

October 12, 2005

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

Subject: Duke Energy Corporation
McGuire Nuclear Station, Unit 2
Docket Number 50-370
Notice of Enforcement Discretion Request
Technical Specification 3.7.10, Control Room Area
Chilled Water System (CRACWS)

Attached is the written documentation of the background and technical information supporting the recent McGuire, Unit 2, Notice of Enforcement Discretion (NOED) request. This information was discussed with NRC officials in a telephone conference call held on October 8, 2005.

As discussed in detail in the Attachment, McGuire Unit 2 requested discretion from enforcing TS 3.7.10, Required Action E.1, for a period of time not to exceed 24 hours. This Required Action mandates immediate entry into Limiting Condition for Operation (LCO) 3.0.3 in the event that two CRACWS trains are inoperable in Mode 1, 2, 3, or 4. At the time of the request, McGuire Unit 1 was in Mode 6 in a refueling outage and McGuire Unit 2 was in Mode 1. CRACWS Chiller "A" failed to start during preparations for Engineering Safety Features (ESF) testing as a result of a defective oil pressure switch. At the time of this failure, CRACWS Chiller "B" was technically inoperable because of its reliance on an inoperable emergency power source, since the power supply to the chiller was aligned to Unit 1. The inoperability of the emergency power source stemmed from its support system, the Nuclear Service Water System (RN), being inoperable. The shared portions of the system must be operable for each unit when that unit is in a Mode of applicability. Thus, CRACWS "B" must have an operable emergency power source. Despite its technical inoperability, CRACWS Chiller "B" remained functionally available and capable of performing its safety-related function of cooling the Control Room.

The details of the circumstances surrounding this NOED request are contained in the attachment to this letter. As shown in the attached justification, Duke Energy maintains that granting of discretionary enforcement in this case is in the best interests of nuclear safety.

This request for enforcement discretion was approved by the McGuire Plant Operations Review Committee (PORC) on October 8, 2005.

This submittal contains the following regulatory commitments:

1. The current submittal fulfills the requirement that a written NOED request be submitted to the NRC within 2 working days. This submittal will be made by October 12, 2005.
2. Duke will submit a follow-up license amendment request (LAR) which incorporates the change contained in this NOED into the McGuire TS on a temporary, one-time basis, within 4 working days. This submittal will be made by October 14, 2005. This LAR will describe and justify the exigent circumstances in accordance with 10 CFR 50.91(a)(6).

Both of the above commitments are being made in accordance with "NRC Regulatory Issue Summary 2005-01, Changes to Notice of Enforcement Discretion (NOED) Process and Staff Guidance," and "NRC Inspection Manual, Part 9900: Technical Guidance, Operations - Notices of Enforcement Discretion," and as discussed during the October 8, 2005, conference call. Additionally, Duke plans to pursue a future LAR that will propose making the TS change contained in this NOED permanent.

U. S. Nuclear Regulatory Commission
October 12, 2005
Page 3

Questions on this matter should be directed to J. S. Warren
at (704) 875-5171.

Very truly yours,



Gary R. Peterson

Attachment

xc w/Attachments:

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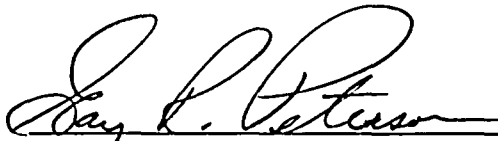
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U. S. Nuclear Regulatory Commission
October 12, 2005
Page 4

Gary R. Peterson, 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.



Gary R. Peterson, Site Vice President

Subscribed and sworn to me: October 12, 2005
Date

Freda K. Crump, Notary Public

My commission expires: August 17, 2006
Date



Attachment

Duke Energy Corporation
McGuire Nuclear Station, Units 1 and 2
Request for Enforcement Discretion (NOED)
Technical Specification 3.7.10
Control Room Area Chilled Water System

On October 8, 2005, at 03:20, both trains of the McGuire Control Room Area Chilled Water System (CRACWS) were declared inoperable. At the time McGuire Unit 1 was in Mode 6 during an ongoing refueling outage and McGuire Unit 2 was in Mode 1 at 100% power operation. This NOED requests discretion from compliance with McGuire Technical Specification (TS) 3.7.10, Condition E, which requires an immediate entry into TS Limiting Condition for Operation (LCO) 3.0.3 when two CRACWS trains are inoperable in Modes 1, 2, 3, or 4 for Unit 2 only. Within this NOED, Duke Energy Corporation (Duke) is requesting an additional 24 hours before it is required to implement the Completion Time (CT) of TS 3.7.10, Condition E and thereby enter LCO 3.0.3. This request is reasonable since one chiller, as discussed below, remains fully functional and capable of performing its intended function. This chiller is currently in operation providing its intended function of cooling the Control Room. This matter was discussed with NRC officials in a telephone conference call held on October 8, 2005. Pending preliminary approval of this NOED, an orderly shutdown of Unit 2 had already begun, but upon receipt of the NRC's verbal approval shortly after the conference call, the shutdown activities were halted and Unit 2 has since been returned to 100% power.

McGuire Unit 1 is currently in the latter stages of refueling Outage 1EOC17. Earlier on October 7, 2005, CRACWS chiller "B" power supply was shifted from Unit 2 (the operating unit) to Unit 1 (the outage unit) to support "B" train Engineering Safety Features (ESF) testing. "B" chiller was declared inoperable because of its reliance on an inoperable emergency power supply. The inoperability of the emergency power source stemmed from its support system, the Nuclear Service Water System (RN), being technically inoperable due to certain common valves having their power supply swapped to the shutdown Unit 1 for testing. It is noted that the shared portions of the system must be operable for each unit when that unit is in

Attachment

a Mode of applicability. Thus, with Unit 2 in Mode 1, CRACWS "B" must have an operable emergency power source. Procedurally, "B" chiller was then successfully started, and CRACWS "A" chiller shutdown to ensure functionality of the CRACWS "B" chiller. Since the CRACWS "B" ESF testing requires CRACWS "B" chiller to be off and CRACWS "A" chiller in operation, an attempt was made to swap to CRACWS "A" chiller. However, it failed to start. Investigation into its failure resulted in identifying a defective oil pressure switch. This switch provides an equipment protective function for the "A" Chiller to shutdown the chiller on low oil pressure, and this is not a safety related function. The current TS requirement to immediately enter LCO 3.0.3 does not provide enough time to address needed repairs to the defective pressure switch, nor does it provide sufficient time to implement alternate measures. The additional 24 hours requested within this NOED will allow Duke to bypass (jumper around) the defective pressure switch and return the "A" Chiller to an operable condition. The 24 hours provides sufficient time to make the physical change to the plant and complete the engineering and administrative processes to complete the temporary station modification. During this period, as requested within this NOED, the Control Room will continue to be cooled by the "B" Chiller which (at the time of the NOED request) was operating and fully functional, albeit technically inoperable, as discussed above.

The CRACWS provides temperature control for the control room following isolation of the control room. The CRACWS consists of two independent and redundant trains that provide cooling and heating of recirculated control room air. Each train consists of heating coils, cooling coils, instrumentation, and controls to provide for control room temperature control. The CRACWS is a subsystem providing air temperature control for the control room.

The CRACWS is an emergency system, parts of which may also operate during normal unit operations. A single train will provide the required temperature control to maintain the control room at approximately 75°F.

Duke is requesting that the NRC exercise discretion (NOED) in enforcing compliance with the TS 3.7.10, Condition E, requirements for an additional 24 hours before the current requirement to immediately enter LCO 3.0.3 is enforced.

Attachment

The NOED will allow McGuire Unit 2 to remain in operation at 100%, thereby avoiding an unnecessary shutdown.

Duke has reviewed the "NRC Regulatory Issue Summary 2005-01, Changes to Notice of Enforcement Discretion (NOED) Process and Staff Guidance," and "Inspection Manual, Part 9900: Technical Guidance, Operations - Notices of Enforcement Discretion," and has concluded that Section 2.1, Situations Affecting Radiological Safety - Regular NOEDs, Criterion 1.a is satisfied. This criterion applies to plants in power operation desiring to avoid unnecessary transients as a result of compliance with the license condition and, thus, minimize the potential safety consequences and operational risks. 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.

Response:

Declaring both trains of the CRACWS inoperable caused McGuire Unit 2 to enter TS 3.7.10, "Control Room Area Chilled Water System," Condition E, which applies when two CRACWS trains are inoperable in Mode 1, 2, 3 or 4. Required Action E.1 mandates an immediate entry into LCO 3.0.3. Entry into LCO 3.0.3 requires that action be initiated within 1 hour to place the unit, as applicable, in Mode 3 within 7 hours, Mode 4 within 13 hours, and Mode 5 within 37 hours.

2. The circumstances surrounding the situation: including likely causes; the need for prompt action; action taken in an attempt to avoid the need for an NOED; and identification of any relevant historical events.

Response:

At 18:18 on 10/7/2005 CRACWS "B" was declared inoperable in preparation for shifting the power supply from Unit 2 to Unit 1.

At 02:59 on 10/08/2005 CRACWS "B" was started and CRACWS "A" was shut down to ensure "B" train functionality after the power supply swap.

Attachment

At 03:20 on 10/08/2005 CRACWS "A" failed to start. CRACWS "B" continued to operate.

At 03:20 on 10/08/2005 CRACWS "A" was declared inoperable. Unit 2 entered LCO 3.0.3 due to both trains of CRACWS being inoperable with Unit 1 in Mode 6 and Unit 2 in Mode 1 at 100% power.

At 03:47 on 10/08/2005 a corrective work order was written to repair CRACWS "A".

At 05:00 (Approximate) contacted the NRC Resident Inspector to discuss the NOED process.

At 07:23 on 10/08/2005 Unit 2 commenced power reduction to comply with the LCO 3.0.3 action statement.

At 07:26 (Approximate) commenced NOED discussion with NRC management.

At 08:09 on 10/08/2005 load reduction was terminated following NOED approval from NRC.

At 20:06 on 10/08/2005 CRACWS "A" was returned to operable status and Unit 2 exited the NOED.

Corrective Work Order 987528 was written at 03:47 on 10/08/05 to repair the "A" Chiller. A maintenance team was promptly dispatched to investigate why the "A" chiller would not start. It was concluded that the chiller failed to start due to low oil pressure following system alignment activities to support ESF testing on Unit 1. The oil pump started as expected, but the chiller did not start. The chiller failure investigation by maintenance showed that the suspected cause was a defective oil pressure switch.

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.

Attachment

Response:

A defective oil pressure switch was determined to be the cause of the failure of the "A" Chiller to start. The "B" Chiller is aligned to support ESF testing and can not be credited as operable under the current McGuire licensing basis. The oil pressure switch is for equipment protection only. A temporary station modification was implemented to bypass this switch to restore the "A" Chiller to operable status.

4. The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action.
 - a. Provide the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP) associated with the period of enforcement discretion.

Response:

The impact on the ICCDP is expected to be much less than $5E-07$ and the impact on the ICLERP is expected to be much less than $5E-08$ (also see Part b below).

- b. Discuss the dominant risk contributor (cutsets/sequences) and summarize the risk insights for the plant-specific configuration the plant intends to operate in during the period of enforcement discretion.

Response:

Core Damage Frequency (CDF)

The CRACWS System has no impact on the calculated CDF at McGuire. The CRACWS system, and specifically the control room chillers are not included in the Level One Probabilistic Risk Assessment (PRA) model. The safety significance of the CRACWS system is low because of the opportunity to mitigate the consequences with plant Abnormal Procedures (AP). When Control

Attachment

Room temperature becomes elevated, the Control Room Senior Reactor Operator will enter AP-39, Control Room High Temperature. This procedure will direct the control room crew to monitor and take actions necessary to cool the control room via opening doors and placing forced fans at prescribed strategic locations. As a result, the loss of the CRACWS has been screened out of the McGuire PRA as either an initiating event or as a support system failure since it is a slow moving transient due to the preplanned actions described above. The loss of CRACWS can be mitigated by the following remedial measures:

- The Control Room and its equipment can be cooled by opening the Control Room doors and allowing the computer area cooling system to provide some heat removal capability along with the additional air flow achieved with the doors open. Cabinet doors can be opened as needed to help ventilate equipment in the Control Room, and portable fans and cooling equipment can be used as needed to control the temperature in the Control Room area.
- The essential switchgear rooms are also cooled by the CRACWS System. Adequate cooling for these rooms can be maintained by opening doors and using portable ventilation equipment.
- The plant can also be maintained in hot standby from the Standby Shutdown Facility (SSF). Reactor coolant pump seal injection and heat removal can be maintained independent of any equipment affected by a loss of CRACWS. Seal injection can be maintained by the standby makeup pump controls along with the necessary valves controls. Seal injection can be verified at the SSF by use of the discharge flow gauge. The indications for control of the Auxiliary Feedwater System (AFW) are also available in the SSF to ensure an adequate heat sink is maintained.

Attachment

- The units can be maintained in a stable condition from remote locations. The auxiliary shutdown panel (ASP), located in the AFW Pump Room, can be used to provide control for all systems needed to maintain a hot standby condition and cooldown the unit to cold shutdown conditions. In addition to AFW, these systems include RN, the Chemical and Volume Control System, the Residual Heat Removal System (ND), and the Component Cooling Water System (KC).

Large Early Release Frequency (LERF)

The CRACWS System has no impact on the calculated LERF at McGuire. The CRACWS system, and specifically the control room chillers are not included in the LERF model for the reasons described previously.

In summary, the conclusions for the CRACWS system having minimal safety significance are:

- Slow moving transient- there is time to react before failures occur and there are preplanned remedial actions available.
- Control from ASP is available.
- Control from SSF is available.

Therefore, as stated in Item a, the impact on the ICCDP is expected to be much less than $5E-07$ and the impact on the ICLERP is expected to be much less than $5E-08$.

- c. Explain compensatory measures that will be taken to reduce the risk associated with the specified condition.

Response:

As a result of a review of the base case PRA model and the specific CRACWS issue, the following compensatory measures are being taken to reduce risk during the NOED period:

Attachment

1. Protect the "B" Chiller, RN, and normal and emergency power supplies on the shutdown unit (Unit 1) at the same level as the unit at power (Unit 2), since Unit 1 is supplying the operating chiller RN and power.
 2. Defer non-essential activities on Unit 2 where human error could contribute to the likelihood of a plant transient and subsequent demand on mitigating systems.
 3. Defer non-essential switchyard and transformer yard activities where human error could contribute to the likelihood of a loss of offsite power.
 4. Defer non-essential surveillances or other maintenance activities on other risk significant equipment, such as the Emergency Diesel Generators (EDG), SSF, and the ASP.
- d. Discuss how 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.

Response:

The compensatory actions listed above are not modeled in the PRA. However, since they are aligned with the dominant risk contributors, they should result in a significant risk reduction during the NOED period, such that proposed NOED does not result in any net increase in radiological risk to the public.

Attachment

- e. Discuss the extent of condition of the failed or unavailable component(s) to other trains/divisions of equipment and what adjustments, if any, to the PRA common cause factors have been made to account for potential increases in the failure probabilities. The method to use 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.

Response:

No common cause failure modes were considered in the PRA analysis for the CRACWS system. Therefore, no adjustments are required in the common cause analysis.

- f. Discuss external event risk for the specified plant configuration. An example of external event risk is a situation where a reactor core isolation cooling pump (RCIC) has failed and a review of the licensee's individual plant examination of external events or full-scope PRA model identifies that the RCIC pump is used to mitigate certain fire scenarios. Action may be taken to reduce fire ignition frequency in the affected areas or reduce human error associated with time critical operator actions in response to such scenarios.

Response:

External events are accounted for in the PRA model. All Unit 2 fire detection and suppression systems remained operable during the NOED extension period. This is important since fire is a significant contributor to the CDF at McGuire.

Attachment

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

Response:

No severe weather (defined as winds greater than 58 mph and/or hail 3/4" or larger) that could cause a plant transient is in the forecast for today and tomorrow. The forecast for October 8, 2005, as updated at 6:20 AM was:

Mostly cloudy today with periods of light rain or drizzle this morning then variable cloudy with a chance of scattered showers this afternoon. Highs in the middle 70s.

5. The justification for the duration of the noncompliance.

Response:

The 24-hour extension of the Completion Time for entering LCO 3.0.3 was viewed to be adequate for completing the engineering and administrative activities necessary for the temporary station modification and the subsequent installation of the jumpers around the defective oil pressure switch on the "A" Chiller. After the ESF testing on Unit 1 is complete, Duke will schedule the permanent repairs on the "A" Chiller such that there is minimal impact on the operating units. In the interim, personnel will be assigned to observe the oil pressure gauge on the "A" Chiller during its operation such that appropriate action can be taken if a decrease in oil pressure occurs.

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

Response:

Duke has reviewed the TS, the plant Operating Schedule, and the Work Management System. This review determined that the Unit 2 Emergency Core Cooling System (ECCS) components (Residual Heat Removal System

Attachment

and Safety Injection System), the SSF and the ASP were operable. The following equipment was declared out of service due to the same technicality as the "B" Train Control Room Chiller: (1) the 2B Nuclear Service Water System, (2) the 2B EDG, (3) the 2B Annulus Ventilation System, and (4) the "B" Train boration flow path. These systems were not considered operable due to the issues surrounding the "B" Control Room Chiller; however, they were available and would have started if called upon to perform their intended functions. Also, this review identified no other equipment that is scheduled to be out of service, nor are there any scheduled plant conditions that present any additional increase in plant risk during the NOED extension period.

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

Response:

There are no activities scheduled in the switchyard or on the plant transformers that will adversely affect risk during the 24-hour extension period. Administrative controls would require that any emergent activities relating to risk significant items related to this determination be reevaluated.

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

Response:

Duke performed a qualitative PRA risk analysis to support this NOED request to determine that the proposed NOED does not result in any net increase in radiological risk to the public. This analysis, which involved a review of the base case PRA model to identify risk benefits attributable to planned compensatory measures, concluded that the risk of continued operation was small during the period of non-compliance. Further, there are no activities affecting the supporting systems and equipment, including offsite and onsite power sources, for the "B" chiller that will adversely affect risk during the

Attachment

24-hour extension period. Any emergent activities relating to risk significant items would require this determination to be reevaluated. There was no net increase in radiological risk to the public by avoiding the unnecessary transient imposed through compliance with LCO 3.0.3 and safety continued to be assured by the operation of the "B" Control Room Chiller which was performing its intended function of maintaining control room temperature.

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

Response:

A review of the proposed TS changes that would result from this NOED request has determined that it would change a requirement with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20. However, the proposed changes do not involve: (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with this license amendment request.

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

Response:

This NOED request was reviewed and approved by the McGuire Plant Operations Review Committee (PORC) on October 8, 2005.

Attachment

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

Response:

Duke is submitting this NOED request in accordance with "NRC Inspection Manual, Part 9900: Technical Guidance, Operations - Notices of Enforcement Discretion," and is requesting discretion based on Section 2.1, Situations Affecting Radiological Safety - Regular NOEDs, Criterion 1.a. This criterion applies to plants in power operation desiring to avoid unnecessary transients as a result of compliance with the license condition and, thus, minimize the potential safety consequences and operational risks. The safety consequences and operational risks for McGuire were reviewed as a part of this NOED request and are documented within this submittal.

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 10 CFR 50.91(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.

Response:

Duke will submit a written NOED request within 2 working days of the NRC's verbal approval (Wednesday, October 12, 2005) and a license amendment request within 4 working days (Friday, October 14, 2005). The exigent circumstances will be justified. These commitments are also stated in the cover letter for this submittal.

Attachment

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

Response:

This is not a severe-weather NOED request. Weather considerations are discussed in Item 4.