

June 3, 1996

Mr. William R. McCollum
Site Vice President
Catawba Nuclear Station
Duke Power Company
4800 Concord Road
York, South Carolina 29745-9635

Distribution R.Crlenjak,RII
Docket File ACRS T-2 E26
PUBLIC OGC
PDII-2 RF G.Hill(4)
S.Varga J.Zwolinski
C.Grimes E.Merschhoff,RII

SUBJECT: ISSUANCE OF AMENDMENTS - CATAWBA NUCLEAR STATION, UNITS 1 AND 2
(TAC NOS. M95104 AND M95105)

Dear Mr. McCollum:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 147 to Facility Operating License NPF-35 and Amendment No. 141 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated April 3, 1996.

The amendments adopt the Improved Technical Specifications requirements for the Hydrogen Ignition System, as delineated in NUREG-1431, Revision 1, "Standard Technical Specifications, Westinghouse Plants," April 1995. The revised specification provides that if neither the Train A or Train B igniter is operable in any one containment region, then there is an allowance of 7 days to restore one hydrogen igniter to operable status, or be in hot shutdown within the next 6 hours.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by

Peter S. Tam, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

- Enclosures: 1. Amendment No.147 to NPF-35
- 2. Amendment No.141 to NPF-52
- 3. Safety Evaluation

cc w/encls: See next page

DOCUMENT NAME: G:\CATAWBA\CAT95104.AMD

subject to change

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NAME	L.BERRY	P.TAM:CHW	C.MANCO	H.BERROW		
DATE	5/23/96	5/12/96	5/30/96	6/3/96	1/196	

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 3, 1996

Mr. William R. McCollum
Site Vice President
Catawba Nuclear Station
Duke Power Company
4800 Concord Road
York, South Carolina 29745-9635

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The amendments adopt the Improved Technical Specifications requirements for the Hydrogen Ignition System, as delineated in NUREG-1431, Revision 1, "Standard Technical Specifications, Westinghouse Plants," April 1995. The revised specification provides that if neither the Train A or Train B igniter is operable in any one containment region, then there is an allowance of 7 days to restore one hydrogen igniter to operable status, or be in hot shutdown within the next 6 hours.

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Sincerely,

A handwritten signature in cursive script that reads "Peter S. Tam".

Peter S. Tam, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

Enclosures: 1. Amendment No. 147 to NPF-35
2. Amendment No. 141 to NPF-52
3. Safety Evaluation

cc w/encls: See next page

Mr. W. R. McCollum
Duke Power Company

cc:

Mr. M. S. Kitlan
Regulatory Compliance Manager
Duke Power Company
4800 Concord Road
York, South Carolina 29745

Mr. Paul R. Newton
Legal Department (PB05E)
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242-0001

J. Michael McGarry, III, Esquire
Winston and Strawn
1400 L Street, NW
Washington, DC 20005

North Carolina Municipal Power
Agency Number 1
1427 Meadowood Boulevard
P. O. Box 29513
Raleigh, North Carolina 27626-0513

Mr. Peter R. Harden, IV
Account Sales Manager
Westinghouse Electric Corporation
Power Systems Field Sales
P. O. Box 7288
Charlotte, North Carolina 28241

County Manager of York County
York County Courthouse
York, South Carolina 29745

Richard P. Wilson, Esquire
Assistant Attorney General
South Carolina Attorney General's
Office
P. O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

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

Catawba Nuclear Station

North Carolina Electric Membership
Corporation
P. O. Box 27306
Raleigh, North Carolina 27611

Senior Resident Inspector
4830 Concord Road
York, South Carolina 29745

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW. Suite 2900
Atlanta, Georgia 30323

Max Batavia, Chief
Bureau of Radiological Health
South Carolina Department of
Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. G. A. Copp
Licensing - EC050
Duke Power Company
526 South Church Street
Charlotte, North Carolina 28242-0001

Saluda River Electric
P. O. Box 929
Laurens, South Carolina 29360

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

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

Dayne H. Brown, Director
Division of Radiation Protection
N.C. Department of Environment,
Health and Natural Resources
P. O. Box 27687
Raleigh, North Carolina 27611-7687



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

DUKE POWER COMPANY

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

SALUDA RIVER ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 147
License No. NPF-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Catawba Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-35 filed by the Duke Power Company, acting for itself, North Carolina Electric Membership Corporation and Saluda River Electric Cooperative, Inc. (licensees), dated April 3, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment 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;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-52 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 147 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: June 3, 1996



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DUKE POWER COMPANY

NORTH CAROLINA MUNICIPAL POWER AGENCY NO. 1

PIEDMONT MUNICIPAL POWER AGENCY

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 141
License No. NPF-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Catawba Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-52 filed by the Duke Power Company, acting for itself, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (licensees), dated April 3, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment 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;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

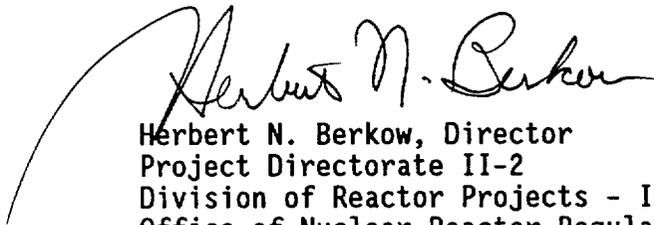
2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. NPF-35 is hereby amended to read as follows:

Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 141 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: June 3, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 147

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 141

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 6-40
B 3/4 6-4

Insert Pages

3/4 6-40
B 3/4 6-4
B 3/4 6-4a
B 3/4 6-4b
B 3/4 6-4c
B 3/4 6-4d

CONTAINMENT SYSTEMS

HYDROGEN IGNITION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.4.3 Both trains of the Hydrogen Ignition System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one train of the Hydrogen Ignition System inoperable:

- a. Restore the inoperable train to OPERABLE status within 7 days, OR
- b. Perform surveillance requirement 4.6.4.3a once per 7 days on the OPERABLE train until the inoperable train is restored to OPERABLE status.

With no OPERABLE Hydrogen Ignitor in one containment region, restore one hydrogen ignitor in the affected containment region to OPERABLE status within 7 days, OR be in HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.3 Each train of the Hydrogen Ignition System shall be demonstrated OPERABLE:

- a. Once per 92 days by energizing the supply breakers and verifying that at least 34 of 35 ignitors are energized.
- b. Once per 92 days, verify at least one hydrogen ignitor is OPERABLE in each containment region.
- c. Once per 18 months by verifying the temperature of each ignitor is a minimum of 1700°F.

CONTAINMENT SYSTEMS

BASES

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

The OPERABILITY of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses. However, the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere, and therefore the time requirements for restoring an inoperable Spray System to OPERABLE status have been maintained consistent with those assigned other inoperable ESF equipment.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations Following a LOCA," March 1971.

3/4.6.4.3 Hydrogen Ignition System (HIS)

BACKGROUND

The HIS reduces the potential for breach of primary containment due to a hydrogen oxygen reaction in post accident environments. The HIS is required by 10 CFR 50.44, "Standards for Combustible Gas Control Systems in Light-Water-Cooled Reactors" (Ref. 1), and Appendix A, GDC 41, "Containment Atmosphere Cleanup" (Ref. 2), to reduce the hydrogen concentration in the primary containment following a degraded core accident. The HIS must be capable of handling an amount of hydrogen equivalent to that generated from a metal water reaction involving 75% of the fuel cladding surrounding the active fuel region (excluding the plenum volume).

CONTAINMENT SYSTEMS

BASES

3/4.6.4.3 Hydrogen Ignition System (HIS) (Continued)

10 CFR 50.44 (Ref. 1) requires units with ice condenser containments to install suitable hydrogen control systems that would accommodate an amount of hydrogen equivalent to that generated from the reaction of 75% of the fuel cladding with water. The HIS provides this required capability. This requirement was placed on ice condenser units because of their small containment volume and low design pressure (compared with pressurized water reactor dry containments). Calculations indicate that if hydrogen equivalent to that generated from the reaction of 75% of the fuel cladding with water were to collect in the primary containment, the resulting hydrogen concentration would be far above the lower flammability limit such that, if ignited from a random ignition source, the resulting hydrogen burn would seriously challenge the containment and safety systems in the containment.

The HIS is based on the concept of controlled ignition using thermal ignitors, designed to be capable of functioning in a post accident environment, seismically supported, and capable of actuation from the control room. A total of 70 ignitors are distributed throughout the various regions of containment in which hydrogen could be released or to which it could flow in significant quantities. The ignitors are arranged in two independent trains such that each containment region has at least two ignitors, one from each train, controlled and powered redundantly so that ignition would occur in each region even if one train failed to energize.

When the HIS is initiated, the ignitor elements are energized and heat up to a surface temperature $\geq 1700^{\circ}\text{F}$. At this temperature, they ignite the hydrogen gas that is present in the airspace in the vicinity of the ignitor. The HIS depends on the dispersed location of the ignitors so that local pockets of hydrogen at increased concentrations would burn before reaching a hydrogen concentration significantly higher than the lower flammability limit. Hydrogen ignition in the vicinity of the ignitors is assumed to occur when the local hydrogen concentration reaches 8.5 volume percent (v/o) and results in 100% of the hydrogen present being consumed.

APPLICABLE SAFETY ANALYSES

The HIS causes hydrogen in containment to burn in a controlled manner as it accumulates following a degraded core accident (Ref. 3). Burning occurs at the lower flammability concentration, where the resulting temperatures and pressures are relatively benign. Without the system, hydrogen could build up to higher concentrations that could result in a violent reaction if ignited by a random ignition source after such a buildup.

CONTAINMENT SYSTEMS

BASES

3/4.6.4.3 Hydrogen Ignition System (HIS) (Continued)

The hydrogen ignitors are not included for mitigation of a Design Basis Accident (DBA) because an amount of hydrogen equivalent to that generated from the reaction of 75% of the fuel cladding with water is far in excess of the hydrogen calculated for the limiting DBA loss of coolant accident (LOCA). The hydrogen concentration resulting from a DBA can be maintained less than the flammability limit using the hydrogen recombiners. The hydrogen ignitors, however, have been shown by probabilistic risk analysis to be a significant contributor to limiting the severity of accident sequences that are commonly found to dominate risk for units with ice condenser containments. As such, the hydrogen ignitors are considered to be risk significant in accordance with the NRC Policy Statement.

LCO

Two HIS trains must be OPERABLE with power from two independent, safety related power supplies.

An OPERABLE HIS train consists of 34 of 35 ignitors energized on the train.

Operation with at least one HIS train ensures that the hydrogen in containment can be burned in a controlled manner. Unavailability of both HIS trains could lead to hydrogen buildup to higher concentrations, which could result in a violent reaction if ignited. The reaction could take place fast enough to lead to high temperatures and overpressurization of containment and, as a result, breach containment or cause containment leakage rates above those assumed in the safety analyses. Damage to safety related equipment located in containment could also occur.

Requiring OPERABILITY in MODES 1 and 2 for the HIS ensure its immediate availability after safety injection and scram actuated on a LOCA initiation. In the post accident environment, the two HIS subsystems are required to control the hydrogen concentration within containment to near its flammability limit of 4.1 v/o assuming a worst case single failure. This prevents overpressurization of containment and damage to safety related equipment and instruments.

In MODES 3 and 4 both the hydrogen production rate and total hydrogen production after a LOCA would be significantly less than that calculated for the DBA LOCA. Also, because of the limited time in these MODES, the probability of an accident requiring the HIS is low.

In MODES 5 and 6, the probability and consequences of a L are reduced due to the pressure and temperature limitations of these MODES. Therefore, the HIS is not required to be OPERABLE in MODES 3, 4, 5 and 6.

CONTAINMENT SYSTEMS

BASES

3/4.6.4.3 Hydrogen Ignition System (HIS) (Continued)

ACTIONS

One Train Inoperable Action a. and b.

With one HIS train inoperable, the inoperable train must be restored to OPERABLE status within 7 days or the OPERABLE train must be verified OPERABLE frequently by performance of SR 4.6.4.3a. The 7 day Completion Time is based on the low probability of the occurrence of a degraded core event that would generate hydrogen in amounts equivalent to a metal water reaction of 75% of the core cladding, the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit, and the low probability of failure of the OPERABLE HIS train. The Alternative Required Action b, by frequent surveillances, provides assurance that the OPERABLE train continues to be OPERABLE.

Both trains in One Containment Region Inoperable

This condition is one containment region with no OPERABLE hydrogen ignitor. (No Train A or Train B ignitor operable at the same containment location) Thus, while in this condition B, or in this condition and the above condition simultaneously, there would always be ignition capability in the adjacent containment regions that would provide redundant capability by flame propagation to the region with no OPERABLE ignitors.

This action calls for the restoration of one hydrogen ignitor in each region to OPERABLE status within 7 days. The 7 day Completion Time is based on the same reasons given under the above action for one train inoperable.

Inability To Restore At Least One Hydrogen Ignitor To Operable Status Within the Action Time

The unit must be placed in a MODE in which the LCO does not apply if the HIS subsystems) cannot be restored to OPERABLE status within the associated Completion Time. This is done by placing the unit in at least MODE 3 within 6 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS (SR)

SR 4.6.4.3a

This SR confirms that ≥ 34 of 35 hydrogen ignitors can be successfully energized in each train. The ignitors are simple resistance elements.

CONTAINMENT SYSTEMS

BASES

3/4.6.4.3 Hydrogen Ignition System (HIS) (Continued)

Therefore, energizing provides assurance of OPERABILITY. The allowance of one inoperable hydrogen ignitor is acceptable because, although one inoperable hydrogen ignitor in a region would compromise redundancy in that region, the containment regions are interconnected so that ignition in one region would cause burning to progress to the others (i.e., there is overlap in each hydrogen ignitor's effectiveness between regions). The Frequency of 92 days has been shown to be acceptable through operating experience.

SR 4.6.4.3b

This SR confirms that the two inoperable hydrogen ignitors allowed by SR 4.6.4.3a (i.e., one in each train) are not in the same containment region. The Frequency of 92 days is acceptable based on the Frequency of SR 4.6.4.3a, which provides the information for performing this SR.

SR 4.6.4.3c

A more detailed functional test is performed every 18 months to verify system OPERABILITY. Each glow plug is visually examined to ensure that it is clean and that the electrical circuitry is energized. All ignitors (glow plugs), including normally inaccessible ignitors, are visually checked for a glow to verify that they are energized. Additionally, the surface temperature of each glow plug is measured to be $\geq 1700^{\circ}\text{F}$ to demonstrate that a temperature sufficient for ignition is achieved. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. 10 CFR 50.44.
2. 10 CFR 50, Appendix A, GDC 41.
3. FSAR, Section 6.2.
4. An Analysis of Hydrogen Control Measures at McGuire Nuclear Station, as Revised by Revision 9 to be Applicable to Catawba Nuclear Station.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 147 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 141 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated April 3, 1996, Duke Power Company, et al. (the licensee), submitted a request for changes to the Catawba Nuclear Station, Units 1 and 2, Technical Specifications (TS). The requested changes would adopt a specification in the Improved Technical Specifications for the hydrogen ignition System, as delineated in NUREG-1431, Revision 1, "Standard Technical Specifications, Westinghouse Plants", April 1995. The proposed specification provides that if neither the Train A or Train B igniter is operable in any one containment region, then there is an allowance of 7 days to restore one hydrogen igniter to operable status, or be in hot shutdown within the next 6 hours. The licensee also proposed to revise the associated Bases.

2.0 BACKGROUND

Combustible gases can form in a containment under post-accident conditions due to fuel cladding reaction (with steam or water), corrosion (particularly of zinc-based paint and cable insulation), and radiolysis of water. Containment pressure vessels and equipment in the containment are not designed to withstand the additional loads that would result from large-scale combustion of hydrogen. Therefore, combustible gas control systems are provided to prevent the occurrence of a potentially damaging hydrogen combustion event.

The combustible gas control systems and equipment provided at Catawba include recombiners, vent/purge systems, containment atmosphere mixing and monitoring systems, and distributed ignition (hydrogen igniter) systems. The recombiners serve as the primary means of combustible gas control for design-basis accidents which involve quantities of hydrogen associated with approximately 5% fuel clad metal-water reaction. The vent/purge systems provide a backup hydrogen control capability for design-basis accidents. The distributed ignition (igniter) system (also known as hydrogen ignition system, HIS) is provided for mitigation of degraded core events (Three Mile Island-type events which are "beyond design-basis") involving up to 75% metal-water reaction.

The design of those combustible gas control systems provided for the purpose of mitigating design-basis accidents is based on Regulatory Guide 1.7. The design of HISs is based on the requirements of 10 CFR 50.44 (the "Hydrogen Rule"). The protection provided by igniters is based on the knowledge that immediate local burning of lean mixtures of combustible gas will prevent the subsequent formation of a larger, richer combustible mixture capable of supporting a major deflagration or detonation.

The igniter system at Catawba consists of 70 glow plug igniters distributed equally to two trains. Each protected area is served by two independently powered igniters. The most recent revision to Section 4.6.4.3 was by Amendment No. 136 (for Unit 1) and 130 (for Unit 2). Requirements related to the HIS are contained in NUREG-1431, "Improved Standard Technical Specifications, Westinghouse Plants," Revision 1, April 1995.

3.0 DISCUSSION AND EVALUATION

In its April 3, 1996, letter Duke Power Company requested amendments to the Catawba Units 1 and 2 Technical Specifications. The proposed changes would adopt the Improved Technical Specifications requirements for the hydrogen ignition system as delineated in NUREG-1431, Revision 1.

The major change pertains to the event of inoperable hydrogen ignitors. With one HIS train inoperable, the inoperable train must be restored to operable status within 7 days or the operable train must be verified operable by energizing the supply breakers and verifying that at least 34 of 35 igniters are energized once per 7 days until the inoperable train is restored to operable status. The 7-day completion time is based on the low probability of occurrence of a degraded core event that would generate hydrogen in amounts equivalent to a metal-water reaction of 75% of the core cladding, the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit, and the low probability of failure of the operable HIS train. Alternative Required Action 4.6.4.3a performed once per 7 days, provides assurance that the operable train continues to be operable.

For the case of no operable ignitors in the same containment region, the proposed action requirement is to restore one hydrogen ignitor in the affected containment region to operable status within 7 days. When this condition exists, there would always be ignition capability in the adjacent containment regions that would provide redundant capability by flame propagation to the region with no operable ignitors. The 7-day completion time is based on the same reasons given in the preceding paragraph.

An additional action requirement is being added to address actions to take if the HIS subsystem cannot be restored to operable status within the associated action time. The unit must be placed in a mode in which the limiting condition of operation (LCO) does not apply. This is done by placing the unit in at least Mode 3 within 6 hours. The allowed completion time of 6 hours is reasonable, based on operating experience, to reach Mode 3 from full-power conditions in an orderly manner and without challenging plant systems.

An additional surveillance requirement (SR) (4.6.4.3b) is being added to verify at least one hydrogen ignitor is operable in each containment region. This surveillance is to be performed on a 92-day frequency. This SR confirms that the two inoperable hydrogen ignitors allowed by SR 4.6.4.3a (i.e., one in each train) are not in the same containment region. The frequency of 92 days is acceptable based on the frequency of SR 4.6.4.3a, which provides the information for performing this SR.

The proposed changes to Section 3.6.4.3 and 4.6.4.3 provide assurance that hydrogen ignition capability is sufficient to prevent excess hydrogen accumulation in the event of a degraded core event and are therefore acceptable. The proposed changes to the associated Bases Section B 3/4.6.4.3 are also acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (61 FR 16649 dated April 16, 1996). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Michael R. Snodderly

Date: June 3, 1996