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# DUKE POWER COMPANY

POWER BUILDING

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WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

August 25, 1980

TELEPHONE AREA 704  
373-4083

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. B. J. Youngblood, Chief  
Licensing Projects Branch No. 1

Re: McGuire Nuclear Station, Units 1 and 2  
Docket Nos. 50-369, 50-370

Subject: McGuire Nuclear Station  
Emergency Plan

Dear Sir:

Enclosed are 20 copies of the McGuire Nuclear Station Emergency Plan. This plan reflects current requirements in the form of 10CFR 50 Appendix E and the criteria of NUREG-0654. It also incorporates our response to the comments of the NRC review team as defined in a letter from Mr. Robert L. Tedesco dated July 23, 1980. To help in the review process a cross reference from NUREG-0654 to the Emergency Plan is included in the Plan and a cross reference to the review team comments is attached to this letter.

With regard to Criterion B.5 and Table B-1, the information submitted with this plan provides for the addition of 26 station staff personnel within one hour rather than 30 minutes. This is based first on the consideration that all personnel cannot receive notification and drive to the station within 30 minutes because of the distance and traffic conditions between their homes and the station. Secondly, it is based on the consideration that the personnel on shift are qualified and sufficient in number to handle emergency situations until supplementary personnel are available.

With regard to Criteria E.6, Duke Power Company has initiated a study of the plume exposure pathway Emergency Planning Zone around the McGuire Nuclear Station to determine the design of an acceptable early warning system. It is our intention to provide for the purchase, installation and testing of a system meeting the criteria of NUREG-0654 Appendix 3 to be functional by July 1, 1981. The enclosed plan describes the warning system arrangements which have been made pending the availability of this system.

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With regard to Criterion H.8 and the clarification in Appendix 2 the Plan reflects use of presently existing meteorological equipment at the site which provides data through chart recorders and the plant computer to the control room and provides data through the plant computer to the Technical Support Center. Backup meteorological information is available from the National Weather Service office at the Charlotte airport 15 miles from the McGuire Nuclear Station and from the North Carolina Air National Guard facility at the same location. Plans for refinements in the meteorological monitoring capability are being made and will be submitted by January 1, 1981.

Meteorological data and other data transmission is by telecopier from the Technical Support Center. Duke Power Company is participating in industry-wide development work toward enhanced data transmission capability. This future capability will improve the transmission of meteorological and other data.

Included in the plan are procedures for use of a Class A (per NUREG-0654 Appendix 2) type transport and diffusion model for accidental radioactive releases. Work is underway to computerize this model to make it easier to use in an emergency. This program is planned to be available by July 1, 1981. The more detailed Class B model development has been started. No completion date can be assigned at this time.

This plan is currently being used for operator training at the McGuire Station and it will form the basis of our response to the exercise planned with the State of North Carolina and with five counties surrounding the McGuire Station for later this year. Copies of State/and local plans were sent to the Regional Advisory Committee for their review in early August, 1980.

The copies provided for your review are uncontrolled copies. Upon final approval of the plan, it is our intention to issue a limited number of controlled copies to the appropriate regulatory authorities. It would be helpful if in your approval letter you would identify those persons/organizations within the NRC to whom controlled copies should be sent. It is requested that these plans be reviewed in light of current requirements for emergency planning and that this plan as well as the State and local plans and the scheduled exercise be considered an adequate emergency planning basis for issuance of a full power license for McGuire.

Very truly yours,

*William O. Parker, Jr.*  
William O. Parker, Jr. *By [Signature]*

GAC:scs

Enclosures (20)

Duke Power Company  
McGuire Nuclear Station

McGuire  
Emergency  
Plan  
Section

- Definitions 1. A definition of the Crisis Management Center should be included in the  
1.12 plan. It is suggested that this center be identified as an Emergency  
Operation Facility (EOF).
- Table 2. Revise plan to show those organization which have 24-hour per day response  
2-1 including 24-hour per day manning of communication links. Show primary  
and backup means of communication.
- 4.1,1. 3. In Section 4.1-1 under the Emergency Action Level notification of an  
unusual event, line 6, the word "prompt" should be placed before  
"notification" according to the requirements of NUREG 0610.
- 4.2,2. 4. Section 4.2, the Alert Action Level, Part 2 of Section 4.2, line 12 in  
6.1,b,(7),(b) the section. In the sentence starting with "periodic plant status  
updates," there should be an insertion after updates: "(at least every  
15 minutes)" according to NUREG 0654, page 1-6, Licensee Action No. 5.
- Table 4.5-3 5. Section 4.3, Site Emergency, Part 3. Item Letter K in the plan. Item K  
ends with three underlined words for actual meteorology while page 1-10  
of NUREG 0654, example 12a refers to adverse meteorology. The plan  
should specify adverse meteorology according to NUREG 0654.

Table 4.5-3 6. After Item No. K, there are notes 1 and 2 in the plan. There is no reference in the text to these notes. How do the notes relate to the initiating examples for this section?

Table 4.5-4 7. Section 4.4, General Emergency. There's no discussion of the FSAR accidents explicitly in any of the emergency action level discussions in the plan.

Appendix  
10.2 8. The table of contents in the plan says that in Section 10.3 of the Appendix, plots of containment radiation monitor versus time for each emergency classification is given. The plots in the Appendix 10.3 are labeled Release of Reactor Coolant Activity, Release of Gap Activity, and the Design Basis Accident. The plan should make a clear and unambiguous reference to the proper emergency action levels enumerated and announced in NUREG 0654. Each of the plots of containment monitor reading should correspond to source terms as described under Release Potential for each of the emergency classes in NUREG 0610 except for Notification of an Unusual Event.

4.4.2 9. The plan must provide for direct notification of responsible officials within 15 minutes of detecting a "general" emergency condition. This notification must include the protective actions recommended by the site.

5.2.2. 10. The plan must designate an individual as emergency coordinator who shall be onsite at all times and who shall have the authority and responsibility to immediately and unilaterally initiate any emergency actions, including

providing protective action recommendations to authorities responsible for implementing offsite emergency measures.

- 5.2,2 11. Among functional responsibilities assigned to emergency coordinator that cannot be delegated is the decision to notify and make recommendations to authorities responsible for offsite emergency measures.
- 5.5 Table 5.1-1 12. Plan must specify the onsite emergency organization of plant staff personnel for all shifts and its relation to the responsibilities and duties of the normal staff in accordance with Table B-1 of NUREG 0654.
- Table 5.1-1 (1 hr. vs. 1/2 hr.) 13. Staffing must be available within Y2 following the declaration of an emergency as indicated in Table B-1.
- 5.0 14. Plan must specify by positions or title the qualifications to be met by the persons assigned to the functional areas of emergency activity.
- Appendix 10.5 15. Plan must be revised to resolve the following criterion from Section E Notification, Methods and Procedures from NUREG 0654:
- Appendix 10.5 Criterion 3, Page 38, NUREG 0654 is not satisfied.
- Appendix 10.5 Criterion 4, Page 38, NUREG 0654 is not satisfied.
- Appendix 10.6 Criterion 6, Page 39, NUREG 0654. There's no mention or discussion of the physical means and the time required in the Emergency Plan.

Appendix 10.5 There's no satisfaction of Criterion 7, page 39 of NUREG 0654.

16. Plan must be revised to resolve the following Criterion from Section H. Emergency Facilities and Equipment from NUREG 0654:

Definitions  
and  
5.6,1.,(3)

Criterion 2, Page 44, NUREG 0654. There's no discussion of an alternate EOF. Is the technical training center within one mile of the station? The technical training center is referred to in Section 7.1-2a lines 2 and 3.

7.3,a,(4)  
(yes)

Relating to Criterion 6b, page 45 in NUREG 0654. Does the dosimetry meet the NRC Radiological Assessment Branch Technical Position for the Environmental Radiological Monitoring program?

7.3,1.,b,(1)

Page 46, NUREG 0654, Criterion 8. There is no provision noticed in the plan for providing alternative meteorological information from other sources as required for Criterion 8. Do the procedures and equipment satisfy the criteria expressed in Appendix 2?

5.3,3.

Criterion 9, Page 46, NUREG 0654. There's no discussion of ventilation and shielding for the onsite operational support center or a full discussion of the equipment to be contained in it.

8.3,2.

Page 46, NUREG 0654, Criterion 10. The plan does not provide for the inventory, inspection and operational checking after each use as specified in the Criterion.

Appendix 10.4 Criterion 11, Page 46, NUREG 0654. Communication equipment is not mentioned in the Appendix 10.5 general category list.

5.3,2. Page 46 of NUREG 0654, Criterion 12. Plan gives no detailed discussion  
5.6,1.,(3) of a central point for the receipt and analysis of all field monitoring data.

17. Plan must be revised to resolve the following criterion from Section I. Accident Assessment from NUREG 0654:

Yes  
Table 4.5 Relating to Criterion 1, page 47 of NUREG 0654. Are the parameter values and corresponding emergency class in the emergency procedures as required in Criterion 1?

Design and Procurement Underway  
Criterion 2, Page 47, NUREG 0654. Do the post-accident sampling capability, radiation and effluent monitors, inplant instrumentation, and containment radiation monitoring conform with the requirements spelled out in NUREG 0578 with regard to extended range, discrimination from noble gas, noise, etc?

Table 4.5 -  
Appendix 10.2 Page 47 and 48 of NUREG 0654, Criteria 3 and 4. There is not really clear correlation between curves in Appendix 10.2 and specific instrument readings. No magnitude of the release of radioactive materials based on plant system parameters and effluent monitors is given in the plan.

Page 48 of NUREG 0654, Criterion 5. Do the meteorological data and equipment meet the criteria of Appendix 2? Are there readouts for the



5.3,2. meteorological information at the nearsite Emergency Operations Center,  
5.6,1.,a,(3) Technical Support Center, the Control Room, and for the offsite NRC  
Center?

Appendix 10.2, Page 48 of NUREG 0654, Criterion 6. There's no discussion of the  
Note for methodology for determining the release rate of projected doses if the  
projected dose only. instrumentation used for assessment is off scale or inoperable.

6.2,1.(d)(1) Page 48 of NUREG 0654, Criterion 7. In the plan, there's no mention of  
the capability to measure radio iodine concentrations in the air in the  
vicinity of the site as low as  $5 \times 10^{-8}$  micro curies per cc under field  
conditions in any kind of weather regardless of the interference from the  
presence of radioactive noble gas and background radiation.

6.2,1.,(d),(1) Page 49 of NUREG 0654, Criterion 9. There's no mention of communication  
equipment or the estimated deployment times.

Appendix 10.5 18. Must establish procedures which describe mutually agreeable bases for  
notification of offsite authorities consistent with NUREG 0610. These  
procedures must include means for verification of messages.

Appendix 10.5 19. Must establish the contents of the initial emergency messages to be  
sent from the plant.

20. Your plan must describe the public notification system to include:



6.6,3.,a. a. The initial offsite contact who will be responsible for notifying the affected population. (Either the specific organization or individual.)

6.6,3.,a. b. The capability for 24-hour per day notification. (To offsite authorities.)

Appendix 10.6 Note 10.6,1,(a),(2) Letted encl. c. The physical alerting system to be used, sirens, NOAA weather of emergency alert, telephone automatic dialers, aircraft with loudspeakers. (Which will be used to alert public.)

(10 db above average daytime ambient background is a target level for design of an adequate siren system.)

<u>Distance</u>	<u>% Notified in 15 Minutes</u>
5 miles	100%
5 to 10 miles	90%

The design objective for the remaining 10 of the public within 10 mile zone is notification within 45 minutes after notification of local officials.

Appendix 10.6,3,1 d. The basic for any exceptions (e.g., for extended water areas with transient boats or remote hiking trails must be documented.

Appendix 10.6,2,(B)(7) e. Every year, operator must tape a statistical sample of the residents of all areas within the ten mile EPZ to assess the public's

awareness of the prompt notification system and the availability of information on what to do in an emergency.

Appendix  
10.6.2,(b)(7)

Plan must also include a provision for corrective measures to provide reasonable assurance that coverage approaching the design objectives is maintained.

Appendix 10.6

f. The provisions for use of a public media system (Radio, T.V.) to provide clear instructions to the public.

a. 24-hour station - total plume coverage.

Appendix 10.5

b. Include in the plan the messages to be transmitted to the public (cover a range of protective actions.)

Appendix 10.6  
See note under  
10.6.1.,(a)(2)

It is the operators responsibility to ensure that the means exists for notifying and providing prompt instructions to the public.

It is the responsibility of the State and local governments to activate the system.

21. Plan must be revised to resolve the following criterion from Section J. Protective Response from NUREG 0654:

6.4,1.a,(2),(B) Criterion 3, Page 50 of NUREG 0654. There's no discussion of providing for the radiological monitoring of people evacuated from the site in the Plan as requested and required in this criterion.

6.4.1.,a,(2)(B) Page 51 of NUREG 0654, Criterion 4. There's no discussion of decontamination at or near the offsite location in the area of the Plan that describes evacuation of onsite personnel in the event of a site or general emergency.

6.4,1,a,(2)(a) Page 51 of NUREG 0654, Criterion 5. Plan does not provide for accountability of individuals within 30 minutes.

New Appendix 10.8  
Appendix 10.7  
Appendix 10.5/10.6

Page 52 of NUREG 0654, Criterion 10.a, b, and c are not provided for in the Plan.

22. Plan must be revised to resolve the following criterion from Section K. Radiological Exposure Control:

6.8.1.a,(1),(a) Page 57 of NUREG 0654, Criterion 5a. No specific action levels for determining the need to decontaminate are given.

6.4,1.,b.(2)(b) Criterion 5b. Few details are given about the means for radiological decontamination onsite or offsite, but especially with regard to the offsite capabilities.

6.8,1.,a.  
6.8,1.b.(1)(d)  
6.3.2a  
6.5,1,a.  
6.8,1,a,(1)(c)

Page 57 of NUREG 0654, Criterion 6. Regarding 6a, no details are given relating to area access control. Regarding 6b, no details are given regarding the treatment of drinking water and food supplies. Regarding 6c, no specific criteria for permitting the return of areas or items to normal use are given.

- 6.4.1,a,(2),(b) Page 58 of NUREG 0654, Criterion 7. There's no discussion in the Plan of the capability for decontaminating relocated onsite personnel.
23. Plan must be revised to resolve the following criterion from Section M. Recovery and Re-entry Planning and Post-Accident Operations from NUREG 0654:
- 9.0,3n Criterion 1, Page 60, NUREG 0654. There's no discussion of the means to relax protective measures in the plan.
- 9.0,2. Page 60, NUREG 0654, Criterion 2. Insufficient detail of the organization is given in the plan. There are just one or two key positions that are discussed.
- 9.0,1. Page 60, NUREG 0654, Criterion 3. No discussion is given in the plan of the means for informing members of the response organizations that a recovery operation is to be initiated.
- 9.0,3,1. Page 60, NUREG 0654, Criterion 4. The plan does not establish a method for periodically estimating total population exposure.
- 7.6 24. Annual exercise must include both State and local personnel. Must  
8.2,1. conduct independent audits of the emergency preparedness program at least every two years. Results must be documented and retained for a period of five years.

- 8.1,1.g.
25. Expand your plan to provide for periodic dissemination of information to the public regarding how they will be notified and what their actions should be in an emergency, this should include:
- a. Educational information on radiation
  - b. Contact for additional information
  - c. Sheltering
  - d. Evacuation routes

Means for accomplishing this dissemination are:

- a. Information in telephone books
- b. Periodic information in utility bills
- c. Posting in public areas

Information program is acceptable if the permanent and transient adult population within the 10 mile EPZ is provided an adequate opportunity to become aware of this information annually.

If the public information program is to be administered by local officials this must be stated in the plan.