

January 17, 2001

Mr. H. B. Barron  
Vice President, McGuire Site  
Duke Energy Corporation  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

SUBJECT: MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 - PROPOSED ADDITION OF  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION EMERGENCY  
ACTION LEVELS (TAC NOS. MA9936 AND MA9937)

Dear Mr. Barron:

In your letter dated September 7, 2000, you submitted proposed additions to the McGuire Nuclear Station, Units 1 and 2, Emergency Plan. These changes, which consisted of additional Emergency Action Levels (EALs), were required due to the addition of an Independent Spent Fuel Storage Installation (ISFSI). These EAL changes were submitted for NRC staff review and approval prior to implementation. Further, on December 20, 2000, you provided a correction for one of the EALs. It reduced the ISFSI cask drop height value from 18 inches to 12 inches.

The staff has completed its review of the proposed EAL changes and supporting documentation. We conclude that the revised EAL system meets the planning standards of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. The basis for our conclusions is contained in the enclosed safety evaluation. Further, the staff expects that these changes will be reviewed and approved by the appropriate State and local officials prior to implementation. The staff finds that you may implement the proposed changes after receiving approval by the State and local officials.

This completes our effort under TAC numbers MA9936 and MA9937. If you have any questions, please contact me at (301) 415-1447.

Sincerely,

**/RA/**

Frank Rinaldi, Project Manager, Section 1  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-369 and 50-370

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ON PROPOSED CHANGES FOR

DUKE ENERGY CORPORATION

MCGUIRE NUCLEAR STATION

DOCKET NOS. 50-369 AND 50-370

1.0 INTRODUCTION

This safety evaluation addresses proposed changes to the McGuire Nuclear Station, Units 1 and 2, Emergency Plan's Emergency Action Levels (EALs) submitted by Duke Energy Corporation (the licensee) in a letter dated September 7, 2000, and supplemented by a letter dated December 20, 2000. The December 20, 2000, letter corrected the cask's drop height from 18 inches to 12 inches. The licensee submitted these changes to the McGuire Nuclear Station Emergency Plan EALs for NRC staff review and approval prior to implementation.

2.0 APPLICABLE REGULATIONS AND GUIDANCE

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.54(q) states, in part: "A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards of §50.47(b) and the requirements of Appendix E to this part..."

10 CFR Part 50.47(b)(4) states, in part: "A standard emergency classification and emergency action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided..."

Section IV.B of Appendix E to 10 CFR Part 50 states, in part: "The means ...for determining ...and for continually assessing ... the release of radioactive material[s] shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission and other Federal agencies, and the emergency action levels that are to be used for determining when and what types of protective measures should be considered within and outside the site boundary to protect health and safety. The emergency action levels shall be based on the plant conditions and instrumentation in addition to onsite and offsite monitoring. These emergency action levels shall be discussed and agreed on by the applicant and State and local governmental authorities and approved by NRC."

Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," states, in part: "The criteria and recommendations contained in Revision 1 of NUREG-0654/FEMA-REP-1 are considered by the NRC staff to be acceptable methods for

complying with the standards in 10 CFR 50.47 that must be met in on-site and off-site emergency response plans."

Section II.D, "Emergency Classification System," of NUREG-0654/FEMA-REP-1, Rev 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," includes the following evaluation criteria:

1. An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee...
2. The initiating conditions shall include the example conditions found in Appendix 1 [of NUREG-0654] ...

Regulatory Guide 1.101, Revision 3, endorsed NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels," as an acceptable alternative to NUREG-0654 for developing EAL schemes.

Emergency Preparedness Position No. 1, "Emergency Preparedness Position (EPPOS) on Acceptable Deviations from Appendix 1 of NUREG-0654 Based upon the Staff's Regulatory Analysis of NUMARC/NESP-007, 'Methodology for Development of Emergency Action Levels'," dated June 6, 1995, states that licensees could utilize the technical bases under the example EALs in NUMARC/NESP-007 to enhance and clarify some of their site-specific EALs developed from NUREG-0654. (The chosen classification scheme, whether based on Appendix 1 to NUREG-0654 or NUMARC/NESP-007, must remain internally consistent.)

### 3.0 EVALUATION

The staff has reviewed the proposed EAL changes using NUMARC/NESP-007 Rev 2, NEI 99-01, NUREG 1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities," and NUREG 1140, "A Regulatory Analysis on Emergency Planning for Fuel Cycle and other Radioactive Materials Licenses." The scope of the staff's review is limited to the proposed EAL changes. The licensee limited the EAL changes to those necessary to incorporate the Independent Spent Fuel Storage Installation (ISFSI) into the existing EAL scheme. These new EALs were incorporated into the appropriate EALs:

1. Fire/Explosion and Security Events at the Unusual Event.
2. Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant or the Independent Spent Fuel Storage Installation at the Unusual Event.
3. Natural Disasters, Hazards and Other Conditions Affecting Plant Safety at the Unusual Event.

The ISFSI at McGuire will be located inside of the site's Protected Area Boundary behind the vehicle barrier system. The design limitations of the casks generally require that only fuel that has been cooled greater than 5 years be placed into the casks for long term storage. As a result, the postulated worst-case accident involving an ISFSI has insignificant consequences to the public health and safety. Therefore, the staff concludes that formal off-site emergency

preparedness actions would not be required and classifications greater than an Unusual Event would not be necessary.

#### 4.0 STATE and LOCAL GOVERNMENTS AGREEMENT

Appendix E to 10 CFR Part 50 states, in part, that EALs are to be discussed and agreed on by State and local government authorities. The licensee stated in its September 7, 2000, letter that these proposed revisions would be discussed with State and local officials prior to implementation.

#### 5.0 CONCLUSION

The staff concludes that the proposed revised EAL scheme meets the requirements of 10 CFR 50.47(b)(4) and Appendix E to 10 CFR Part 50. Therefore, the licensee can implement the proposed revision.

Principal Contributor: P. Milligan

Date: January 17, 2001

McGuire Nuclear Station

cc:

Ms. Lisa F. Vaughn  
Legal Department (PBO5E)  
Duke Energy Corporation  
422 South Church Street  
Charlotte, North Carolina 28201-1006

County Manager of  
Mecklenburg County  
720 East Fourth Street  
Charlotte, North Carolina 28202

Michael T. Cash  
Regulatory Compliance Manager  
Duke Energy Corporation  
McGuire Nuclear Site  
12700 Hagers Ferry Road  
Huntersville, North Carolina 28078

Anne Cottingham, Esquire  
Winston and Strawn  
1400 L Street, NW.  
Washington, DC 20005

Senior Resident Inspector  
c/o U.S. Nuclear Regulatory Commission  
12700 Hagers Ferry Road  
Huntersville, North Carolina 28078

Dr. John M. Barry  
Mecklenburg County  
Department of Environmental  
Protection  
700 N. Tryon Street  
Charlotte, North Carolina 28202

Mr. Peter R. Harden, IV  
VP-Customer Relations and Sales  
Westinshouse Electric Company  
5929 Carnegie Blvd.  
Suite 500  
Charlotte, North Carolina 28209

Ms. Karen E. Long  
Assistant Attorney General  
North Carolina Department of  
Justice  
P. O. Box 629  
Raleigh, North Carolina 27602

Mr. C. Jeffrey Thomas  
Manager - Nuclear Regulatory  
Licensing  
Duke Energy Corporation  
526 South Church Street  
Charlotte, North Carolina 28201-1006

Elaine Wathen, Lead REP Planner  
Division of Emergency Management  
116 West Jones Street  
Raleigh, North Carolina 27603-1335

Mr. Richard M. Fry, Director  
Division of Radiation Protection  
North Carolina Department of  
Environment, Health and Natural  
Resources  
3825 Barrett Drive  
Raleigh, North Carolina 27609-7721

Mr. T. Richard Puryear  
Owners Group (NCEMC)  
Duke Energy Corporation  
4800 Concord Road  
York, South Carolina 29745