on risk contributors that have changed (increased or decreased) from the baseline model as a result of the degraded condition and resultant compensatory measures, if any.

Duke Energy Response:

The ICLERP results are dominated by scenarios involving the loss of both Main Feeder Buses caused by 4160V bus duct fires (high energy arcing faults), Tornadoes, and HELB events. SSF failures (D/G start failures, maintenance unavailability, and human error) are important contributors for these sequences because the SSF provides core cooling and a means of closing HP-3 and HP-4 (Inside Containment Isolation Valves) when normal power is lost. Letdown Line Breaks downstream of HP-5 are also important ICLERP scenarios. The results reflect the addition of specific procedural guidance for the control room staff to address a potential failure of HP-5. HP-21 has no impact on the incremental change in ICLERP for seal return line breaks or loss of Main Feeder Bus scenarios.

c. Explain compensatory measures that will be taken to reduce the risk associated with the specified configuration. Compensatory measures to reduce plant vulnerabilities should focus on both event mitigation and initiating event likelihood.

Duke Energy Response:

The following compensatory measure strategy will be employed:

- Defer non-essential surveillances or other maintenance activities in the switchyard where human error could contribute to the likelihood of a loss of offsite power (LOOP). Technical Specification required surveillances and corrective maintenance of risk important equipment are examples of essential activities.
- Defer non-essential surveillances or other maintenance activities on risk significant equipment. This equipment includes Keowee Emergency Power, the EFW turbine-driven pump, and the Standby Shutdown Facility (SSF).

- A list of those essential surveillances or other maintenance activities scheduled for the duration of the NOED is provided in the attachment.

The following specific compensatory measures are being taken to reduce the plant risk during the NOED period:

1. During the period of enforcement discretion, no non-essential surveillances or other maintenance activities, or testing, will be conducted in the Oconee 230kV and 525kV Switchyard.
2. During the period of enforcement discretion, no non-essential surveillances or other maintenance activities, or testing, will be conducted on the Keowee Emergency Power System and associated power paths to Oconee.
3. During the period of enforcement discretion, no non-essential surveillances or other maintenance activities, or testing, will be conducted on the EFW turbine-driven pump or associated equipment.
4. During the period of enforcement discretion, no non-essential surveillances or other maintenance activities, or testing, will be conducted on the Oconee Standby Shutdown Facility (SSF) or associated equipment.
5. Operations will implement additional procedural steps that, from the control room, manually isolate letdown with valves downstream of HP-5.
6. A dedicated operator will be located in the SSF for the NOED duration.

d. Discuss how the proposed compensatory measures are accounted for in the PRA. These modeled compensatory measures should be correlated, as applicable, to the dominant PRA sequences identified in item b. above. In addition, other measures not directly related to the equipment out-of-service may also be implemented to reduce overall plant risk and, as such, should be explained. Compensatory measures that cannot be modeled in the PRA should be assessed qualitatively.

Duke Energy Response:

The compensatory measures listed in item (c) above were not credited in the PRA analysis.

e. Discuss the extent of condition of the failed or unavailable components to other trains/divisions of equipment and what adjustments, if any, to the related PRA common cause factors have been made to account for potential increases in their failure probabilities. The method used to determine the extent of condition should be discussed. It is recognized that a formal root cause or apparent cause is not required given the limited time available in determining acceptability of a proposed NOED. However, a discussion of the likely cause should be provided with an associated discussion of the potential for common cause failure.

Duke Energy Response:

No common cause adjustments were made in the PRA modeling. The inboard containment isolation valves (HP-3, HP-4, and HP-20) are motor-operated valves rather than air-operated valves (AOVs). Downstream of HP-5, air-operated valves HP-6 and -7 are credited in the risk analysis for isolating the letdown line. HP-6 is the same model valve as HP-5 but has a different valve seat material with lower friction and has been shown in previous testing to be capable of closing against full RCS pressure across the valve. HP-7 is an entirely different type of AOV valve than HP-5. Duke Energy has concluded that the KVAP error is limited to 1HP-5, 1HP-21, 2HP-5, 2HP-21, 3HP-5, and 3HP-21.

f. Discuss external event risk for the specified plant configuration

Duke Energy Response:

External events with the exclusion of seismic events have been addressed quantitatively in the analysis. Tornado events and 4160V bus duct fires (high energy arcing faults) in the Oconee Turbine Building are dominate risk contributors in the ICLERP results.

The impact of seismic events is not addressed quantitatively in the analysis, but is not expected to be a dominant contributor because the frequency of the beyond design basis earthquakes required to fail all power systems is lower than the overall bus fire frequency. Therefore, while seismic events are a source of uncertainty, the contribution is not expected to be large enough to change the conclusions of the analysis.

g. Discuss forecasted weather conditions for the NOED period and any plant vulnerabilities related to weather conditions.

Duke Energy Response:

The next 10 days are predicted to have temperatures in the mid-90's. Isolated thunderstorms are predicted for several of those days, but precipitation for any of the days is not predicted to be higher than 30 percent.

5. The justification for the duration of the noncompliance

Duke Energy Response:

Required Action A.1 for Units 2 and 3 will be extended to 14 days or until grid conditions are predicted to improve enough, either by weather or available capacity, for a period of at least 10 days, to ensure the safe and orderly shutdown of one or both units to effect repairs. The total time for this discretion will not exceed 14 days.

6. The condition and operational status of the plant (including safety-related equipment out of service or otherwise inoperable).

Duke Energy Response:

Unit 1 is currently in MODE 6, in a refueling outage. Unit 2 is in MODE 1 at approximately 90 percent power. Unit 3 is currently in MODE 1, at 100 percent power. The Standby Shutdown Facility was declared Inoperable for ONS Units 2 and Unit 3 at 0125 hours on 6-2-11 due to design concerns related to the Pressurizer heater breakers.

7. The status and potential challenges to off-site and on-site power sources.

Duke Energy Response:

Offsite sources and Lee Combustion Turbines are available. There are no additional challenges to the offsite or onsite power sources. No discretionary safety system work is planned during the period of the Enforcement Discretion.

Duke Energy will continue to maximize imported power and capacity to restore Duke Energy's grid to a EEA0 status. Duke Energy's import capability is limited by transmission topology. In ensuring the reliability of delivered generation on a regional basis, Duke Energy is aware of the status of generation availability in the Eastern Interconnection. From our review of this information and expected weather/load conditions Duke Energy does not expect grid conditions to significantly change over the duration of the NOED.

Duke Energy standard practice is to maintain grid reliability and serve customer demand. Duke Energy buys capacity and energy as available to restore the grid to normal conditions (EEA0). Duke Energy will take ONS Unit 2 and Unit 3 out of service sequentially or as a dual unit outage when conditions are forecast to support EEA0 for a period of at least 10 days.

8. The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety.

Duke Energy Response:

The request for enforcement discretion involves an extension of the AOT for RA A.1 associated with restoring compliance with TS LCO 3.6.3. The contingencies

provided in the response to question 4c will be in place for the enforcement discretion period. No other specific compensatory actions are planned during this period. Duke Energy is requesting that the NRC exercise discretion to not require compliance with TS 3.6.3, Required Action A for the Units 2 and 3 inoperable containment isolation valves 2HP-5, 2HP-21, 3HP-5, and 3HP-21.

Required Action A.1 for Units 2 and 3 will be extended to 14 days or until grid conditions are predicted to improve enough, either by weather or available capacity, for a period of at least 10 days, to ensure the safe and orderly shutdown of one or both units to effect repairs. The total time for this discretion will not exceed 14 days.

9. The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

Duke Energy Response:

This request for enforcement discretion will not result in any significant changes in the types, or significant increase in the amounts, of any effluents that may be released offsite. In addition, no significant increase in individual or cumulative occupational radiation exposures will be involved as a result of the request. Therefore, it can be concluded that the NRC's granting of this request for enforcement discretion will not involve any adverse consequences to the environment.

10. A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Operations Review Committee, or its equivalent).

Duke Energy Response:

This NOED request was reviewed and approved by the Oconee Plant Operations Review Committee (PORC) on June 2, 2011.

11. The request must specifically address which of the NOED criteria for appropriate plant conditions specified in Section B is satisfied and how it is satisfied.

Duke Energy Response:

This request for enforcement discretion satisfies Criteria B.2.2 of the Technical Guidance regarding Notices of Enforcement Discretion provided in Part 9900 of the NRC Inspection Manual. Enforcement discretion is required to address power delivery challenges resulting from high demand that would be exacerbated by the shutting down of Oconee Units 2 and 3 as a result of complying with the requirements of TS 3.6.3, Required Action A.1. This action would minimize potential safety consequences and operational risks.

12. Unless otherwise agreed as discussed in Section B, a commitment is required from the licensee that the written NOED request will be submitted

within 2 working days and the follow-up amendment will be submitted within 4 working days of verbally granting the NOED. The licensee's amendment request must describe and justify the exigent circumstances (see 10CFR50.91(a)(6)). The licensee should state if staff has agreed during the teleconference that a follow-up amendment is not needed. If the licensee intends to propose a temporary amendment, the licensee's amendment request shall include justification for the temporary nature of the requested amendment.

Duke Energy Response:

As required in Section B, the written NOED request will be submitted within hours of the oral request. Duke Energy is considering a submittal of a TS change.

13. **In addition to items 1-12 above, for a severe weather NOED request the licensee must provide the following information:**

a. **The name, organization, and telephone number of the official in the government or independent entity who made the emergency situation determination. If deemed necessary, the staff may contact the appropriate official to independently verify the information provided by the licensee prior to making an NOED determination.**

Wes Davis, SERC Reliability Corporation, 704-357-7372.

b. **Details of the basis and nature of the emergency situation including, but not limited to, its effect on:**

All available Duke Energy fossil, hydroelectric, nuclear, and combustion turbine generators are being utilized to meet the daily peak demand. The risk is that the loss of any significant generator on the fossil system across the peak times would result in an action to shed customers to maintain the required reserve of 502 Mwe.

Currently, Duke Energy has challenges with major tube leaks at Buck, Marshall, and Lee fossil stations and may have to bring these units down during the weekend for repairs. This will allow Duke Energy to take advantage of lower demand risk periods and restore the stations to full capability by Monday morning. This will improve our ability to meet customer needs during the higher load demand periods. The regulatory shutdown of ONS units 2 and 3 will exacerbate the situation and would probably prevent these repairs.

i. **on-site and off-site emergency preparedness;**

Duke Energy Response:

No effect anticipated.

ii. plant and site ingress and egress;

Duke Energy Response:

No effect anticipated.

iii. off-site and on-site power sources;

Duke Energy Response:

At this time, all available Duke Energy fossil, hydroelectric, nuclear, and combustion turbine generators are being utilized for power production. The Oconee Unit 1 and Catawba Unit 1 nuclear units are currently shutdown for refueling. Catawba is scheduled to return to power on 6/3/11 and Oconee Unit 1 on 6/8/11.

iv. grid stability; and

Duke Energy Response:

There have not been any reports of grid instability issues; however, the loss of any unit on the system could impact grid stability.

Based on forecast for weather, generation and demand analysis during the next 7 days, Duke Operations System projects that we will be in an energy emergency alert (EEA1) on 6/5, EEA1 or 2 on 6/6 thru 6/7 and EEA 2 or 3 on 6/8 thru 6/9 without the availability of ONS Unit 2 and Unit 3. EEA2 and EEA3 level actions will include shedding customer loads. This analysis includes our ability to purchase additional capacity and the return of CNS1. Forecast beyond 7 days become less reliable as generation availability and weather are constantly changing. Duke Energy is running all available assets during peak load demand times now, any loss of those generation assets will worsen this prediction.

v. actions taken to avert and/or alleviate the emergency situation (e.g. coordinating with other utilities and the load dispatcher organization for buying additional power or for cycling load, or shedding interruptible industrial or non-emergency loads).

Duke Energy Response:

On June 1, 2011, Duke Energy declared an energy emergency alert (EEA) Level 1 (per NERC Reliability Standard EOP-002 and implemented EOP-001 Capacity Plan. We were using all capacity (assets), purchasing all available capacity and requested mandatory demand side management. The next operational step would have been to shed customer load. On June 2, 2011, conditions are similar in all aspects including having at least 150 Mwe on ONS U2 and full capacity for ONS U3.

Duke Energy is currently projecting that reserve for today will be 154 Mwe more than minimum. If another 1000 Mwe is lost, Duke Energy plans to shed approximately 250 Mwe of managed load (residential AC that can be shed but is highly undesirable to do so). As of June 1, 2011, Duke Energy's survey of the market today did not anticipate being able to procure the necessary capacity. On June 2, 2011, Duke Energy has procured 480 Mwe of capacity, and that is all the market could provide at this time.

Loss of all generation at Oconee will put currently purchased capacity in jeopardy due to an inability to import the power into the Duke Energy system. It will also make purchase of new capacity from those sources difficult.

Based on current trending, Duke Energy can only anticipate similar bulk electric system and market conditions into next week.

c. Potential consequences of compliance with existing license requirements (e.g., plant trip, controlled shutdown).

Duke Energy Response:

The existing Technical Specification would require Unit's 2 and 3 to use an orderly shutdown and cooldown to MODE 5 within 40 hours of entering the LCO. With Unit 1 currently in a refueling outage, the forced shutdown of the two remaining units would delay unit 1's return to service and prolong the challenge to grid reliability.

d. The impact of the emergency situation on plant safety including the capability of the ultimate heat sink.

Duke Energy Response:

The loss of generation will have an immediate impact on the public health and safety from resultant rolling blackouts as demand exceeds load on the system. Additionally, the shutdown of three units at Oconee Nuclear Station will create voltage support challenges based on the system demands.

The current grid challenge places Oconee at an increased vulnerability for a loss of offsite power. Measures are in place to ensure that emergency backup capabilities are protected to ensure maximum availability of those assets. The ultimate heat sink is not directly impacted by the grid emergency.

e. Potential adverse effects on public health and safety from enforcing compliance with specific license requirements during the emergency situation.

Duke Energy Response:

Based on the current capacity forecasts, the loss of Oconee Unit 2's and Unit 3's capacity will result in a reduction of approximately 1800 Mwe. Duke Energy anticipates that approximately 250 Mwe of managed load, comprised of mainly residential AC, will need to be shed although it is highly undesirable to do so.

The loss of generation could have an immediate detrimental impact on the public health and safety from resultant rolling blackouts as demand exceeds capacity on the system. For example, these impacts could result in adverse health consequences on elderly individuals due to loss of air conditioning, food spoilage due to the loss of refrigeration, and loss of power to personal medical devices.

Enclosure

Current projected ONS work activities between 6/3/11, through 6/24/11.

WO #	Late Date	Requirement	DESCRIPTION
1983761	6/3/2011	TS	PT/1/A/0610/25 ELECT. SYS. WEEKLY SURV.U-1
1983762	6/3/2011	TS	PT/2/A/0610/25 ELECT. SYS. WEEKLY SURV.U-2
1983763	6/3/2011	TS	PT/3/A/0610/25 ELECT. SYS. WEEKLY SURV.U-3
1983760	6/3/2011	TS	PT/0/A/0610/26 ELECT. SYS. WEEKLY SURV.(COMMON)
1983006	6/6/2011	NMPT	PT/3/A/0290/010 TDEFDWP GOVERNOR VALVE
1983091	6/7/2011	NMPT	PERFORM PCB READINGS
1984114	6/7/2011	TS	230KV SWYD WEEKLY BATTERY TEST
1984085	6/7/2011	TS	KEOWEE 125VDC BATTERY BANK #2 WEEKLY SURV.
1984328	6/7/2011	TS	SSF DCSF/DCSFS WEEKLY BATT.TEST
1984084	6/7/2011	TS	KEOWEE 125VDC BATTERY BANK #1 WEEKLY SURV.
1984327	6/8/2011	TS	PT/0/A/0600/20 SSF INSTR. SURV.
1984600	6/9/2011	MDR	K1 TURB/GOV. WEEKLY PM (PT/1/A/2200/001)
1984601	6/9/2011	MDR	K2 TURB/GOV. WEEKLY PM (PT/2/A/2200/001)
1984944	6/10/2011	TS	PT/1/A/0610/25 ELECT.SYS.WEEKLY SURV.U-1
1984945	6/10/2011	TS	PT/2/A/0610/25 ELECT. SYS. WK SURV.U-2
1984946	6/10/2011	TS	PT/3/A/0610/25 ELECT. SYS. WK. SURV.U-3
1984943	6/10/2011	TS	PT/0/A/0610/26 ELECT.SYS.WK SURV.(COMMON)
1574306	6/10/2011	TS	PT/0/A/0610/26 ELECT.SYS.WK SURV.(COMMON)
1984093	6/11/2011	MDR	0VSAH0042 (SSF CARRIER A/C) PERFORM WEEKLY INSP
1983991	6/11/2011	NMPT	PT/2/A/290/010 TDEFDWP GOVERNOR VALVE
1482963	6/11/2011	NMPT	PT/3/A/0290/010 TDEFDWP GOVERNOR VALVE
1961863	6/12/2011	MDR	U2 REPLACE BATTERIES & COOLING FAN IN 2FDW PY 2000
1975127	6/13/2011	TS	U-1 EFW INITIATION PRESSURE SWITCH TEST
1556825	6/15/2011	NMPT	PERFORM PCB READINGS
1459155	6/15/2011	TS	230KV SWYD WEEKLY BATTERY TEST
1459593	6/15/2011	TS	KEOWEE 125VDC I/BANK2:WEEKLY TECH SPEC
1460340	6/15/2011	TS	SSF DCSF/DCSFS WEEKLY BATT. TEST
1461829	6/15/2011	TS	K1 DAILY/WEEKLY BATTERY TEST BK 1.
1477652	6/16/2011	MDR	K1 TURB/GOV. WEEKLY PM (PT/1/A/2200/001)
1477654	6/16/2011	MDR	K2 TURB/GOV. WEEKLY PM (PT/2/A/2200/001)
1482916	6/16/2011	TS	PT/0/A/0600/20 SSF INSTR. SURV.

WO #	Late Date	Requirement	DESCRIPTION
1523428	6/17/2011	TS	PT/1/A/0610/25 ELECT.SYS.WEEKLY SURV.U-1
1523429	6/17/2011	TS	PT/2/A/0610/25 ELECT. SYS. WK SURV.U-2
1523430	6/17/2011	TS	PT/3/A/0610/25 ELECT. SYS. WK. SURV.U-3
1982175	6/17/2011	TS	U-2 EFW INITIATION PRESSURE SWITCH TEST
1982174	6/17/2011	TS	U-3 EFW INITIATION PRESSURE SWITCH TEST
1981139	6/21/2011	NMPT	PT/1/A/0290/10 TDEFDWP GOVERNOR VALVE TEST
1981134	6/21/2011	NMPT	FILTER SSF 'A' DJW
1981135	6/21/2011	NMPT	FILTER SSF 'B' DJW
1982675	6/23/2011	NMPT	0VSAH0042 (SSF A/C UNIT) OPS SWAP COMPRESSORS
1982669	6/23/2011	TS	PT/0/A/620/09 MONTHLY KEOWEE HYDRO OPERATION
1984366	6/24/2011	MDR	U0 A DIESEL ENGINE PRE START CHECKS
1984369	6/24/2011	MDR	U0 B DIESEL ENGINE PRE START CHECKS
1982857	6/24/2011	MDR	OP/1600/02 SWAP SSF SERVICE WATER STRAINER
1982855	6/24/2011	TS	PT/0/A/0600/21 SSF DIESEL/GEN OPERATION

Note: Any revisions to this list will undergo the appropriate risk and management reviews to ensure compliance with the provisions contained in this NOED.

TS – TECH SPEC REQUIRED
MDR – ENGINEERING REQUIRED PM
NMPT – SPECIAL INTEREST