



**Duke Power Company**  
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McGuire Nuclear Station  
MG01VP  
12700 Hagers Ferry Rd.  
Huntersville, NC 28078-9340

**H. B. Barron**  
Vice President, McGuire  
Nuclear Generation Department

(704) 875-4800 OFFICE  
(704) 875-4809 FAX

January 18, 2002

Ms. Becky Karas  
Spent Fuel Project Office  
Nuclear Material Safety Safeguards  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike M/S- 0-6-F-18  
Rockville, MD 20852

Subject: Review of Revision UMSS-02B (Proposed Amendment 3) to Certificate No. 1015  
NAC-UMS

Reference: "Request for an Amendment of the Certificate of Compliance (CoC) for the NAC-  
UMS Universal Storage System to Incorporate Enhanced Design Features", Thomas  
C. Thompson to U.S. Nuclear Regulatory Commission Document Control Desk,  
January 15, 2002.

Dear Ms. Karas,

On January 15, 2002, NAC submitted Revision UMSS-02B (Proposed Amendment 3) for NAC's  
UMS dry storage system for your review and approval. The purpose of this letter is to  
communicate Duke Energy's critical need for a timely review of this amendment request.

NAC is under contract to supply UMS systems for McGuire beginning in August 2003. However,  
the current UMS license does not meet the site parameters for the McGuire site. TS B 3.4 for  
UMS Amendment 2 requires horizontal and vertical seismic accelerations be no greater than 0.26g  
and 0.173g respectively. Due to soil conditions beneath the ISFSI storage pads, the seismic  
accelerations for the McGuire site at the ISFSI pad surface are greater than allowed by TS B 3.4.  
Hence, the amendment request submitted by NAC for the UMS, which slightly increases the  
allowable seismic requirements, is necessary to implement this system at McGuire. The  
justification for the increased seismic requirements is provided in the NAC submittal.

The amendment request is of critical importance in maintaining the spent fuel storage capacity and  
margins necessary to ensure the safe and continuous operations of the McGuire units. Currently,  
392 of the 1463 spaces are available in the Unit 1 spent fuel pool, and 370 of the 1463 spaces are  
available in the Unit 2 spent fuel pool. As you may be aware, McGuire has already loaded five  
TN-32A casks from the Unit 2 spent fuel pool in 2001. Transnuclear is under contract to supply  
five more TN-32A casks by early 2003. The deployment of UMS systems will begin following the  
loading of the ten TN-32-A casks. Current plans are to load three more TN-32A casks from the

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Unit 2 pool in January 2003 and load the two remaining TN-32A casks from the Unit 1 pool in April 2003. This should provide adequate space to accommodate the end of cycle (EOC) 16 refueling outage for Unit 1 in spring of 2004 and the EOC 15 outage for Unit 2 in fall of 2003. Additional space will need to be available before the EOC-17 refueling for Unit 1 in fall 2005 and EOC 16 for Unit 2 in spring 2005. Our current plan for UMS system training and dry runs to support this schedule is April 2004 and initial loading of the UMS in July 2004.

However, problems with degrading Boraflex in the spent fuel pool storage racks at McGuire, have made it necessary to prepare for accelerating dry storage ahead of this schedule. Estimates of future degradation of Boraflex will lead to more restrictive storage requirements in the spent fuel pool. For Region 1, normally used for core offload and temporary storage of fresh fuel, the added restrictions will result in the spent fuel pool being unable to accommodate all the new fuel for the next cycle, beginning with the Unit 1 EOC 15 outage in fall 2002. This has the potential to cause delays in the outage due to transferring fuel from the dry new fuel vault to the spent fuel pool. A more adverse impact of the loss of storage capacity is loss of the ability to fully offload the core should the reactor need to be unloaded early in the cycle. While enough storage spaces will exist to accommodate a core offload early in the cycle, the offload would not be able to meet the more restrictive storage requirements imposed by degraded Boraflex. For Region 2, normally used for longer term storage of permanently discharged fuel, the added restrictions will reduce the effective capacity of the spent fuel pool by requiring empty cell locations for criticality control. This will lead to the inability to store the existing fuel in Region 2 in accordance with the TS limits as the Boraflex continues to degrade. This will necessitate loading dry storage earlier than otherwise planned. Based on current Boraflex projections, the ability to remain in compliance with the TS for spent fuel storage in Region 2 will be lost in 2003.

Future options considered for providing additional storage capacity have been investigated and are being pursued in a parallel path. A TS amendment to revise the existing storage requirements can provide temporary relief. Additional dry storage can be implemented to free up the necessary space to accommodate the more restrictive storage requirements. Another option is to modify the existing racks, or replace the current racks to provide a long-term solution. However, the existing inventory of fuel currently in the pool makes this option impractical, and a large accelerated dry storage loading campaign is necessary for this option to proceed. Hence, the only viable options for long-term relief require accelerating dry storage.

The current schedule for the initial loading of UMS at McGuire is July 2004; however, it is likely this will be accelerated into 2003.

To address the likely scenario of accelerated dry storage, two orders for dry storage systems were placed near the completion of the first campaign of five TN-32A casks. Following the initial procurement of five TN-32A casks, a detailed evaluation was performed for future dry storage requirements. It was determined that an order for five additional TN-32A casks, followed by a large deployment of the UMS system was the best approach. The continued deployment of TN-32As provided short term relief with minimal risk since this system had already been used at McGuire. The primary reason for the deployment of the UMS at McGuire is to provide diversification in supply of dry storage systems. Additional advantages the UMS system offers for McGuire are transportability, reduced dose and reduced cost. Hence, McGuire plans to begin accelerated deployment of UMS systems following the successful loading of the ten TN-32A casks.

Therefore, Duke Energy respectfully requests that the NRC provide a timely review of NAC's request for amendment to Certificate No. 1015, submitted on January 15, 2002 to support loading under the amended certificate by 2<sup>nd</sup> quarter of 2003. This amendment will slightly increase the allowable seismic accelerations which is needed to be able to use the system at McGuire. It should be noted that the increase in seismic accelerations has no impact on the fabrication or performance of the UMS. The UMS system will play a vital role in managing the problem of Boraflex degradation in McGuire's spent fuel pools. Hence, the need for this amendment is of vital importance to Duke Energy. A delay in the amended Certificate of Compliance would have an adverse impact on the operations of Duke Energy's McGuire Nuclear Station.

Please contact Keith Waldrop or myself if you have any questions concerning this request, or if you wish to discuss it further.

Sincerely yours,

A handwritten signature in black ink, appearing to read "H B Barron". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

H. B. Barron

cc:

L A Reyes, Regional Administrator, Region II  
U S Nuclear Regulatory Commission  
Atlanta Federal Center, Suite 23 T 85  
61 Forsyth Street, SW  
Atlanta, Georgia 30303 - 3415

R E Martin, Project Manager (Addressee only)  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
One White Flint North, Mail Stop 08G9  
Rockville, MD 20852-2738

E W Brach  
Spent Fuel Project Office  
U.S. Nuclear Regulatory Commission  
One White Flint North, Mail Stop 0D13  
Rockville, MD 20852-2738

S M Shaeffer, Senior NRC Resident Inspector  
McGuire Nuclear Station

bxc: K. S. Canady  
D. C. Jones  
C. J. Thomas (MNS)  
J. I. Glenn (MNS)  
M. C. Robson (MNS)  
N. T. Simms (MNS)  
C. W. Pennington (NAC)  
C. Lindner (NAC)