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June 3, 2003

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTENTION: Document Control Desk

Subject: Duke Energy Corporation

McGuire Nuclear Station, Units 1 and 2
Docket Numbers 50-369 and 50-370

License Amendment Request for
Technical Specification 3.6.14, CONTAINMENT
SYSTEMS, Divider Barrier Integrity

Pursuant to 10 CFR 50.90, Duke Energy Corporation (Duke) is submitting a license amendment request (LAR) for the McGuire Nuclear Station Facility Operating Licenses and Technical Specifications (TS). This LAR modifies TS 3.6.14 to allow a pressurizer hatch to be open for up to 6 hours to facilitate future inspections and maintenance and enhance personnel safety and radiation safety. The current TS limit the pressurizer hatch open time to 1 hour. This request is consistent with an LAR previously approved for Catawba Nuclear Station[1]. Conforming changes will also be made to the associated Bases and these changes are included for information.

The contents of this LAR submittal package are:

- Attachment 1 contains marked copies of the affected TS and Bases pages, showing the proposed changes.
- Attachment 2 provides the reprinted TS and Bases pages.
- Attachment 3 provides a description of the proposed changes and technical justification.

[1] NRC Letter and Safety Evaluation Dated June 26, 1992, Issuance of Amendments – Catawba Nuclear Station, Units 1 and 2, Amendment Nos. 98/92 (TACS M83171, M83172).

A001

- Pursuant to 10 CFR 50.92, Attachment 4 documents Duke's determination that this LAR contains No Significant Hazards Considerations.

- Pursuant to 10 CFR 51.22(c)(9), Attachment 5 provides the basis for the categorical exclusion from performing an Environmental Assessment/Impact Statement.

Implementation of this proposed amendment to the McGuire Facility Operating Licenses and TS will not require revision to the plant's Updated Final Safety Analysis Report (UFSAR). Duke is requesting NRC review and approval of this LAR by June 1, 2004. Duke has determined that the NRC's standard 30-day implementation period is acceptable for this LAR. There are no additional regulatory commitments contained in this submittal.

In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, the changes contained in this LAR have been reviewed and approved by the McGuire Plant Operations Review Committee. This LAR has also been reviewed and approved by the Duke Nuclear Safety Review Board. Pursuant to 10 CFR 50.91, a copy of this LAR is being sent to the appropriate official of the State of North Carolina.

Inquiries on this matter should be directed to J. S. Warren at (704) 382-4986.

Very truly yours,

D. M. Jamil

xc w/Attachments:

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D. M. Jamil, 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.

D. M. Jamil, Site Vice President

Subscribed and sworn to me: June 3, 2003
Date

Deborah S. Rome, Notary Public
Deborah S. Rome

My commission expires: December 19, 2004
Date

SEAL

Attachment 1

McGuire Units 1 and 2 Technical Specifications

Marked Copy

3.6 CONTAINMENT SYSTEMS

3.6.14 Divider Barrier Integrity

LCO 3.6.14 Divider barrier integrity shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- For this action, separate Condition entry is allowed for each personnel access door or equipment hatch. ---------- One or more personnel access doors or equipment hatches open or inoperable, other than for personnel transit entry.	A.1 Restore personnel access doors and equipment hatches to OPERABLE status and closed positions. (other than one pressurizer enclosure hatch addressed by Condition D)	1 hour
B. Divider barrier seal inoperable.	B.1 Restore seal to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

INSERT 1

INSERT 1

D.	One pressurizer enclosure hatch open or inoperable.	D.1	Restore pressurizer enclosure hatch to OPERABLE status and closed position.	6 hours

BASES

LCO (continued)

assumption that, for personnel transit, the time during which a door is open will be short (i.e., shorter than the Completion Time of 1 hour for Condition A). The divider barrier functions with the ice condenser to limit the pressure and temperature that could be expected following a DBA.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause an increase in containment pressure and temperature requiring the integrity of the divider barrier. Therefore, the LCO is applicable in MODES 1, 2, 3, and 4.

The probability and consequences of these events in MODES 5 and 6 are low due to the pressure and temperature limitations of these MODES. As such, divider barrier integrity is not required in these MODES.

ACTIONS

A.1 (other than one pressurizer enclosure hatch addressed by Condition D)

If one or more personnel access doors or equipment hatches are inoperable or open, except for personnel transit entry, 1 hour is allowed to restore the door(s) and equipment hatches to OPERABLE status and the closed position. The 1 hour Completion Time is consistent with LCO 3.6.1, "Containment," which requires that containment be restored to OPERABLE status within 1 hour. INSERT 2

Condition A has been modified by a Note to provide clarification that, for this LCO, separate Condition entry is allowed for each personnel access door or equipment hatch.

B.1

If the divider barrier seal is inoperable, 1 hour is allowed to restore the seal to OPERABLE status. The 1 hour Completion Time is consistent with LCO 3.6.1, which requires that containment be restored to OPERABLE status within 1 hour.

C.1 and C.2

If divider barrier integrity cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within

INSERT 2

Personnel access doors or equipment hatches open or inoperable in accordance with Condition A are not included in the ice condenser steam bypass analysis that provides the basis for Condition D. Conditions A and D are each implemented independently.

BASES

ACTIONS (continued)

INSERT 3

36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.14.1

Verification, by visual inspection, that all personnel access doors and equipment hatches between the upper and lower containment compartments are closed provides assurance that divider barrier integrity is maintained prior to the reactor being taken from MODE 5 to MODE 4. This SR is necessary because many of the doors and hatches may have been opened for maintenance during the shutdown.

SR 3.6.14.2

Verification, by visual inspection, that the personnel access door and equipment hatch seals, sealing surfaces, and alignments are acceptable provides assurance that divider barrier integrity is maintained. This inspection cannot be made when the door or hatch is closed. Therefore, SR 3.6.14.2 is required for each door or hatch that has been opened, prior to the final closure. Some doors and hatches may not be opened for long periods of time. Those that use resilient materials in the seals must be opened and inspected at least once every 10 years to provide assurance that the seal material has not aged to the point of degraded performance. The Frequency of 10 years is based on the known resiliency of the materials used for seals, the fact that the openings have not been opened (to cause wear), and operating experience that confirms that the seals inspected at this Frequency have been found to be acceptable.

SR 3.6.14.3

Verification, by visual inspection, after each opening of a personnel access door or equipment hatch that it has been closed makes the operator aware of the importance of closing it and thereby provides additional assurance that divider barrier integrity is maintained while in applicable MODES.

INSERT 3

D.1

If a pressurizer enclosure hatch is open or inoperable, 6 hours are allowed to restore the hatch to OPERABLE status and in the closed position. The 6 hour completion time is based on the need to perform inspections and maintenance in the pressurizer compartment during power operation, as well as for personnel safety and radiation safety considerations. An analysis has been performed that shows an open hatch of 7.5 ft^2 bypass area during a DBA does not impact the design pressure or temperature of the containment. The 7.5 ft^2 is in addition to the total operating deck leakage discussed in Ref. 1 (approximately 5 ft^2 for Unit 2 and 4.6 ft^2 for Unit 1). There is one pressurizer enclosure hatch on Unit 1 and there are three on Unit 2. These hatches are concrete plugs which must be removed with a crane to access the pressurizer cavity. The analyses supporting Condition D for steam bypassing the ice condenser and the heavy load drop apply to the removal of one pressurizer enclosure hatch at a time. The analyses were both done in a manner that bounds the largest of the hatches. The analysis supporting Condition D for steam bypassing the ice condenser does not include the personnel access doors or equipment hatches open or inoperable in accordance with Condition A. Conditions A and D are each implemented independently.

Attachment 2

McGuire Units 1 and 2 Technical Specifications

Reprinted Pages

Remove	Insert
3.6.14-1	3.6.14-1
B3.6.14-1 thru B3.6.14-5	B3.6.14-1 thru B3.6.14-6

3.6 CONTAINMENT SYSTEMS

3.6.14 Divider Barrier Integrity

LCO 3.6.14 Divider barrier integrity shall be maintained.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ----------NOTE---------- For this action, separate Condition entry is allowed for each personnel access door or equipment hatch. ---------- One or more personnel access doors or equipment hatches (other than one pressurizer enclosure hatch addressed by Condition D) open or inoperable, other than for personnel transit entry.	A.1 Restore personnel access doors and equipment hatches to OPERABLE status and closed positions.	1 hour
B. Divider barrier seal inoperable.	B.1 Restore seal to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours
D. One pressurizer enclosure hatch open or inoperable.	D.1 Restore pressurizer enclosure hatch to OPERABLE status and closed position.	6 hours

B 3.6 CONTAINMENT SYSTEMS

B 3.6.14 Divider Barrier Integrity

BASES

BACKGROUND

The divider barrier consists of the operating deck and associated seals, personnel access doors, and equipment hatches that separate the upper and lower containment compartments. Divider barrier integrity is necessary to minimize bypassing of the ice condenser by the hot steam and air mixture released into the lower compartment during a Design Basis Accident (DBA). This ensures that most of the gases pass through the ice bed, which condenses the steam and limits pressure and temperature during the accident transient. Limiting the pressure and temperature reduces the release of fission product radioactivity from containment to the environment in the event of a DBA.

In the event of a DBA, the ice condenser inlet doors (located below the operating deck) open due to the pressure rise in the lower compartment. This allows air and steam to flow from the lower compartment into the ice condenser. The resulting pressure increase within the ice condenser causes the intermediate deck doors and the door panels at the top of the condenser to open, which allows the air to flow out of the ice condenser into the upper compartment. The ice condenses the steam as it enters, thus limiting the pressure and temperature buildup in containment. The divider barrier separates the upper and lower compartments and ensures that the steam is directed into the ice condenser. The ice, together with the containment spray, is adequate to absorb the initial blowdown of steam and water from a DBA as well as the additional heat loads that would enter containment over several hours following the initial blowdown. The additional heat loads would come from the residual heat in the reactor core, the hot piping and components, and the secondary system, including the steam generators. During the post blowdown period, the Air Return System (ARS) returns upper compartment air through the divider barrier to the lower compartment. This serves to equalize pressures in containment and to continue circulating heated air and steam from the lower compartment through the ice condenser, where the heat is removed by the remaining ice.

Divider barrier integrity ensures that the high energy fluids released during a DBA would be directed through the ice condenser and that the ice condenser would function as designed if called upon to act as a passive heat sink following a DBA.

BASES

APPLICABLE SAFETY ANALYSES

Divider barrier integrity ensures the functioning of the ice condenser to the limiting containment pressure and temperature that could be experienced following a DBA. The limiting DBAs considered relative to containment temperature and pressure are the loss of coolant accident (LOCA) and the steam line break (SLB). The LOCA and SLB are analyzed using computer codes designed to predict the resultant containment pressure and temperature transients. DBAs are assumed not to occur simultaneously or consecutively.

Although the ice condenser is a passive system that requires no electrical power to perform its function, the Containment Spray System, RHR Spray System, and the ARS also function to assist the ice bed in limiting pressures and temperatures. Therefore, the postulated DBAs are analyzed, with respect to containment Engineered Safety Feature (ESF) systems, assuming the loss of one ESF bus, which is the worst case single active failure and results in the inoperability of one train in the Containment Spray System, RHR Spray System, and the ARS. Additionally, a 5.0 ft^2 opening is conservatively assumed to exist in the divider plate in the LOCA and SLB DBA analyses.

The limiting DBA analyses (Ref. 1) show that the maximum peak containment pressure results from the LOCA analysis and is calculated to be less than the containment design pressure. The maximum peak containment temperature results from the SLB analysis and is discussed in the Bases for LCO 3.6.5, "Containment Air Temperature."

In addition to calculating the overall peak containment pressures, the DBA analyses include calculation of the transient differential pressures that occur across subcompartment walls during the initial blowdown phase of the accident transient. The internal containment walls and structures are designed to withstand these local transient pressure differentials for the limiting DBAs.

The divider barrier satisfies Criterion 3 of 10 CFR 50.36 (Ref. 2).

LCO

This LCO establishes the minimum equipment requirements to ensure that the divider barrier performs its safety function of ensuring that bypass leakage, in the event of a DBA, does not exceed the bypass leakage assumed in the accident analysis. Included are the requirements that the personnel access doors and equipment hatches in the divider barrier are OPERABLE and closed and that the divider barrier seal is properly installed and has not degraded with time. An exception to the requirement that the doors be closed is made to allow personnel transit entry through the divider barrier. The basis of this exception is the

BASES

LCO (continued)

assumption that, for personnel transit, the time during which a door is open will be short (i.e., shorter than the Completion Time of 1 hour for Condition A). The divider barrier functions with the ice condenser to limit the pressure and temperature that could be expected following a DBA.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause an increase in containment pressure and temperature requiring the integrity of the divider barrier. Therefore, the LCO is applicable in MODES 1, 2, 3, and 4.

The probability and consequences of these events in MODES 5 and 6 are low due to the pressure and temperature limitations of these MODES. As such, divider barrier integrity is not required in these MODES.

ACTIONS

A.1

If one or more personnel access doors or equipment hatches (other than one pressurizer enclosure hatch addressed by Condition D) are open or inoperable, except for personnel transit entry, 1 hour is allowed to restore the door(s) and equipment hatches to OPERABLE status and the closed position. The 1 hour Completion Time is consistent with LCO 3.6.1, "Containment," which requires that containment be restored to OPERABLE status within 1 hour. Personnel access doors or equipment hatches open or inoperable in accordance with Condition A are not included in the ice condenser steam bypass analysis that provides the basis for Condition D. Conditions A and D are each implemented independently.

Condition A has been modified by a Note to provide clarification that, for this LCO, separate Condition entry is allowed for each personnel access door or equipment hatch.

B.1

If the divider barrier seal is inoperable, 1 hour is allowed to restore the seal to OPERABLE status. The 1 hour Completion Time is consistent with LCO 3.6.1, which requires that containment be restored to OPERABLE status within 1 hour.

C.1 and C.2

If divider barrier integrity cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in

BASES

ACTIONS (continued)

which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

D.1

If a pressurizer enclosure hatch is open or inoperable, 6 hours are allowed to restore the hatch to OPERABLE status and in the closed position. The 6 hour completion time is based on the need to perform inspections and maintenance in the pressurizer compartment during power operation, as well as for personnel safety and radiation safety considerations. An analysis has been performed that shows an open hatch of 7.5 ft^2 bypass area during a DBA does not impact the design pressure or temperature of the containment. The 7.5 ft^2 bypass is in addition to the total operating deck leakage discussed in Ref. 1 (approximately 5 ft^2 for Unit 2 and 4.6 ft^2 for Unit 1). There is one pressurizer enclosure hatch on Unit 1 and there are three on Unit 2. These hatches are concrete plugs which must be removed with a crane to access the pressurizer cavity. The analyses supporting Condition D for steam bypassing the ice condenser and the heavy load drop apply to the removal of one pressurizer enclosure hatch at a time. The analyses were both done in a manner that bounds the largest of the hatches. The analysis supporting Condition D for steam bypassing the ice condenser does not include the personnel access doors or equipment hatches open or inoperable in accordance Condition A. Conditions A and D are each implemented independently.

SURVEILLANCE REQUIREMENTS

SR 3.6.14.1

Verification, by visual inspection, that all personnel access doors and equipment hatches between the upper and lower containment compartments are closed provides assurance that divider barrier integrity is maintained prior to the reactor being taken from MODE 5 to MODE 4. This SR is necessary because many of the doors and hatches may have been opened for maintenance during the shutdown.

SR 3.6.14.2

Verification, by visual inspection, that the personnel access door and equipment hatch seals, sealing surfaces, and alignments are acceptable provides assurance that divider barrier integrity is maintained. This

BASES

SURVEILLANCE REQUIREMENTS (continued)

inspection cannot be made when the door or hatch is closed. Therefore, SR 3.6.14.2 is required for each door or hatch that has been opened, prior to the final closure. Some doors and hatches may not be opened for long periods of time. Those that use resilient materials in the seals must be opened and inspected at least once every 10 years to provide assurance that the seal material has not aged to the point of degraded performance. The Frequency of 10 years is based on the known resiliency of the materials used for seals, the fact that the openings have not been opened (to cause wear), and operating experience that confirms that the seals inspected at this Frequency have been found to be acceptable.

SR 3.6.14.3

Verification, by visual inspection, after each opening of a personnel access door or equipment hatch that it has been closed makes the operator aware of the importance of closing it and thereby provides additional assurance that divider barrier integrity is maintained while in applicable MODES.

SR 3.6.14.4

Conducting periodic physical property tests on divider barrier seal test coupons provides assurance that the seal material has not degraded in the containment environment, including the effects of irradiation with the reactor at power. The required tests include a tensile strength test. The Frequency of 18 months was developed considering such factors as the known resiliency of the seal material used, the inaccessibility of the seals and absence of traffic in their vicinity, and the unit conditions needed to perform the SR. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.14.5

Visual inspection of the seal around the perimeter provides assurance that the seal is properly secured in place. The Frequency of 18 months was developed considering such factors as the inaccessibility of the seals and absence of traffic in their vicinity, the strength of the bolts and mechanisms used to secure the seal, and the unit conditions needed to perform the SR. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month

BASES

SURVEILLANCE REQUIREMENTS (continued)

Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. UFSAR, Section 6.2.

2. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).

Attachment 3

Description of Proposed Changes and Technical Justification

DESCRIPTION

The changes proposed in this license amendment request (LAR) apply to Technical Specification (TS) 3.6.14, CONTAINMENT SYSTEMS, Divider Barrier Integrity. The proposal will add a new CONDITION along with a corresponding REQUIRED ACTION and COMPLETION TIME to this TS. The new additions will read as follows:

	CONDITION		REQUIRED ACTION	COMPLETION TIME
D.	One pressurizer enclosure hatch open or inoperable.	D.1	Restore pressurizer enclosure hatch to OPERABLE status and closed position.	6 hours

Additionally, a change is also being made to current CONDITION A of this TS. The clarifying statement, "(other than one pressurizer enclosure hatch addressed by Condition D)" is being added to CONDITION A, since the pressurizer enclosure hatch will now be controlled by the new CONDITION D shown above. Conforming changes will also be made to the associated Bases and these changes are included in this LAR submittal package for informational purposes.

TECHNICAL JUSTIFICATION

Discussion

During plant operation, situations arise where it is necessary to enter the pressurizer cavity to perform inspections and maintenance. Entries into the pressurizer cavity are made during startup and shutdown to check for leaks. During operation, if a leak is suspected in the pressurizer cavity, it may be necessary to open the pressurizer enclosure hatch to perform an inspection and, if needed, repairs. If repairs are to be made, or the inspections are time consuming, the pressurizer hatch would need to be open for longer than 1 hour, thus requiring enforcement discretion from the current requirements of TS 3.6.14. More importantly, the increase in Completion Time enhances personnel safety and radiation safety during these periods of repair and inspection, since access to the pressurizer cavity can be made from above instead of below.

Attachment 3

Description of Proposed Changes and Technical Justification

In a precedent licensing action[1], the NRC previously approved the TS changes proposed in this LAR for Catawba Nuclear Station. Implementation of this LAR will make McGuire TS 3.6.14 consistent with Catawba TS 3.6.14.

Analysis

There is one pressurizer enclosure hatch on McGuire Unit 1 and there are three on McGuire Unit 2. These pressurizer enclosure hatches are concrete plugs which must be removed with a crane to access the pressurizer cavity. The analysis for steam bypassing the ice condenser and the drop analysis apply to the removal of one pressurizer enclosure hatch at a time. The analyses were both done in a manner that bounds the largest of the hatches. Two potential concerns involved with the opening of the pressurizer enclosure are:

1. The increase in steam flow which would bypass the ice condenser during a LOCA, and

2. The possibility of dropping the hatch while lifting it.

One of the main concerns with opening the pressurizer hatch is the increase in steam flow which would bypass the ice condenser during a LOCA. Westinghouse analyzed the effects of divider deck leakages for bypass areas up to 50 ft^2. The results are presented in the McGuire Updated Final Safety Analysis Report (UFSAR) Section 6.2.1.1.3.1 (Loss of Coolant Accident), Table 6-20, and Figure 6-22. The results of this analysis show that the pressure peaks are below the design pressure.

The calculation of the new peak compression pressure consists of an extrapolation of Westinghouse results found in the McGuire UFSAR, Section 6.2.1.1.3.1. The compression peak pressure during the blowdown phase of the accident was calculated by Westinghouse to be 7.8 psig, which includes 0.4 psig for the effect of the containment deck bypass area which is assumed to be 5 ft^2.

[1] NRC Letter and Safety Evalauation Dated June 26, 1992, Issuance of Amendments – Catawba Nuclear Station, Units 1 and 2, Amendment Nos. 98/92 (TACS M83171, M83172).

Attachment 3

Description of Proposed Changes and Technical Justification

The effect of the potential deck leakage is expressed by the following equation, which was derived by Westinghouse based on the Waltz Mill test results:

$$\Delta P_{deck} = \text{Bypass Flow Area} \times 0.080 \ (\text{psi/ft}^2)$$

Substituting an additional area of 7.5 ft^2 (which conservatively bounds the opening of the largest pressurizer hatch) in the above equation, the following increase in peak pressure is obtained:

$$\Delta P_{deck} = 7.5 \ ft^2 \times 0.080 = 0.6 \ psi$$

Hence, the new compression pressure is 8.4 psig, which is well below the acceptance criterion of 14.8 psig (TS Bases 3.6.2).

The open pressurizer hatch will not increase the long term containment peak pressure of 13.43 psig (UFSAR Section 6.2.1.1.3.1). The effect of the open hatch on the containment pressure response would be insignificant because containment spray flow would be available to condense the additional steam which passed through the open hatch. During the transient, once the ice in the first set of ice bays completely melts, the additional leakage area provided by the open hatch is inconsequential.

The limiting case for containment temperature is a steam line break with the peak occurring in the lower containment. Additional bypass area would result in a lower temperature peak, by directing part of the steam into the upper containment. However, the upper containment temperature is not a concern, since it is 150 to 200 °F below the peak in lower containment (UFSAR Figures 6-24 and 6-25). The peak containment pressure from a steam line break is bounded by the response of the Loss of Coolant Accident. The removal of the pressurizer hatch for the purpose of performing work would not result in exceeding the containment design pressure should a LOCA occur while the hatch is removed.

In regard to the removal of the pressurizer enclosure hatch in Modes 1 through 4, this has been evaluated in accordance with NUREG-0612[2] and the NRC's December 22, 1980 letter[3] regarding the control of heavy loads at nuclear power plants. A McGuire

[2] NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants."
[3] Darrell G. Eisenhut, U. S. Nuclear Regulatory Commission, Letter Dated December 22, 1980, SUBJECT: Control of Heavy Loads.

engineering calculation was performed to ensure that a drop of the largest pressurizer hatch plug on the pressurizer enclosure roof or operating floor, and a drop of the polar crane load block on to the operating floor, would not damage any equipment, components, or systems necessary for safe shutdown. As mentioned, the methodology employed by this calculation is in accordance with the analytical process described in NUREG-0612 and the December 20, 1980 NRC letter. Based on this calculation, the operating floor and the pressurizer enclosure roof can withstand a drop of the largest pressurizer hatch plug or the polar crane load block. Subsequently, the heavy load drop analysis was revised to ensure the calculation enveloped the case of the largest pressurizer hatch plug dropping back into the hole. The additional heavy load drop case that was analyzed involved the dropping of the plug back into the hole just as it was being lifted. The results of the analysis demonstrated that this particular case is bounded by the heavy load drop cases previously analyzed within the calculation. As such, no equipment, components, or systems necessary for safe shutdown will be impacted and thus can not be damaged. Accordingly, there is no loss of required safe shutdown function due to a postulated load drop (largest pressurizer hatch plug) in containment during Modes 1 through 4. Thus the handling of heavy loads by the polar crane during Modes 1 through 4 complies with the regulatory criteria and guidelines of NUREG-0612.

Conclusion

This LAR proposes a change to TS 3.6.14 which allows a pressurizer hatch to be open 6 hours, increasing this time from the current 1 hour allowable time. Since there is an ongoing need to enter the pressurizer cavity for more than one hour, and since it has been shown above that this increase in time does not have a significant effect on safety, Duke is requesting that the NRC approve the proposed changes to McGuire TS 3.6.14 contained in this LAR.

Attachment 4

No Significant Hazards Consideration Determination

The following discussion is a summary of the evaluation of the changes contained in this license amendment request against the three standards of 10 CFR 50.92(c). A determination of no significant hazards consideration is concluded if operation of the facility in accordance with this license amendment satisfies the three standards.

First Standard

Will implementation of the changes proposed in this license amendment request involve a significant increase in the probability or consequences of an accident previously evaluated?

No. Implementation of this amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated. Removal of the pressurizer enclosure hatch will not cause an increase in the probability of an accident which has been previously evaluated because the pressurizer enclosure hatch is not an accident initiator.

The consequences of an accident which have been previously evaluated will not be significantly increased by removal of the pressurizer enclosure hatch. As discussed in the analysis contained in the technical justification supporting this amendment request, the new containment compression peak pressure will remain well below the acceptance criteria. Additionally, the long term containment peak pressure will not be adversely affected due to the delay time in melting of the ice. The removal of the pressurizer enclosure hatch itself has been previously evaluated in Modes 1 through 4 in accordance with the analytical process described in NUREG-0612 and the NRC's December 22, 1980 letter regarding the control of heavy loads at nuclear power plants. The changes proposed in this license amendment request will have no adverse effect on the procedures used for the handling of heavy loads (pressurizer enclosure hatch) at McGuire nor on the generation of internal missiles as evaluated in Section 3.5 of the McGuire Updated Final Safety Analysis Report.

Attachment 4

No Significant Hazards Consideration Determination

Second Standard

Will implementation of the changes proposed in this license amendment request create the possibility of a new or different kind of accident from any accident previously evaluated?

No. Implementation of this amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated. No new accident causal mechanisms are created as a result of the NRC approval of this license amendment request. As discussed above, extending the time that the pressurizer hatch is allowed to be open does not create any new or different accidents from those previously evaluated. Removal of the pressurizer enclosure hatch to perform inspections or maintenance inside the pressurizer cavity has been previously evaluated and determined to be acceptable. The analysis contained in the technical justification for this license amendment request provides results which conclude that the containment compression peak pressure, and the long term containment peak pressure are acceptable with the pressurizer enclosure hatch open. This amendment does not impact any plant systems that are accident initiators; therefore, no new accident types are being created.

Third Standard

Will implementation of the changes proposed in this license amendment request involve a significant reduction in a margin of safety?

No. Implementation of this amendment would not involve a significant reduction in a margin of safety. Margin of safety is related to the confidence in the ability of the fission product barriers to perform their design functions during and following an accident situation. These barriers include the fuel cladding, the reactor coolant system, and the containment system. The pressurizer enclosure hatch and its performance have a direct impact on the containment boundary, since peak containment pressure due to an accident could be affected. However, the analysis supporting this amendment request concludes that the containment compression

peak pressure and the long term containment peak pressure continue to be acceptable with the increased open time for the hatch. Thus the performance of the fission product barriers will not be significantly impacted by implementation of this amendment and no safety margins will be significantly impacted.

Conclusion

Based upon the preceding discussion, Duke Energy Corporation has concluded that this license amendment request does not involve a significant hazards consideration.

Attachment 5

Environmental Assessment/Impact Statement

The proposed license amendment request has been reviewed against the criteria of 10CFR51.22 for environmental considerations. The proposed amendment does not involve a significant hazards consideration (as shown in Attachment 4), nor increase the types and amounts of effluents that may be released offsite, nor increase individual or cumulative occupational radiation exposures. Therefore, the proposed amendment meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for performing an Environmental Assessment/Impact Statement.