DISTRIBUTION:
Docket Files (3)
NRC PDR
Local PDR
KRGoller/TJCarter
SMSheppard
GZech
OELD
OI&E (3)
BJones (12)
BScharf (15)
JMcGough
ACRS (16)
OPA (Clare Miles)
TBAbernathy
JRBuchanan

Docket Nos. 50-269/270/287

August 6, 1976

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 29 to License No. DPR-38, Amendment No. 29 to License No. DPR-47, and Amendment No. 26 to License No. DPR-55. These amendments consist of changes to the Technical Specifications and are in response to your request dated March 10, 1976.

These changes consist of revision to the Limiting Conditions for Operation and Surveillance Requirements for safety related air filter systems.

Copies of the Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

Original signed by
T.V.Wambach/for

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosures:
1. Amendment No. 29 to DPR-38
2. Amendment No. 29 to DPR-47
3. Amendment No. 26 to DPR-55
4. Safety Evaluation
5. Federal Register Notice

cc: See next page

OFFICE➤	ORB#1	OELD	ORB#1	ETSB		
SURNAME➤ x27433	GZech:tsb		RAPurple			
DATE➤	5/10/76	5/ /76	5/ /76	5/ /76		

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

cc w/enclosures:
Mr. William L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Mr. Troy B. Conner
Conner & Knotts
1747 Pennsylvania Avenue, NW
Washington, D. C. 20006

Oconee Public Library
201 South Spring Street
Walhalla, South Carolina 29691

Honorable Reese A. Hubbard
County Supervisor of Oconee County
Walhalla, South Carolina 29621

Office of Intergovernmental Relations
116 West Jones Street
Raleigh, North Carolina 27603

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

DUKE POWER COMPANY

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 29
License No. DPR-38

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated March 10, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 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;

   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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

T. V. Wambach
for A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: August 6, 1976

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 29 TO FACILITY LICENSE NO. DPR-38

AMENDMENT NO. 29 TO FACILITY LICENSE NO. DPR-47

AMENDMENT NO. 26 TO FACILITY LICENSE NO. DPR-55

DOCKET NOS. 50-269, 50-270 AND 50-287

Revise Appendix A as follows:

Remove Pages	Insert Pages
3.3-1	3.3-1
3.3-2	3.3-2
3.3-4	3.3-4
3.8-2	3.8-2
4.4-10	3.8-3
4.4-11	3.15-1
4.5-10	3.16-1
4.5-11	4.4-10
4.14-1	4.4-11
	4.5-10
	4.5-11
	4.14-1
	4.14-2

3.3 EMERGENCY CORE COOLING, REACTOR BUILDING COOLING, AND REACTOR BUILDING SPRAY SYSTEMS

Applicability

Applies to the emergency core cooling, reactor building cooling, and reactor building spray systems.

Objective

To define the conditions necessary to assure immediate availability of the emergency core cooling, reactor building cooling, and reactor building spray systems.

Specification

3.3.1 The following equipment shall be operable whenever there is fuel in the reactor vessel and reactor coolant pressure is 350 psig or greater or reactor coolant temperature is 250°F or greater:

(a) One reactor building spray pump and its associated spray nozzle header.

(b) Two low pressure service water pumps for Units 1 and 2, and two low pressure service water pumps for Unit 3. The valve in the discharge from the reactor building cooler (LPSW 108, 2LPSW 108, and 3LPSW 108) shall be locked open.

(c) A and B Engineered Safety Feature low pressure injection pumps shall be operable.

(d) Two low pressure injection coolers shall be operable.

(e) Two BWST level instrument channels shall be operable.

(f) The borated water storage tank shall contain a minimum level of 46 feet of water having a minimum concentration of 1,800 ppm boron at a temperature not less than 40°F. The manual valve, LP-28, on the discharge line from the borated water storage tank shall be locked open.

(g) The two reactor building emergency sump isolation valves shall be either manually or remote-manually operable.

(h) Two reactor building cooling fans and associated cooling units.

(i) The Engineered Safety Features valves associated with each of the above systems shall be operable.

3.3.2 In addition to 3.3.1 above, the following ECCS equipment shall be operable when the reactor coolant system is above 350°F and irradiated fuel is in the core:

(a) Two high pressure injection pumps shall be maintained operable to provide redundant and independent flow paths.

(b) Engineered Safety Feature valves and interlocks associated with 3.3.2a above shall be operable.

3.3.3 In addition to 3.3.1 and 3.3.2 above, the following ECCS equipment shall be operable when the reactor coolant system is above 800 psig:

(a) The two core flooding tanks shall each contain a minimum of 13 ± .44 ft. (1040 ± 30 ft^3) of borated water at 600 ± 25 psig.

(b) Core flooding tank boron concentration shall not be less than 1,800 ppm boron.

(c) The electrically-operated discharge valves from the core flood tanks shall be open and breakers locked open and tagged.

(d) One pressure instrument channel and one level instrument channel per core flood tank shall be operable.

3.3.4 The reactor shall not be made critical unless the following equipment in addition to 3.3.1, 3.3.2, and 3.3.3 is operable.

(a) The other reactor building spray pump and its associated spray nozzle header.

(b) The remaining reactor building cooling fan and associated cooling unit.

(c) Engineered Safety Feature valves and interlocks associated with 3.3.4a and 3.3.4b shall be operable.

3.3.5 Except as noted in 3.3.6 below, tests or maintenance shall be allowed during power operation on any component(s) in the high pressure injection, low pressure injection, low pressure service water, reactor building spray, reactor building cooling which will not remove more than one train of each system from service. Components shall not be removed from service so that the affected system train is inoperable for more than 24 consecutive hours. If the system is not restored to meet the requirements of Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4, within 24 hours, the reactor shall be placed in a hot shutdown condition within 12 hours. If the requirements of Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4 are not met within an additional 48 hours, the reactor shall be placed in a condition below that reactor coolant system condition required in Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4 for the component degraded.

ponents shall be based on the results of testing as required by Technical Specification 4.5. The maintenance period of up to 24 hours is acceptable if the operability of equipment redundant to that removed from service is demonstrated immediately prior to removal. The basis of acceptability is a likelihood of failure within 24 hours following such demonstration.

It has been shown for the worst design basis loss-of-coolant accident (a 14.1 ft^2 hot leg break) that the reactor building design pressure will not be exceeded with one spray and two coolers operable. Therefore, a maintenance period of seven days is acceptable for one reactor building cooling fan and its associated cooling unit. (3)

In the event that the need for emergency core cooling should occur, functioning of one train (one high pressure injection pump, one low pressure injection pump, and both core flooding tanks) will protect the core and in the event of a main coolant loop severence, limit the peak clad temperature to less than 2,300^{o}F and the metal-water reaction to that representing less than 1 percent of the clad.

Three low pressure service water pumps serve Oconee Units 1 and 2 and two low pressure service water pumps serve Oconee Unit 3. There is a manual cross-connection on the supply headers for Units 1, 2, and 3. One low pressure service water pump per unit is required for normal operation. The normal operating requirements are greater than the emergency requirements following a loss-of-coolant accident.

REFERENCES

(1) FSAR, Section 14.2.2.3
(2) FSAR, Section 9.5.2
(3) FSAR, Supplement 13
(4) FSAR, Section 6.4

3.8.9 If any of the above specified limiting conditions for fuel loading and refueling are not met, movement of fuel into the reactor core shall cease; action shall be initiated to correct the conditions so that the specified limits are met, and no operations which may increase the reactivity of the core shall be made.

3.8.10 The reactor building purge system, including the radiation monitor, RIA 45, which initiates purge isolation, shall be tested and verified to be operable immediately prior to refueling operations.

3.8.11 Irradiated fuel shall not be removed from the reactor until the unit has been subcritical for at least 72 hours.

3.8.12 Two trains of spent fuel pool ventilation shall be operable with the following exceptions:

a. With one train of spent fuel pool ventilation inoperable, fuel movement within the storage pool or crane operation with loads over the storage pool may proceed provided the operable spent fuel pool ventilation train is in operation and discharging through the Reactor Building purge filters.

b. With no spent fuel pool ventilation filter operable, suspend all operations involving movement of fuel within the storage pool or crane operations with loads over the storage pool until at least one train of spent fuel pool ventilation is restored to operable status.

Bases

Detailed written procedures will be available for use by refueling personnel. These procedures, the above specifications, and the design of the fuel handling equipment as described in Section 9.7 of the FSAR incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. If no change is being made in core geometry, one flux monitor is sufficient. This permits maintenance on the instrumentation. Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The low pressure injection pump is used to maintain a uniform boron concentration. (1) The shutdown margin indicated in Specification 3.8.4 will keep the core subcritical, even with all control rods withdrawn from the core. (2) The boron concentration will be maintained above 1,800 ppm. Although this concentration is sufficient to maintain the core $k_{eff} \leq 0.99$ if all the control rods were removed from the core, only a few control rods will be removed at any one time during fuel shuffling and replacement. The k_{eff} with all rods in the core and with refueling boron concentration is approximately 0.9. Specification 3.8.5 allows the control room operator to inform the reactor building personnel of any impending unsafe condition detected from the main control board indicators during fuel movement.

The specification requiring testing of the Reactor Building purge isolation is to verify that these components will function as required should a fuel handling accident occur which resulted in the release of significant fission products.

Specification 3.8.11 is required, as the safety analysis for the fuel handling accident was based on the assumption that the reactor had been shutdown for 72 hours.(3)

The off-site doses for the fuel handling accident are within the guidelines of 10 CFR 100; however, to further reduce the doses resulting from this accident, it is required that the spent fuel pool ventilation system be operable whenever the possibility of a fuel handling accident could exist.

REFERENCES

(1) FSAR, Section 9.7

(2) FSAR, Section 14.2.2.1

(3) FSAR, Section 14.2.2.1.2

3.3 EMERGENCY CORE COOLING, REACTOR BUILDING COOLING, AND REACTOR BUILDING SPRAY SYSTEMS

Applicability

Applies to the emergency core cooling, reactor building cooling, and reactor building spray systems.

Objective

To define the conditions necessary to assure immediate availability of the emergency core cooling, reactor building cooling, and reactor building spray systems.

Specification

3.3.1 The following equipment shall be operable whenever there is fuel in the reactor vessel and reactor coolant pressure is 350 psig or greater or reactor coolant temperature is 250°F or greater:

(a) One reactor building spray pump and its associated spray nozzle header.

(b) Two low pressure service water pumps for Units 1 and 2, and two low pressure service water pumps for Unit 3. The valve in the discharge from the reactor building cooler (LPSW 108, 2LPSW 108, and 3LPSW 108) shall be locked open.

(c) A and B Engineered Safety Feature low pressure injection pumps shall be operable.

(d) Two low pressure injection coolers shall be operable.

(e) Two BWST level instrument channels shall be operable.

(f) The borated water storage tank shall contain a minimum level of 46 feet of water having a minimum concentration of 1,800 ppm boron at a temperature not less than 40°F. The manual valve, LP-28, on the discharge line from the borated water storage tank shall be locked open.

(g) The two reactor building emergency sump isolation valves shall be either manually or remote-manually operable.

(h) Two reactor building cooling fans and associated cooling units.

(i) The Engineered Safety Features valves associated with each of the above systems shall be operable.

3.3.2 In addition to 3.3.1 above, the following ECCS equipment shall be operable when the reactor coolant system is above 350°F and irradiated fuel is in the core:

(a) Two high pressure injection pumps shall be maintained operable to provide redundant and independent flow paths.

(b) Engineered Safety Feature valves and interlocks associated with 3.3.2a above shall be operable.

3.3.3 In addition to 3.3.1 and 3.3.2 above, the following ECCS equipment shall be operable when the reactor coolant system is above 800 psig:

(a) The two core flooding tanks shall each contain a minimum of 13 $\pm$ .44 ft. (1040 $\pm$ 30 ft^3) of borated water at 600 $\pm$ 25 psig.

(b) Core flooding tank boron concentration shall not be less than 1,800 ppm boron.

(c) The electrically-operated discharge valves from the core flood tanks shall be open and breakers locked open and tagged.

(d) One pressure instrument channel and one level instrument channel per core flood tank shall be operable.

3.3.4 The reactor shall not be made critical unless the following equipment in addition to 3.3.1, 3.3.2, and 3.3.3 is operable.

(a) The other reactor building spray pump and its associated spray nozzle header.

(b) The remaining reactor building cooling fan and associated cooling unit.

(c) Engineered Safety Feature valves and interlocks associated with 3.3.4a and 3.3.4b shall be operable.

3.3.5 Except as noted in 3.3.6 below, tests or maintenance shall be allowed during power operation on any component(s) in the high pressure injection, low pressure injection, low pressure service water, reactor building spray, reactor building cooling which will not remove more than one train of each system from service. Components shall not be removed from service so that the affected system train is inoperable for more than 24 consecutive hours. If the system is not restored to meet the requirements of Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4, within 24 hours, the reactor shall be placed in a hot shutdown condition within 12 hours. If the requirements of Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4 are not met within an additional 48 hours, the reactor shall be placed in a condition below that reactor coolant system condition required in Specification 3.3.1, 3.3.2, 3.3.3, or 3.3.4 for the component degraded.

ponents shall be based on the results of testing as required by Technical Specification 4.5. The maintenance period of up to 24 hours is acceptable if the operability of equipment redundant to that removed from service is demonstrated immediately prior to removal. The basis of acceptability is a likelihood of failure within 24 hours following such demonstration.

It has been shown for the worst design basis loss-of-coolant accident (a 14.1 ft^2 hot leg break) that the reactor building design pressure will not be exceeded with one spray and two coolers operable. Therefore, a maintenance period of seven days is acceptable for one reactor building cooling fan and its associated cooling unit. (3)

In the event that the need for emergency core cooling should occur, functioning of one train (one high pressure injection pump, one low pressure injection pump, and both core flooding tanks) will protect the core and in the event of a main coolant loop severence, limit the peak clad temperature to less than 2,300°F and the metal-water reaction to that representing less than 1 percent of the clad.

Three low pressure service water pumps serve Oconee Units 1 and 2 and two low pressure service water pumps serve Oconee Unit 3. There is a manual cross-connection on the supply headers for Units 1, 2, and 3. One low pressure service water pump per unit is required for normal operation. The normal operating requirements are greater than the emergency requirements following a loss-of-coolant accident.

REFERENCES

(1) FSAR, Section 14.2.2.3
(2) FSAR, Section 9.5.2
(3) FSAR, Supplement 13
(4) FSAR, Section 6.4

3.8.9 If any of the above specified limiting conditions for fuel loading and refueling are not met, movement o. fuel into the reactor core shall cease; action shall be initiated to corr... the conditions so that the specified limits are met, and no opera...s which may increase the reactivity of the core shall be mad.

3.8.10 The reactor building purge system, including the radiation monitor, RIA 45, which initiates purge isolation, shall be tested and verified to be operable immediately prior to refueling operations.

3.8.11 Irradiated fuel shall not be removed from the reactor until the unit has been subcritical for at least 72 hours.

3.8.12 Two trains of spent fuel pool ventilation shall be operable with the following exceptions:

a. With one train of spent fuel pool ventilation inoperable, fuel movement within the storage pool or crane operation with loads over the storage pool may proceed provided the operable spent fuel pool ventilation train is in operation and discharging through the Reactor Building purge filters.

b. With no spent fuel pool ventilation filter operable, suspend all operations involving movement of fuel within the storage pool or crane operations with loads over the storage pool until at least one train of spent fuel pool ventilation is restored to operable status.

Bases

Detailed written procedures will be available for use by refueling personnel. These procedures, the above specifications, and the design of the fuel handling equipment as described in Section 9.7 of the FSAR incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. If no change is being made in core geometry, one flux monitor is sufficient. This permits maintenance on the instrumentation. Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The low pressure injection pump is used to maintain a uniform boron concentration. (1) The shutdown margin indicated in Specification 3.8.4 will keep the core subcritical, even with all control rods withdrawn from the core. (2) The boron concentration will be maintained above 1,800 ppm. Although this concentration is sufficient to maintain the core $k_{eff} \leq 0.99$ if all the control rods were removed from the core, only a few control rods will be removed at any one time during fuel shuffling and replacement. The k_{eff} with all rods in the core and with refueling boron concentration is approximately 0.9. Specification 3.8.5 allows the control room operator to inform the reactor building personnel of any impending unsafe condition detected from the main control board indicators during fuel movement.

The specification requiring testing of the Reactor Building purge isolation is to verify that these components will function as required should a fuel handling accident occur which resulted in the release of significant fission products.

Specification 3.8.11 is required, as the safety analysis for the fuel handling accident was based on the assumption that the reactor had been shutdown for 72 hours.(3)

The off-site doses for the fuel handling accident are within the guidelines of 10 CFR 100; however, to further reduce the doses resulting from this accident, it is required that the spent fuel pool ventilation system be operable whenever the possibility of a fuel handling accident could exist.

REFERENCES

(1) FSAR, Section 9.7

(2) FSAR, Section 14.2.2.1

(3) FSAR, Section 14.2.2.1.2

3.15 PENETRATION ROOM VENTILATION SYSTEMS

Applicability

Applies to the penetration room ventilation systems.

Objective

To define the conditions necessary to assure immediate availability of the penetration room ventilation systems.

Specification

Two trains of the penetration room ventilation systems shall be operable and manual operated valves PR-12, PR-14, PR-16, and PR-18 shall be locked open at all times when containment integrity is required or the reactor shall be shutdown within 12 hours with the following exception:

If one of two trains of a penetration room ventilation system is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days provided that all active components of the other train of the penetration room ventilation system shall be demonstrated to be operable within 24 hours and daily thereafter.

Bases

A single train of reactor building penetration room ventilation equipment retains full capacity to control and minimize the release of radioactive materials from the reactor building to the environment in post-accident conditions.

3.16 HYDROGEN PURGE SYSTEM

Applicability

Applies to the Reactor Building Hydrogen Purge System.

Objective

To define the conditions necessary to assure the availability of the Reactor Building Hydrogen Purge System.

Specification

If the Reactor Building Hydrogen Purge System should become inoperable, it shall be restored to an operable status within 7 days or the Oconee Units shall be shutdown within 36 hours.

Bases

The hydrogen purge system is composed of a portable purging station and a portion of the Penetration Room Ventilation System. The purge system is operated as necessary to maintain the hydrogen concentration below the control limit. The purge discharge from the Reactor Building is taken from one of the Penetration Room Ventilation System penetrations and discharged to the unit vent. A suction may be taken on the Reactor Building via isolation valve PR-7 (Figure 6-5 of the FSAR) using the existing vent and pressurization connections.

The analysis to determine the effect on the incremental doses at the site boundary, resulting from purging hydrogen from the Reactor Building following a postulated LOCA, requires that the purge be started at 460 hours (19.2 days) following the LOCA to limit hydrogen concentration to 4% by volume. If the Hydrogen Purge System is determined to be inoperable, the requirement to restore the system to an operable status within seven days will provide reasonable assurance of its availability in the event of a LOCA.

4.4.3 HYDROGEN PURGE SYSTEM

Applicability

Applies to the Reactor Building Hydrogen Purge System.

Objective

To verify that the Reactor Building Hydrogen Purge System is operable.

Specification

4.4.3.1 An in-place system test shall be performed annually. This test shall consist of a visual inspection, hook-up of the system to one of the three reactor buildings, a flow measurement using flow instruments in the portable purging station and pressure drop measurements across the filter banks. This test shall demonstrate that under simulated emergency conditions the system can be taken from storage and placed into operation within 48 hours. The annual test shall insure the following:

Pressure drop across the combined HEPA filters and charcoal absorber banks is less than six inches of water at the system design flow rate ($\pm$10%).

Operability of the heater at rated power when tested in accordance with ANSI N510-1975.

4.4.3.2 Additional testing requirements that may be performed without hooking-up the system to one of the reactor buildings are as follows:

Annually and after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing, a leakage test using cold DOP shall be performed on HEPA units.

Annually and after each complete or partial replacement of the charcoal absorber bank or after any structural maintenance on the system housing, a leakage test using halogenated hydrocarbon shall be performed on the charcoal filters.

The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal absorber banks shall show $\geq$99% DOP removal and $\geq$99% halogenated hydrocarbon removal when tested in accordance with ANSI N510-1975.

Annually a laboratory analysis of a carbon sample from the hydrocarbon purge system carbon shall show $\geq$90% radioactive methyl iodide removal when tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).

The System shall be operated with the heaters on at least ten hours every month.

Annually, it shall be demonstrated that fans operate within $\pm$10% of design flow when tested in accordance with ANSI N510-1975.

In addition to the annual testing requirement, these tests and analyses shall be performed following painting, fire or chemical release in any ventilation zone communicating with the system.

4.4.3.3 H_2 Detector Test

Hydrogen concentration instruments shall be calibrated annually with proper consideration to moisture effect.

Bases

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. A test frequency of once per year establishes system performance capability.

High efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine. Bypass leakage for the charcoal adsorbers and particulate removal efficiency for HEPA filters are determined by halogenated hydrocarbon and DOP respectively. The laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performances are as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If the iodine removal efficiency test results are unacceptable, all adsorbent in the system should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

Operation of the system every month will demonstrate operability of the filters and adsorber system. Operation for ten hours is used to reduce the moisture built up on the adsorbent.

If painting, fire or chemical release occurs during system operation such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis should be performed as required for operational use.

4.5.3 PENETRATION ROOM VENTILATION SYSTEM

Applicability

Applies to testing of the Penetration Room Ventilation System.

Objective

To verify that the Penetration Room Ventilation System is operable.

Specification

4.5.3.1 Annually, the following conditions shall be demonstrated:

a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than six inches of water at the system design flow rate (±10%).

b. Automatic initiation of each branch of each penetration room ventilation system.

c. Manual operability of the bypass valve for filter cooling.

4.5.3.2 The following tests and analysis for the penetration room ventilation system shall also be performed.

Annually and after each complete or partial replacement of a HEPA filter bank or after any structural maintenance on the system housing, a leak test using cold DOP shall be performed on HEPA units.

Annually and after each complete or partial replacement of a charcoal adsorber bank or after any structural maintenance on the system housing, a leak test using halogenated hydrocarbon shall be performed on the charcoal filters.

The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show >99% DOP removal and >99% halogenated hydrocarbon removal respectively when tested in accordance with ANSI N510-1975.

Annually a laboratory carbon sample from the penetration room ventilation system shall show >90% radioactive methyl iodide removal when tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).

Annually, it shall be demonstrated that fans operate within ±10% design flow when tested in accordance with ANSI N510-1975.

Each train shall be operated at least 15 minutes every month.

In addition to the annual testing requirement, these tests and analyses shall be performed following painting, fire or chemical releases in any ventilation zone communicating with the system or after 720 hours of system operation.

Bases

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than six inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. A test frequency of once per operating cycle establishes system performance capability.

High efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine. Bypass leakage for the charcoal adsorbers and particulate removal efficiency for HEPA filters are determined by halogenated hydrocarbon and DOP respectively. The laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performances are as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

Operation of the system every month will demonstrate operability of the filters and adsorber system. Operation for 15 minutes demonstrates operability and minimizes the moisture build up during testing.

If painting, fire or chemical release occurs during system operation such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis should be performed as required for operational use.

Demonstration of the automatic initiation capability is necessary to assure system performance capability.

4.14 REACTOR BUILDING PURGE FILTERS AND THE SPENT FUEL POOL VENTILATION SYSTEM

Applicability

Applies to testing of the Reactor Building purge filters for Units 2 and 3 and the spent fuel pool ventilation system.

Objective

To verify that the Unit 2 and Unit 3 Reactor Building purge filters will perform their design function and that when used with the spent fuel pool ventilation system will reduce the off-site dose due to a fuel handling accident.

Specification

Annually, and after each complete or partial replacement of a HEPA filter bank or after any structural maintenance on the system housing, a leak test using cold DOP shall be performed on the Reactor Building purge filter.

Annually and after each complete or partial replacement of a charcoal absorber bank or after any structural maintenance on the system housing, a leak test using halogenated hydrocarbon shall be performed on the Reactor Building purge filter.

The results of the in-place cold DOP and halogenated hydrocarbon tests on HEPA filters and charcoal absorber banks shall show $\geq$99% DOP removal and $\geq$99% halogenated hydrocarbon removal respectively when tested in accordance with ANSI N510-1975.

Annually a laboratory carbon sample from the Reactor Building purge filter shall show >90% radioactive methyl iodide removal when tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).

Annually, the spent fuel pool ventilation fans shall be shown to operate with $\pm$ 10% design flow when tested in accordance with ANSI N510-1975.

Each train of the spent fuel pool ventilation shall be operated through the Reactor Building purge filters at least 15 minutes every month.

In addition to the annual testing requirement, these tests and analyses shall be performed following painting, fire or chemical release in any ventilation zone communicating with the system or after 720 hours of system operation.

Bases

The Unit 2 Reactor Building purge filter is used in the ventilation system for the common spent fuel pool for Units 1 and 2. The Unit 3 Reactor Building purge filter is used in the Unit 3 spent fuel pool ventilation system.. Each filter is constructed with a prefilter, an absolute filter and a charcoal filter in series. The high efficiency particulate air (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine.

Bypass leakage for the charcoal adsorbers and particulate removal efficiency for HEPA filters are determined by halogenated hydrocarbon and DOP respectively. The laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performances are as specified, the doses for a fuel handling accident would be minimized.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

Operation of the spent fuel pool ventilation system every month will demonstrate operability of the fans, filters and adsorber system.

If painting, fire or chemical release occurs during system operation such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis should be performed as required for operational use.

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

DUKE POWER COMPANY

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 29
License No. DPR- 47

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated March 10, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 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;

   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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

T. V. Wambach
for A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: August 6, 1976

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

DUKE POWER COMPANY

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 26
License No. DPR-55

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Duke Power Company (the licensee) dated March 10, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations 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 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;

   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. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

T. V. Wambach
for A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: August 6, 1976

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 29 TO FACILITY LICENSE NO. DPR-38

SUPPORTING AMENDMENT NO. 29 TO FACILITY LICENSE NO. DPR-47

SUPPORTING AMENDMENT NO. 26 TO FACILITY LICENSE NO. DPR-55

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-269, 50-270 AND 50-287

Introduction

By letter dated March 10, 1976, Duke Power Company (the licensee) requested changes to the Technical Specifications appended to Facility Operating Licenses DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station. These changes consist of revisions to the Limiting Conditions for Operation and Surveillance Requirements for safety related air filter systems.

Discussion

Three filter systems in the Oconee units are used to mitigate the radiological consequences of accidents and for which credit was taken in the analyses in the Safety Evaluations issued by the staff on December 29, 1970 and July 6, 1973. Based on the results of the analyses, we concluded that such consequences would be acceptable. The three filter systems referred to are the Penetration Room Ventilation System, the Hydrogen Purge System and the Spent Fuel Pool Ventilation System.

The present Technical Specifications for the Oconee Nuclear Station do not include certain provisions which we consider necessary to ensure high confidence that the systems will function reliably, when needed, at a degree of efficiency equal to or better than that assumed in the accident analyses. Therefore, by letters dated December 6, 1974 and January 12, 1976, we requested that the licensee submit an application that would revise the Oconee Technical Specifications to the installed filter systems referenced above. Included in our letters were sample technical specifications which identified the specific areas of concern. By letter dated March 10, 1976, the licensee responded to our recommendations and submitted an application for amendment of the Oconee licenses.

Evaluation

Penetration Room Ventilation System (PRVS)

The PRVS is an Engineered Safeguards system consisting of two separate trains which take suction on the Reactor Building Penetration Room within which the majority of the containment piping and electrical penetrations are located. Each train contains a fan and filter assembly. The filter assembly consists of a prefilter, a High Efficiency Particulate Air (HEPA) filter and a charcoal filter in series. Following a Loss-Of-Coolant Accident (LOCA) the reactor building isolation signal would place the system in operation by starting both fans which discharge to the Reactor Building vent.

The current PRVS Technical Specifications include provisions limiting reactor operation which are not totally consistent with the guidance provided in the sample Technical Specifications. In the licensee's proposal, one of the two PRVS trains may be inoperable for a period of up to 7 days, provided the other train is demonstrated to be operable within 24 hours and daily thereafter. In addition, 12 hours has been specified as the maximum period of time allowed to shutdown the reactor should both PSRV trains become inoperable. Other changes proposed include more clearly defined procedures for existing surveillance requirements plus additional requirements to more fully demonstrate the operability of the system.

Hydrogen Purge System

The Hydrogen Purge System consists of a portable purging station (common to all 3 units) and a portion of the PRVS. In the event of a LOCA at one of the units, the portable purging station would be connected to permanently installed PRVS piping and would direct a purge discharge from the Reactor Building to the unit vent. The portable purging station consists of a purge blower, dehumidifier, filter train, purge flowmeter sample connections and associated piping and valves. The filter train consists of a prefilter, a HEPA filter and a charcoal filter.

The present Technical Specifications contain no Limiting Conditions for Operation (LCO's for the Hydrogen Purge System. The licensee's proposal would add an LCO to allow the system to be inoperable up to seven days. If not restored to an operable status within this time period, all three Oconee units would be required to be shutdown within the next 30 hours. This 7 day time period is acceptable in view of an independent analysis performed by the staff, as detailed in the safety evaluation issued July 6, 1973, which concludes that the Hydrogen Purge System would limit the hydrogen concentration to 4% even if the system is not placed in operation until 460 hours (19.2 days) following a LOCA.

The licensee's proposal also includes changes to existing surveillance requirements plus additional requirements to demonstrate the operability of the Hydrogen Purge System.

Spent Fuel Pool Ventilation System

In the staff's Safety Evaluation of Oconee Units 2 and 3 issued on July 6, 1973,we concluded that offsite doses for the fuel handling accident would be less than the guideline values of 10 CFR 100. We further concluded, however, that iodine filters would be required in the spent fuel handling facility exhaust vents to further reduce doses resulting from a fuel handling accident.

The licensee has modified the spent fuel pool ventilation system to exhaust to the Reactor Building Purge System filter during fuel handling evolutions. Two spent fuel pool ventilation fans have been added downstream of the purge system filter to provide redundant exhaust trains. The purge system filter consists of a prefilter, a HEPA filter and a charcoal filter in series.

In the proposed amendment LCO'S have been added for the Spent Fuel Pool Ventilation System which require that at least one train be in operation and discharging through the Reactor Building purge filters whenever fuel movement within the storage pool or crane operation with loads over the storage pool are in progress. In addition, surveillance requirements have been added to demonstrate the operability of Reactor Building Purge System filters and the Spent Fuel Pool Ventilation System Components.

In summary, the licensee has proposed changes to the Oconee Technical Specifications which incorporate recommendations provided by the staff. We have reviewed the licensee's proposal and conclude that the changes will help to ensure the high confidence desired that the systems will function as assumed in the Oconee accident analyses. We therefore find the proposed changes to be acceptable.

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR§ 51.5(d)(4) that an environmental statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: August 6, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-269, 50-270 AND 50-287

DUKE POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission) has issued Amendments No. 29, 29, and 26 to Facility Operating Licenses No. DPR-38, DPR-47, and DPR-55, respectively, issued to Duke Power Company which revised Technical Specifications for operation of the Oconee Nuclear Station, Units 1, 2, and 3, located in Oconee County, South Carolina. The amendments are effective as of the date of issuance.

These amendments consist of revisions to the Limiting Conditions for Operation and Surveillance Requirements for safety related air filter systems.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR§ 51.5(d)(4) an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to the action, see (1) the application for amendment dated March 10, 1976, (2) Amendments No. 29, 29, and 26 to Licenses No. DPR-38, DPR-47, and DPR-55, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555, and at the Oconee County Library, 201 South Spring Street, Walhalla, South Carolina 29691.

A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 6th day of August 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Thomas V. Wambach

Thomas V. Wambach, Acting Chief
Operating Reactors Branch #1
Division of Operating Reactors