JUN 1 2 1981

Docket No. 50-369

Mr. William O. Parker, Jr. Vice President - Steam Production Duke Power Company P.O. Box 2178 422 South Church Street Charlotte, North Carolina 28242

Dear Mr. Parker:

SUBJECT: ISSUANCE OF FACILITY OPERATING LICENSE NPF-9 - MCGUIRE NUCLEAR STATION, UNIT 1

The U.S. Nuclear Regulatory Commission has issued the enclosed Facility Operating License NPF-9, together with Technical Specifications and Environmental Protection Plan for the McGuire Nuclear Station, Unit 1. This license authorizes low power testing and operation at up to but not to exceed 5 percent of power. Although the license contains various conditions discussing requirements which must be satisfied before exceeding 5 percent power, no operation in excess of 5 percent power is authorized by the license as issued. Authorization to operate beyond 5 percent power is still under consideration by the NRC. The issuance of this license authorizing operation at 5 percent of full power is without prejudice to future consideration by the Commission with respect to operation at power levels in excess of 5 percent.

Also enclosed is a copy of a related notice, the original of which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Darrell G. Eisenhut, Director Division of Licensing Office of Nuclear Reactor Regulation

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1. Facility Operating License NPF-9

2. Federal Register Notice

cc w/enclosures: See next page

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FACILITY OPERATING LICENSE NPF-9 - MCGUIRE NUCLEAR STATION, UNIT NO. 1

DISTRIBUTION: w/enclosures 1 & 2

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U. S. Environmental Protection Agency ATTN: Ms. Elizabeth V. Jankus Office of Environmental Review Room 2119 M, A-104 401 M Street, S.W. Washington, D.C. 20460

Director, Criteria and Standards Division Office of Radiation Programs (ANR-460) U. S. Environmental Protection Agency Washington, D.C. 20460

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Chairman, North Carolina Utilities Commission 430 North Salisbury Street Dobbs Building Raleigh, North Carolina 27602



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

DUKE POWER COMPANY

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

FACILITY OPERATING LICENSE

LICENSE NO. NPF-9

- 1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for license filed by the Duke Power Company (the licensee) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the McGuire Nuclear Station, Unit 1 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-83 and the application, as amended, the provisions of the Act and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - E. The licensee is technically and financially qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;



- H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Facility Operating License No. NPF-9 (subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B) is in accordance with 10 CFR Part 51, of the Commission's regulations and all applicable requirements have been satisfied;
- I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
- 2. Pursuant to approval by the Nuclear Regulatory Commission at a meeting on June 9, 1981, the License for Fuel-Loading and Zero Power Testing issued on January 23, 1981, as amended, is superseded by Facility Operating License No. NPF-9 which is hereby issued to the Duke Power Company (the licensee) to read as follows:
 - A. This license applies to the McGuire Nuclear Station, Unit 1, a pressurized water reactor and associated equipment (the facility) owned by the Duke Power Co. (licensee). The facility is located on the licensee's site in Mecklenburg County, North Carolina, on the shore of Lake Norman approximately 17 miles northwest of Charlotte, North Carolina and is described in Duke Power Company's "Final Safety Analysis Report," as supplemented and amended, and in its Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Duke Power Company:
 - Pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location in Mecklenburg County, North Carolina, in accordance with the limitations set forth in this license;
 - (2) Pursuant to the Act and 10 CFR Part 70 to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- (6) Pursuant to the Act and 10 CFR Parts 30 and 40, to receive, possess and process for release or transfer such byproduct material as may be produced by the Duke Power Company Training and Technology Center.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
 - (1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 170 megawatts thermal (5% of rated power).

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Initial Test Program

The licensee shall conduct the initial test program (set forth in Section 14 of the licensee's Final Safety Analysis Report, as amended) without making any modifications to this program unless such modifications are in accordance with the provisions of 10 CFR Section 50.59. In addition, the licensee shall not make any major modifications to this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- a. Elimination of any test identified as essential in Section 14 of the Final Safety Analysis Report, as amended;
- b. Modification of test objectives, methods or acceptance criteria for any test identified as essential in Section 14 of the Final Safety Analysis Report, as amended;
- c. Performance of any test at a power level different from that described in the program, as limited by this license authorization; and
- d. Failure to complete any tests included in the described program (planned or scheduled) for power levels up to the authorized power level.
- (4) Fire Protection Program

The licensee shall maintain in effect and fully implement all provisions of the approved fire protection plan and the NRC staff's McGuire Safety Evaluation Report Fire Protection Review in Supplement No. 2 to the McGuire Nuclear Station Safety Evaluation Report, dated March 1979. Duke Power Company shall comply with Sections III.G, Fire Protection of Safe Shutdown Capability, including Section III.L, Alternative and Dedicated Shutdown Capability, as appropriate; III.J, Emergency Lighting; and III.O, Oil Collection System for Reactor Coolant Pump, of Appendix R to 10 CFR Part 50, dated November 19, 1980. Section III.G and III.O shall be completed according to the following schedule (III.J having been completed).

a. Duke shall implement a Standby Shutdown Facility System to assure shutdown capability during certain postulated fire events as indicated in Duke's letter, dated January 31, 1979. All required changes shall be completed three months after the first refueling of Unit 1, but not later than 24 months after initial fuel loading of Unit 1.

b. Duke shall perform required modifications to the oil collection system and fire suppression system for the Reactor Coolant Pump (RCP) motor within three months after the first refueling of Unit 1, but not later than 24 months after initial fuel loading of Unit 1.

Prior to commercial operation the licensee shall complete to the satisfaction of the Office of Inspection and Enforcement all required fire protection items identified in Table 9.5-1 and Appendix B of Supplement 5 to the Safety Evaluation Report (NUREG-0422).

(5) Compliance With Regulatory Guide 1.97

In accordance with the schedule submitted by the licensee, or as directed by the Commission, the licensee shall implement modifications necessary to comply with Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," dated December 1980 as modified by the licensee's commitments to NUREG-0588 and NUREG-0737.

(6) Steam Generator Inspection

Prior to start-up after the first refueling, the licensee shall install inspection ports in each steam generator or have an acceptable alternative for inspection. This condition references item 5.3.1 in SER Supplement 4, NUREG-0422.

(7) Environmental Qualification

The licensee shall take the following remedial actions, or alternative acceptable actions, with respect to the environmental qualification requirements for Class IE equipment(SSER $#5^{\pm}7.8$):

(a) No later than June 30, 1982, all safety-related electrical equipment exposed to a harsh environment in the facility shall be qualified in accordance with the requirements of NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment".

^{*}Reference is to the appropriate sections of the Safety Evaluation Report, Supplement No. 5 (NUREG-0422, April 1981)

- (b) Pursuant to SECY-80-370, dated August 6, 1980, complete and auditable records must be available and maintained at a central location which describes the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with NUREG-0588. Such records shall be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified to document complete compliance no later than June 30, 1982.
- (c) Provide the NRC with a description of the required equipment qualification corrective action no later than July 15, 1981.

(8) Radioactive Waste Treatment System

Prior to initial criticality, the licensee shall ensure the operability of radwaste systems to the satisfaction of the Office of Inspection and Enforcement including:

- (a) Completion of testing of the following systems; liquid radwaste treatment, gaseous radwaste treatment, auxiliary building ventilation, and the radiation monitoring systems associated with the above systems;
- (b) Testing of the flow in the vicinity of the auxiliary building ventilation stack sample probe;
- (c) Installation of an effluent flow rate monitor on the Unit 1 vent;

(9) Piping System Reanalysis

The licensee shall provide the NRC with the results of its seismic system piping reanalysis within 90 days of the issuance of this license. (SSER #5-3.7.2)

(10) Category I Masonry Walls

Prior to startup following the first refueling or as directed by the Commission, the licensee shall evaluate all Category I Masonry Walls to final staff criteria and implement required modifications that are indicated by the evaluation.

(11) NUREG-0737 Conditions

The licensee shall complete the following conditions to the satisfaction of the NRC. These conditions reference the appropriate items in Section 22.2, "Fuel-Loading and Low Power Testing Requirements", in SER Supplements 4 & 5, NUREG-0422.

(a) Shift Technical Advisor (I.A.1.1)

The licensee shall continue to provide a fully-trained onshift technical advisor to the shift supervisor.

(b) Independent Safety Engineering Group (I.B.1.2)

The licensee shall continue to have an onsite Independent Safety Engineering Group.

(c) Operating Activities (I.C.6)

Prior to exceeding 1% power the licensee shall provide adequate procedures to verify the correct performance of the licensee's operating activities. These procedures shall be maintained by the licensee.

(d) Control Room Design (I.D.1)

The licensee shall complete the following conditions to the satisfaction of the Commission prior to resuming power operation after the first refueling:

- Controllers with revised scales (0 at top and 100% at bottom) shall be replaced and signal reversing relays shall be incorporated where applicable.
- 2) All applicable meter scales shall be permanently marked.
- The licensee shall rescale circular displays for clarity and eliminate double ranges on circular displays.
- Strip chart selector switches which can be placed in an intermediate (no-selection) position shall be replaced.
- 5) Appropriate modifications to the normal and emergency lighting systems shall be made to ensure adequate illumination of the control room under all operating conditions.

As a reference, these conditions are further described in Supplement No. 4 to the SER (NUREG-0422), Appendix D, items 3b, 4a, 4f and 9b, respectively.

The licensee shall complete each of the following conditions to the satisfaction of the NRC by the times indicated. Each of the following conditions references the appropriate item in Section 22.3, "Full-Power Requirements", in SER Supplement 5, NUREG-0422:

a. NSSS Vendor Review Procedures (I.C.7)

Prior to exceeding 5% power, the licensee shall document that the Westinghouse review of the power ascension test procedures is complete.

b. Training During Low-Power Testing (I.G.1)

Prior to exceeding 5% power the licensee shall complete the required Special Tests and the low-power test training program. The results of the test program shall be provided to the NRC within 30 days.

c. Post Accident Sampling (II.B.3)

The licensee shall install a high radiation sampling system for obtaining reactor coolant and containment atmosphere sampling under degraded core accident conditions without excessive exposure by January 1, 1982.

d. Training for Mitigating Core Damage (II.B.4)

Prior to exceeding 5% power the licensee shall complete training for mitigating core damage.

e. Auxiliary Feedwater System Evaluation (II.E.1.1)

Prior to exceeding 5% power the licensee shall complete performance testing of the auxiliary feedwater system pumps and shall submit a report within 30 days after all tests are completed.

- f. Inadequate Core Cooling Instruments (II.F.2)
 - The licensee shall install a reactor vessel water level instrumentation system by Jan. 1, 1982;

- (2) Prior to exceeding 5% power the licensee shall install a full range in-core thermocouple temperature (2300° F) backup display; and
- (3) The licensee shall upgrade or install an in-core thermocouple monitoring system by January 1, 1982.
- g. Anticipatory Reactor Trip (II.K.3.10)

Prior to exceeding 50% power the licensee shall complete the described turbine trip tests to verify that PORVs will not be challenged when the anticipatory trip bypass is in effect.

The licensee shall complete the following conditions to the satisfaction of the staff by the times indicated. These conditions reference the appropriate item in Section 22.4, "NRC Actions" in SER Supplement 5, NUREG-0422:

- h. Hydrogen Control Measures (II.B.7)
 - (1) For operation of the facility beyond January 31, 1982, the Commission must confirm that an adequate hydrogen control system for the plant is installed and will perform its intended function in a manner that provides adequate safety margins.
 - (2) During the interim period of operation, the licensee shall continue a research program on hydrogen control measures and the effects of hydrogen burns on safety functions and shall submit to the NRC quarterly reports on that research program.
 - (a) The first quarterly report shall contain a detailed description of the Duke Power Company's program which shall generally conform to pertinent portions of the program outlined in "Research on Hydrogen Combustion and Control Quarterly Report", Tennessee Valley Authority, Sequoyah Nuclear Plant, December 15, 1981, but which shall also include, [but not be limited to] the following items:
 - Improved calculational methods for containment temperature and ice condenser response to hydrogen combustion.

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- Confirmatory tests on selected equipment exposed to hydrogen burns.
- 4) New calculations to predict differences between expected equipment temperature environments and containment temperature.
- 5) Evaluate and resolve any anomalous results occurring during the course of its ongoing test program.
- (b) The results of these investigations will be provided to the staff for review in October 1981. A schedule for confirmatory tests beyond this date will be provided consistent with the requirement to meet the January 31, 1982 deadline, Section (11)h(1) of the license.

The licensee shall complete each of the following conditions to the satisfaction of the NRC by the times indicated. Each of the following conditions references the appropriate item in Section 22.5, "Dated Requirements" in SER Supplement 5, NUREG-0422:

i. Reactor Coolant System Vents (II.B.1)

Prior to exceeding 1% power the licensee shall provide information on procedures and testing including measures to preclude inadvertent operation;

j. Relief and Safety Valve Tests (II.D.1)

Prior to October 1, 1981, the licensee shall provide documentation for relief valves, safety valves, and associated piping in accordance with the EPRI December 15, 1980 letter as approved by the NRC and shall qualify block valves by July 1, 1982, and shall submit a report demonstrating said qualification;

k. <u>Commission Orders on Babcock & Wilcox Plants, Subsequently</u> Applied to all PWR Plants (II.K.2)

Prior to January 1, 1982, the licensee as a participant in the Westinghouse Owners Group shall:

- Submit a detailed analysis of the thermal mechanical conditions in the reactor vessel during recovery from small break LOCAs with an extended loss of all feedwater (II.K.2.13).
- (2) Provide an analysis of the potential for voiding in the reactor coolant system during anticipated transients (II.K.2.17).
- (3) Provide a bench mark analysis of sequential auxiliary feedwater flow to the steam generators following a loss of main feedwater (II.K.2.19).
- 1. Final Recommendations of B&O Task Force (II.K.3)
 - With respect to installation of the anticipatory reactor trip (II.K.3.12), prior to exceeding 5% rated power the licensee shall install a trip that meets the stated criteria.
 - (2) With respect to a revised small break LOCA model, (II.K.3.30), the licensee as a participant in the Westinghouse Owners Group shall, prior to January 1, 1982, submit to the NRC a revised model to account for recent experimental data including data from the LOFT Test Facility and the Semiscale Test Facility.
- m. Upgrade Emergency Preparedness

The licensee shall submit by July 1, 1981 a description of how the augmented staffing guidance of Table B-1, NUREG-0654, Rev. 1, will be met by July 1, 1982. (III.A.1-1, and Appendix C, page C-13).

- n. Upgrade Emergency Support Facilities
 - The licensee shall submit by June 15, 1981 the conceptual design description of emergency response facilities in sufficient detail to describe how the guidance of NUREG-0696 will be met (III.A.2, and Appendix C, Section H, page C-8)
 - (2) The licensee shall provide meteorological and dose assessment remote interrogation capability to meet the guidance of Appendix 2, NUREG-0654, Rev. 1 as follows: (1) a functional description of upgraded capabilities by January 1, 1982, (2) installation of hardware and software by July 1, 1982, and (3) full operational capability by October 1, 1982. (III.A.2, and Appendix C, Section H, page C-8)

- (3) The licensee shall revise, prior to exceeding 1% power, the emergency plan implementing procedures to incorporate the following in dose projections:
 - (a) actual source terms, rather than design basis accident source terms.
 - (b) realistic meteorological conditions over the dose time period.
 - (c) actual containment pressure. (III.A.2, Appendix C, and Section H, page C-8)
- D. The facility requires an exemption from certain requirements of Appendix G to 10 CFR Part 50. This exemption is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 2 and in Supplement No. 4. This exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. The exemption is, therefore, hereby granted. With the granting of this exemption, the facility will operate, to the extent authorized therein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
- E. The licensee shall fully implement and maintain in effect the physical security plan, entitled "McGuire Nuclear Station Security Plan", dated February 1, 1978 as revised on July 26, 1978 (Revision 2), August 23, 1978 (Revision 3), September 8, 1978 (Revision 4), October 20, 1978 (Revision 5), October 12, 1979 (Revision 6), March 24, 1980 (Revision 7), August 8, 1980 (Revision 8), October 27, 1980 (Revision 9), and as amended in accordance with the provisions of 10 CFR 50.54(p). The security plan is being withheld from public disclosure pursuant to 10 CFR Section 2.790(d).
- F. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Safeguards Contingency Plan, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). The approved Contingency Plan, which was submitted pursuant to 10 CFR 73.40, consists of documents withheld from public disclosure pursuant to 10 CFR 2.790(d) and is identified as "McGuire Nuclear Station Safeguards Contingency Plan" submitted with letter dated March 23, 1979 as revised by Revision 1, submitted with letter dated December 17, 1980. The Contingency Plan shall remain in effect as a condition of this license. In addition, the licensee shall follow all provisions of the NRC-approved

guard training and qualification plan entitled, "McGuire Nuclear Station Guard Training and Qualification Plan," dated August 7, 1978, and as revised June 9, 1980 (Revision 1). The guard training and qualification plan shall remain in effect so as to provide for qualified guards as of the date of receipt of this license.

- G. The licensee shall report any violations of the requirements contained in Section 2 Items C.(1), C.(3) through C.(11), E and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the Director of the Regional Office, or his designate, no later than the first working day following the violation, with a written followup report within 14 days.
- H. The licensee shall immediately notify the NRC of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.
- I. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- J. Pursuant to an Order by the Atomic Safety and Licensing Board, dated April 23, 1975, the Nuclear Regulatory Commission incorporates herein the following antitrust conditions:
 - a. The licensee makes the commitments contained herein, recognizing that bulk power supply arrangements between neighboring entities normally tend to serve the public interest. In addition, where there are net benefits to all participants such arrangements also serve the best interests of each of the participants. Among the benefits of such transactions are increased electric system reliability, a reduction in the cost of electric power, and minimization of the environmental effects of the production and sale of electricity.

Any particular bulk power supply transaction may afford greater benefits to one participant than to another. The benefits realized by a small system may be proportionately greater than those realized by a larger system. The relative benefits to be derived by the parties from a proposed transaction, however, should not be controlling upon a decision with respect to the desirability of participating in the transaction. Accordingly, the licensee will enter into proposed bulk power transactions of the types hereinafter described which, on balance, provide net benefits to the licensee. There are net benefits in a transaction if the licensee recovers the cost of the transaction (as defined in subparagraph (1)(d) hereof) and there is no demonstrable net detriment to the licensee arising from the transaction.

- (1) As used herein:
 - (a) "Bulk Power" means electric power and any attendant energy, supplied or made available at transmission or sub-transmission voltage by one electric system to another.
 - (b) "Neighboring Entity" means a private or public corporation, a governmental agency or authority, a municipality, a cooperative, or a lawful association of any of the foregoing owning or operating, or proposing to own or operate, facilities for the generation and transmission of electricity which meets each of the following criteria: (1) its existing or proposed facilities are economically and technically feasible of interconnection with those of the licensee and (2) with the exception of municipalities, cooperatives, governmental agencies or authorities, and associations, it is, or upon commencement of operations will be, a public utility and subject to regulation with respect to rates and service under the laws of North Carolina or South Carolina or under the Federal Power Act; provided, however, that as to associations, each member of such association is either a public utility as discussed in this clause (2) or a municipality, a cooperative or a governmental agency or authority.
 - (c) Where the phrase "neighboring entity" is intended to include entities engaging or proposing to engage only in the distribution of electricity, this is indicated by adding the phrase "including distribution systems."
 - (d) "Cost means any appropriate operating and maintenance expenses, together with all other costs, including a reasonable return on the licensee's investment, which

are reasonably allocable to a transaction. However, no value shall be included for loss of revenues due to the loss of any wholesale or retail customer as a result of any transaction hereafter described.

- (2) The licensee will interconnect and coordinate reserves by (a) means of the sale and exchange of emergency and scheduled maintenance bulk power with any neighboring entity(ies), when there are net benefits to each party, on terms that will provide for all of the licensee's properly assignable costs as may be determined by the Federal Energy Regulatory Commission and consistent with such cost assignment will allow the other party the fullest possible benefits of such coordination.
 - (b) Emergency service and/or scheduled maintenance service to be provided by each party will be furnished to the fullest extent available from the supplying party and desired by the party in need. The licensee and each party will provide to the other emergency service and/or scheduled maintenance service if and when available from its own generation and, in accordance with recognized industry practice, from generation of others to the extent it can do so without impairing service to its customers, including other electric systems to whom it has firm commitments.
 - Each party to a reserve coordination arrangement will (c) establish its own reserve criteria, but in no event shall the minimum installed reserve on each system be less than 15%, calculated as a percentage of estimated peak load responsibility. Either party, if it has, or has firmly planned, installed reserves in excess of the amount called for by its own reserve criterion, will offer any such excess as may in fact be available at the time for which it is sought and for such period as the selling party shall determine for purchase in accordance with reasonable industry practice by the other party to meet such other party's own reserve requirements. The parties will provide such amounts of spinning reserve as may be adequate to avoid the imposition of unreasonable demands on the other part(ies) in meeting the normal contingencies of operating its (their) system(s). However, in no circumstances shall such spinning reserve requirement exceed the installed reserve requirement.

- (d) Interconnections will not be limited to low voltages when higher voltages are available from the licensee's installed facilities in the area where interconnection is desired and when the proposed arrangement is found to be technically and economically feasible.
- (e) Interconnection and reserve coordination agreements will not embody provisions which impose limitations upon the use or resale of power and energy sold or exchanged pursuant to the agreement. Further, such arrangements will not prohibit the participants from entering into other interconnection and coordination arrangements, but may include appropriate provisions to assure that (i) the licensee receives adequate notice of such additional interconnection or coordination, (ii) the parties will jointly consider and agree upon such measures, if any, as are reasonably necessary to protect the reliability of the interconnected systems and to prevent undue burdens from being imposed on any system, and (iii) the licensee will be fully compensated for its costs. Reasonable industry practice as developed in the area from time to time will satisfy this provision.
- (3) The licensee currently has on file, and may hereafter file, with the Federal Energy Regulatory Commission contracts with neighboring entity(ies) providing for the sale and exchange of short-term power and energy, limited term power and energy, economy energy, nondisplacement energy, and emergency capacity and energy. The licensee will enter into contracts providing for the same or for like transactions with any neighboring entity on terms which enable the licensee to recover the full costs allocable to such transaction.
- (4) The licensee currently sells capacity and energy in bulk on a full requirements basis to several entities engaging in the distribution of electric power at retail. In addition, the licensee supplies electricity directly to ultimate users in a number of municipalities. Should any such entity(ies) or municipality(ies) desire to become a neighboring entity as defined in subparagraph (1)(b) hereof (either alone or through combination with others), the licensee will assist in facilitating the necessary transition through the sale of partial requirements firm power and energy to the extent that, except for such transition, the licensee would otherwise be supplying firm power

and energy. The provision of such firm partial requirements service shall be under such rates, terms and conditions as shall be found by the Federal Energy Regulatory Commission to provide for the recovery of the licensee's cost. The licensee will sell capacity and energy in bulk on a full requirements basis to any municipality currently served by the licensee when such municipality lawfully engages in the distribution of electric power at retail.

- (5) (a) The licensee will facilitate the exchange of electric power in bulk in wholesale transactions over its transmision facilities (1) between or among two or more neighboring entities including distribution systems with which it is interconnected or may be interconnected in the future, and (2) between any such entity(ies) and any other electric system engaging in bulk power supply between whose facilities the licensee's transmission lines and other transmission lines would form a continuous electric path, provided that permission to utilize such other transmission lines has been obtained. Such transaction shall be undertaken provided that the particular transaction reasonably can be accommodated by the licensee's transmission system from a functional and technical standpoint and does not constitute the wheeling of power to a retail customer. Such transmission shall be on terms that fully compensate the licensee for its cost. Any entity(ies) requesting such transmission arrangements shall give reasonable notice of its (their) schedule and requirements.
 - (b) The licensee will include in its planning and construction program sufficient transmission capacity as required for the transactions referred to in subparagraph (a) of this paragraph, provided that (1) the neighboring entity(ies) gives the licensee sufficient advance notice as may be necessary reasonably to accommodate its (their) requirements from a functional and technical standpoint and (2) that such entity(ies) fully compensate the licensee for its cost. In carrying out this subparagraph (b), however, the licensee shall not be required to construct or add transmission facilities which (a) will be of no demonstrable present or future benefit to the licensee, or (b) which could be constructed by the requesting entity(ies)

without duplicating any portion of the licensee's existing transmission lines, or (c) which would jeopardize the licensee's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements. Where regulatory or environmental approvals are required for the construction or addition of transmission facilities needed for the transactions referred to in subparagraph (a) of this paragraph it shall be the responsibility of the entity(ies) seeking the transaction to participate in obtaining such approvals, including sharing in the cost thereof.

- (6) To increase the possibility of achieving greater reliability and economy of electric generation and transmission facilities, the licensee will discuss load projections and system development plans with any neighboring entity(ies).
- (7) When the licensee's plans for future nuclear generating units (for which application will hereafter be made to the Nuclear Regulatory Commission) have reached the stage of serious planning, but before firm decisions have been made as to the size and desired completion date of the proposed nuclear units, the licensee will notify all neighboring entities including distribution systems with peak loads smaller than the licensee's that the licensee plans to construct such nuclear units. Neither the timing nor the information provided need be such as to jeopardize obtaining the required site at the lowest possible cost.
- (8) The foregoing commitments shall be implemented in a manner consistent with the provisions of the Federal Power Act and all other lawful local, state and Federal regulation and authority. Nothing in these commitments is intended to determine in advance the resolution of issues which are properly raised at the Federal Energy Regulatory Commission concerning such commitments, including allocation of costs or the rates to be charged. The licensee will negotiate (including the execution of a contingent statement of intent) with respect to the foregoing commitments with any neighboring entity including distribution systems where applicable engaging in or proposing to engage in bulk power supply transactions, but

the licensee shall not be required to enter into any final arrangement prior to resolution of any substantial questions as to the lawful authority of an entity to engage in the transactions.

In addition, the licensee shall not be obligated to enter into a given bulk power supply transaction if: (1) to do so would violate, or incapacitate it from performing, any existing lawful contracts it has with a third party; (2) there is contemporaneously available to it a competing or alternative arrangement which affords it greater benefits which would be mutually exclusive of such arrangement; (3) to do so would adversely affect its system operations or the reliability of power supply to its customers, or (4) if to do so would jeopardize the licensee's ability to finance or construct on reasonable terms facilities needed to meet its own anticipated system requirements.

J. This license is effective as of the date of issuance and shall expire at midnight on February 28, 2013.

FOR THE NUCLEAR REGULATORY COMMISSION

F. G. Case F. G. Case Marold R. Denton, Director Office of Nuclear Reactor Regulation

Attachments:

- 1. Appendix A -
- Technical Specifications
- Appendix B -Environmental Protection Plan

Date of Issuance:

		<u>A</u>		ADDE RPurple	DIR/DL DE isenhut 6////81	AD//NRR EGCase 6/(~//81	OTR/NRR HR Denton 6/14/81
OFFICE	.DL:LB.#4	.LA/DL:LB.#4.	UFB/DEp-1	OELD	OFLD/AD	DL:18 #4	ADVDD
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UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-369

MCGUIRE NUCLEAR STATION, UNIT 1

NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE NPF-9

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission), pursuant to the Initial Decision dated April 18, 1979, and the Supplemental Initial Decision dated May 26, 1981, respectively, of the Atomic Safety and Licensing Board, and pursuant to Commission Order dated June 11, 1981, has issued Facility Operating License No. NPF-9 to the Duke Power Company for its McGuire Nuclear Station, Unit 1. The license authorizes low power testing and operation at reactor core power levels not in excess of 5 percent of power (170 megawatts thermal) in accordance with the provisions of the license, the Technical Specifications and the Environmental Protection Plan. The McGuire Nuclear Station, Unit 1, is a pressurized water reactor located near Charlotte in Mecklenburg County, North Carolina.

The Initial Decision and the Supplemental Initial Decision are subject to review by the Atomic Safety and Licensing Appeal Board prior to their becoming final. Any decision or action taken by the Atomic Safety and Licensing Appeal Board in connection wtih the Initial Decision and the Supplemental Initial Decision may be reviewed by the Commission.

The Commission has made appropriate findings as required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license. The application for the license complies with the standards and requirements of the Act and the Commission's regulations.

The license is effective as of its date of issuance.



For further details in respect to this action, see (1) Facility Operating License NPF-9 together with Technical Specifications and Environmental Protection Plan; (2) License NPF-9 for Fuel Loading and Zero Power Testing complete with Technical Specifications (NUREG-0759) dated January 23, 1981; (3) Amendment No. 1 to License NPF-9 for Fuel Loading and Zero Power Testing, dated January 28, 1981; (4) Amendment No. 2 to License NPF-9 for Fuel Loading and Zero Power Testing, dated April 2, 1981; (5) the report to the Advisory Committee on Reactor Safeguards, dated April 12, 1978; (6) the Office of Nuclear Reactor Regulation's Safety Evaluation Report, dated March 1978 (NUREG-0422) and Supplements 1 through 5; (7) the Final Safety Analysis Report and Amendments thereto; (8) the Final Environmental Statement, dated May 30, 1974 and supplements thereto; (10) the Floodplain Aspects of the McGuire Nuclear Plant Site, dated September 3, 1980; (11) the Initial Decision, dated April 18, 1979; and the Supplemental Initial Decision, dated May 26, 1981.

Items 1, 2, 3, 4 and 10 are available upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies of items 6 and 8 may be purchased at current rates from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. All items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the Atkins Library, University of North Carolina, Charlotte (UNCC Station), North Carolina 28223.

Dated at Bethesda, Maryland, this day of June 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

	/ *SEE M	ARKED-UP ONH	E FOR CONCU.	Elinor Adensan	a, Acting Chie	f	
	<u> </u>			Licensing Bran	ich No. 4		
OFFICE	₽IALB#1	D4:18#4	OELD*	Division of Li	censing	DH: LB#4	
SURNAME	MRushbrook	RABARkel	EKetchen			EAdensam	
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- 2 -

LICENSE REFINEMENTS

ADDITIONS:

- . CATEGORY I MASONRY WALLS
- . CONTROL ROOM DESIGN

CHANGES:

- . TO REFLECT BETTER THE SER CONCLUSIONS
 - OPERATING ACTIVITIES
 - NSSS VENDOR REVIEW PROCEDURES
 - FINAL RECOMMENDATIONS OF B&O TASK FORCE
- . TO REFLECT NUREG-0696 AS STAFF GUIDANCE
 - UPGRADE EMERGENCY PREPAREDNESS
 - UPGRADE EMERGENCY SUPPORT FACILITIES
- . TO CONFORM IMPLEMENTATION SCHEDULES TO NUREG-0737 REQUIREMENTS
 - RELIEF AND SAFETY VALVE TESTS
- . TO CORPECT MISCELLANEOUS EDITORIAL ERRORS

McGUIRE COMMISSION BRIEFING JUNE 9, 1981

AGENDA

- INTRODUCTION STATUS
- NON-TMI MATTERS
- TMI MATTERS
- IE STATUS REPORT
- SUMMARY STATEMENT

INTRODUCTION

- FUEL LOAD ZERO POWER LICENSED ISSUED JANUARY 23, 1981
- FUEL LOAD & SUBSEQUENT ACTIVITIES
- INITIAL CRITICALITY SCHEDULE
- McGUIRE-SEQUOYAH DIFFERENCES
- REFINEMENTS TO MCGUIRE LICENSE
- PRINCIPAL REVIEW AREAS: NON-TMI AND TMI

NON-TMI MATTERS

- FIRE PROTECTION
- ENVIRONMENTAL QUALIFICATION
- EXEMPTION FROM 10 CFR 50, APPENDIX G
- ENVIRONMENTAL PROTECTION PLAN
- OUTSTANDING ISSUES FROM ZERO POWER LICENSE

NON-TMI MATTERS

- FIRE PROTECTION
 - FINAL DESIGN OF DEDICATED SHUTDOWN SYSTEM UNDER REVIEW
 - APPENDIX R BACKFIT ITEMS WILL BE MET
 - 1. III.G. FIRE PROTECTION OF SAFE SHUTDOWN CAPABILITY -1st REFUELING
 - 2. III.J EMERGENCY LIGHTING COMPLETED
 - 3. III.O OIL COLLECTION SYSTEM FOR REACTOR COOLANT PUMP -1ST REFUELING
- ENVIRONMENTAL QUALIFICATION
 - FULL AUDIT NOVEMBER 19, 1980
 - NO MAJOR DEFICIENCIES IDENTIFIED
 - EQUIPMENT EVALUATION REPORT AND SAFETY EVALUATION REPORT ISSUED APRIL 15, 1981
 - LICENSEE 90-DAY PERIOD JULY 15, 1981
 - COMPLETION OF CORRECTIVE ACTION BY JUNE 30, 1982
- EXEMPTION FROM 10 CFR, APPENDIX G
- ENVIRONMENTAL PROTECTION PLAN
- OUTSTANDING ISSUES FROM ZERO POWER LICENSE

TMI MATTERS

- EMERGENCY PREPAREDNESS
- CONTROL ROOM DESIGN
- STAFFING
- DATED ITEMS
- OUTSTANDING ISSUES FROM ZERO POWER LICENSE

TMI MATTERS

- EMERGENCY PREPAREDNESS
 - REQUIREMENTS
 - APPLICANT SUBMITTALS
 - STATE AND LOCAL PREPAREDNESS
- CONTROL ROOM REVIEW
 - FIRST REVIEW AFTER TERMINATION OF ESSEX CONTRACT NRC TEAM WITH HUMAN FACTORS CONSULTANT
 - TWO UNIT CONTROL ROOM UNIT 1 PANELS CLOSER TO UNIT 2 PANELS THAN ANY 2 UNIT C.R. WE HAVE REVIEWED
 - RELATIVELY SMALL C.R. IN THE OPERATING SPACE
 - MEDIUM COMPACT PANELS
 - WORKING CONDITIONS GOOD-LIGHTING, NOISE ESTHETICS
 - CONTROL/DISPLAY RELATIONSHIPS GOOD
 - BAD CONTROL GOUPINGS ON SEVERAL PANELS MITIGATED BY GRID SYSTEM (PROCEDURES & PANELS) AND SOME ADDITIONAL DEMARCATION
 - IN-CORE THERMOUCOUPLES-CFR DISPLAYS TO 2300° & TENDING TYPEWRITER - BACKUP STD, WESTINGHOUSE SYSTEM - UP TO 700°F
- STAFFING
 - SHIFT CREW COMPOSITION
 - LICENSED OPERATORS
 - TRAINING
 - SHIFT TECHNICAL ADVISOR
- DATED ITEMS
- OUTSTANDING ISSUES FROM ZERO POWER LIECNSE

I&E STATUS REPORT

- PLANT SCHEDULE
- ACTIVITIES & EVENTS

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• SALP

an na arguma ya mwaka waka kaka kaka kata Wasil ang aka pang aka panang kata kata kata kata kata kata kata la

SUMMARY STATEMENT