NOV 17 1976

Docket Nos. 50-237, 50-249,
50-254, 50-265

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Commonwealth Edison Company
ATTN: Mr. R. L. Bolger
Assistant Vice President
Post Office Box 767
Chicago, Illinois 60690

Gentlemen:

In response to your request dated March 5, 1975, the Commission has issued the enclosed Amendment Nos. 17 and 15 to Facility Operating License Nos. DPR-19 and DPR-25 for Unit Nos. 2 and 3 of Dresden Nuclear Station and Amendment Nos. 35 and 34 to Facility Operating License Nos. DPR-29 and DPR-30 for Unit Nos. 1 and 2 of Quad Cities Nuclear Station.

These amendments incorporate changes to the operability and testing requirements for the standby gas treatment systems. During our review, we discussed with your staff various modifications to the changes proposed in your March 5, 1975 submittal. Your staff has agreed to these modifications, which have been incorporated.

Copies of the related Safety Evaluation and the Notice of Issuance also are enclosed.

Sincerely,

Original signed by
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures:
1. Amendment No. 17 to License No. DPR-19
2. Amendment No. 15 to License No. DPR-25
3. Amendment No. 35 to License No. DPR-29
4. Amendment No. 34 to License No. DPR-30
5. Safety Evaluation
6. Notice

cc w/enclosures:
See next page

NOTE: SEE DOCKET NO. 50-237
FOR CONCURRENCES.

OFFICE		OELD	DOR:ORB #2			
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DATE		/ /	/ /			
OFFICE		DOR:ORB #2	DOR:ORB #2	DOR:ORB #2	DOR:ORB #2	
SURNAME		RMDiggs	RPSnaider:ro	RDSilver	PWO'Connor	
DATE		/ /	/ /	/ /	/ /	

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

November 17, 1976

Docket Nos. 50-237, 50-249,
50-254, 50-265

Commonwealth Edison Company
ATTN: Mr. R. L. Bolger
Assistant Vice President
Post Office Box 767
Chicago, Illinois 60690

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In response to your request dated March 5, 1975, the Commission has issued the enclosed Amendment Nos. 17 and 15 to Facility Operating License Nos. DPR-19 and DPR-25 for Unit Nos. 2 and 3 of Dresden Nuclear Station and Amendment Nos. 35 and 34 to Facility Operating License Nos. DPR-29 and DPR-30 for Unit Nos. 1 and 2 of Quad Cities Nuclear Station.

These amendments incorporate changes to the operability and testing requirements for the standby gas treatment systems. During our review, we discussed with your staff various modifications to the changes proposed in your March 5, 1975 submittal. Your staff has agreed to these modifications, which have been incorporated.

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Dennis L. Ziemann

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   License No. DPR-19
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cc w/enclosures:
See next page

cc w/enclosures:
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Mr. Robert W. Watts, Chairman
Rock Island County Board of
Supervisors
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Region V Office
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Springfield, Illinois 62706

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50- 237

DRESDEN NUCLEAR POWER STATION UNIT NO. 2

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 17
License No. DPR-19

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

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 5, 1975, 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 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;

   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 amended by changes 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

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical Specifications

Date of Issuance: November 17, 1976

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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50- 249

DRESDEN NUCLEAR POWER STATION UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 15
License No. DPR-25

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

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 5, 1975, 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 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;

   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 amended by changes 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

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 17, 1976

ATTACHMENT TO LICENSE AMENDMENT NOS. 17 AND 15

FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DOCKET NOS. 50-237 AND 50-249

Replace the existing pages 118, 119, 127, 128, 131a, 131b, and 132 of the Technical Specifications with the attached revised pages bearing the same numbers and additional pages 118a, 118b, and 118c. Changed areas on the pages are shown by marginal lines.

B. Standby Gas Treatment System

1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1(a) and (b).

   a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours and daily thereafter. Within 36 hours following the 7 days, the reactor shall be placed in a condition for which the standby gas treatment system is not

B. Standby Gas Treatment System

1. At least once per month, initiate from the control room 4000 cfm (± 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power.

   a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperable for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (± 10%) flow through the operable circuit of the standby gas treatment system for at least 10 hours with the circuit heaters operating.

required in accordance with Specification 3.7.C.1.(a) through (d).

b. If both standby gas treatment system circuits are not operable, within 36 hours the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

2. Performance Requirement (See Note 1)

a. Periodic Requirements

2. Performance Requirement Tests (See Note 1)

a. At least once per 720 hours of system operation; or once per operating cycle, but not to exceed 18 months, whichever occurs first; or following painting, fire, or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal absorbers; perform the following:

3.7 LIMITING CONDITION FOR OPERATION

(1) The results of the in-place DOP tests at 4000 cfm (± 10%) on HEPA filters shall show ≤ 1% DOP penetration.

(2) The results of in-place halogenated hydrocarbon tests at 4000 cfm (± 10%) on charcoal banks shall show ≤ 1% penetration.

(3) The results of laboratory carbon sample analysis shall show ≥ 90% methyl iodide removal efficiency when tested at 130°C, 95% R. H.

b. The system shall be shown to operate.

4.7 SURVEILLANCE REQUIREMENT

(1) In-place DOP test the HEPA filter banks to verify leak tight integrity.

(2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer to verify leak tight integrity.

(3) Remove one carbon test canister from the charcoal adsorber. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

b. At least once per operating cycle, but not to exceed 18 months, the following conditions shall be demonstrated:

(1) Pressure drop across the combined filters of each standby gas treatment system circuit is less than 6 inches of water at 4000 cfm (± 10%) flow rate.

(2) Operability of inlet heater at rated power.

(3) Automatic initiation of each standby gas treatment system circuit.

3. Post Maintenance Requirements (See Note 1)

   a. After any maintenance or testing that could affect the HEPA filter or HEPA filter mounting frame leak tight integrity, the results of the inplace DOP tests at 4000 cfm (± 10%) on HEPA filters shall show ≤ 1% DOP penetration in accordance with Specification 3.7.B.2.a(1).

   b. After any maintenance or testing that could affect the charcoal adsorber leak tight integrity, the results of in-place halogenated hydrocarbon tests at 4000 cfm (± 10%) on charcoal adsorber banks shall show ≤ 1% penetration in accordance with Specification 3.7.B.2.a(2).

   c. The results of in-place air distribution tests shall show the air distribution is uniform within ± 20% to each HEPA filter when tested initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system.

3. Post Maintenance Testing (See Note 1)

   a. After any maintenance or testing that could affect the leak tight integrity of the HEPA filters, perform in-place DOP tests on the HEPA filters in accordance with Specification 3.7.B.2.a.(1).

   b. After any maintenance or testing that could affect the leak tight integrity of the charcoal adsorber banks, perform halogenated hydrocarbon tests on the charcoal adsorbers in accordance with Specification 3.7.B.2.a.(2).

   c. Perform an air distribution test on the HEPA filter bank initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system. The test shall be performed at 4000 cfm (± 10%) flow rate.

4. Standby gas treatment system surveillance shall be performed as indicated below:

   a. At least once per operating cycle it shall be demonstrated that:

3.7 LIMITING CONDITION FOR OPERATION	4.7 SURVEILLANCE REQUIREMENT

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 inches of water at 4000 cfm and

(2) Inlet heater ΔT shall be a minimum of 14°F at 4000 cfm.

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency and at intervals not to exceed six months between refueling outages, it shall be demonstrated that

(1) The removal efficiency of the particulate filters is not less than 99% for particulate matter larger than 0.3 micron.

(2) The removal efficiency of the charcoal filters is not less than 99% for iodine.

c. At least once each five years removable charcoal cartridges shall be removed and absorption shall be demonstrated.

d. At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.

e. At least once per operating cycle manual operability of the bypass valve for filter cooling shall be demonstrated.

Note 1: Because the accomplishment of Specifications 3.7.B.2, 3.7.B.3, 4.7.B.2, and 4.7.B.3 will require equipment modifications, their impelmentation will be delayed until about December 31, 1976. Until that time, the surveillance requirements of Specification 4.7.B.4 shall apply.

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

A means to determine post LOCA containment oxygen concentration is necessary to readily enable the reactor operator to take appropriate action to control containment atmosphere. In the interim, prior to installation of the CAD and associated monitoring systems, the containment oxygen analyzing system will be available.

The maximum containment repressurization pressure of 26 psi provides adequate margin to containment design pressure and a delay time prior to purge which results in acceptable purge doses.

Following a LOCA, periodic operation of the drywell and torus sprays will be used to assist the natural convection and diffusion mixing of hydrogen and oxygen when other ECCS requirements are met and O_2 concentration exceeds 4%.

B. Standby Gas Treatment System and C Secondary Containment

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation, when the drywell is sealed and in service; the reactor building provides primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required as well as during refueling.

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the chimney during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. One standby gas treatment system circuit is designed to automatically start upon containment isolation and to maintain the reactor building pressure at the design negative pressure so that all leakage should be in-leakage. Should one circuit fail to start, the redundant alternate standby gas treatment circuit is designed to start automatically. Each of the two circuits has 100% capacity.

Only one of the two standby gas treatment system circuits is needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is no immediate threat to the containment system performance. Therefore, reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is placed in a condition that does not require a standby gas treatment system.

While only a small amount of particulates are released from the primary containment as a result of the loss of coolant accident, high-efficiency particulate filters before and after the charcoal filters are specified to minimize potential particulate release to the environment and to prevent clogging of the charcoal adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. (The in-place test results should indicate a system leak tightness of less than 1% bypass leakage for the charcoal adsorbers using halogenated hydrocarbon and a HEPA filter efficiency of at least 99% removal of DOP particulates. Laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

D. <u>Primary Containment Isolation Valves</u> - Double isolation valves are provided on lines penetrating the primary containment and open to the free space of the containment. Closure of one of the valves in each line would be sufficient to maintain the integrity of the pressure suppression system. Automatic initiation is required to minimize the potential leakage paths from the containment in the event of a loss of coolant accident.

provide indication and alarm if a disk opening occurs that is equivalent to one-sixteenth of an inch (1/16") at all points around the circumference of the valve disk. The control room alarm circuits for each vacuum breaker are redundant and fail safe. This assures that no single failure will defeat alarming the control room when a valve is open beyond allowable and when power to the switches fails. The alarm is needed to alert the operator that action must be taken to correct a malfunction or that system degradation has occurred and additional testing is required immediately. The frequency of testing the alarms is based on experience and quality of the equipment. During each refueling outage, three drywell-suppression chamber vacuum breakers will be inspected to assure sealing surfaces and components have not deteriorated. Since valve internals are designed for a 40-year lifetime, an inspection program which cycles through all valves in 1/10 of the design lifetime is extremely conservative.

The primary containment is normally slightly pressurized during periods of reactor operation. Nitrogen used for inerting could leak out of the containment but air could not leak in to increase oxygen concentration. Once the containment is filled with nitrogen to the required concentration, no monitoring of oxygen concentration is necessary. However, at least once a week the oxygen concentration will be determined as added assurance.

Recording N_2 storage tank level weekly and after containment reinerting provides assurance of an adequate onsite supply.

Weekly testing of the oxygen analyzer and monthly actuation of the nitrogen makeup and purge line valves provides assurance of operational readiness.

B. Standby Gas Treatment System and
C. Secondary Containment - Initiating reactor building isolation and operation of the standby gas treatment system to maintain the design negative pressure within the secondary containment provides an adequate test of the reactor building isolation valves and the standby gas treatment system. Periodic testing gives sufficient confidence of reactor building integrity and standby gas treatment system operational capability.

(The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Standby gas treatment system in-place testing procedures will be established utilizing applicable sections of ANSI N510-1975 standard as a procedural guideline only. Operation of the standby gas treatment system every month for 10 hours will reduce the moisture buildup on the adsorbent. If painting, fire, or chemical release occurs 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. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52, Revision 1 (June 1976). The charcoal adsorber efficiency test procedures will allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of Table 3 of Regulatory Guide 1.52, Revision 1 (June 1976). The sample will 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 will be replaced. High efficiency particulate filters are installed before and after the charcoal filters to prevent clogging of the carbon adsorbers and to minimize potential release of particulates to the environment. An efficiency of 99% is adequate to retain particulates that may be released to the reactor building following an accident. This will be demonstrated by in-place testing with DOP as the testing medium. Any HEPA filters found defective will be replaced with filters qualified pursuant to regulatory guide position C.3.d of Regulatory Guide 1.52, Revision 1 (June 1976). Once per operating cycle demonstration of HEPA filter pressure drop, operability of inlet heaters at rated power, air distribution to each HEPA filter, and automatic initiation of each standby gas treatment system circuit is necessary to assure system performance capability).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

D. Primary Containment Isolation Valves

Those large pipes comprising a portion of the reactor coolant system, whose failure could result in uncovering the reactor core, are supplied with automatic isolation valves (except those lines needed for emergency core cooling system operation or containment cooling). The closure times specified herein are adequate to prevent loss of more coolant from the circumferential rupture of any of these lines outside the containment than from a steam line rupture. Therefore, this isolation valve closure time is sufficient to prevent uncovering the core.

In order to assure that the doses that may result from a steam line break do not exceed the 10 CFR 100 guidelines, it is necessary that no fuel rod perforation resulting from the accident occur prior to closure of the main steam line isolation valves. Analyses indicate that fuel rod cladding perforations would be avoided for main steam valve closure times, including instrument delay, as long as 10.5 seconds. However, for added margin the Technical Specifications require a valve closure time of not greater than 5 seconds.

For reactor coolant system temperature less than 212°F, the containment could not become pressurized due to a loss of coolant accident. The 212°F limit is based on preventing pressurization of the reactor building and rupture of the blowout panels. These valves are highly reliable, have low service requirement and most are normally closed. The initiating sensors and associated trip channels are also checked to demonstrate the capability for automatic isolation. Ref. Section 5.2.2 and Table 5.2.4 SAR. The test interval of once per operating cycle for automatic initiation results in a failure probability of 1.1 x 10^{-7} that a line will not isolate. More frequent testing for valve operability results in a more reliable system.

The main steam line isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

The containment is penetrated by a large number of small diameter instrument lines. A program for periodic testing and examination of the floor check valves in these lines is performed similar to that described in Amendment No. 22, Millstone Unit 1, Dkt. 50-245.

3.7 LIMITING CONDITION FOR OPERATION

B. Standby Gas Treatment System

1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1(a) and (b).

   a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours and daily thereafter. Within 36 hours following the 7 days, the reactor shall be placed in a condition for which the standby gas treatment system is not

4.7 SURVEILLANCE REQUIREMENT

B. Standby Gas Treatment System

1. At least once per month, initiate from the control room 4000 cfm (± 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power.

   a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperable for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (± 10%) flow through the operable circuit of the standby gas treatment system for at least 10 hours with the circuit heaters operating.

required in accordance with Specification 3.7.C.1.(a) through (d).

b. If both standby gas treatment system circuits are not operable, within 36 hours the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

2. Performance Requirement (See Note 1)

a. Periodic Requirements

2. Performance Requirement Tests (See Note 1)

a. At least once per 720 hours of system operation; or once per operating cycle, but not to exceed 18 months, whichever occurs first; or following painting, fire, or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal absorbers; perform the following:

3.7 LIMITING CONDITION FOR OPERATION

(1) The results of the in-place DOP tests at 4000 cfm (± 10%) on HEPA filters shall show ≤ 1% DOP penetration.

(2) The results of in-place halogenated hydrocarbon tests at 4000 cfm (± 10%) on charcoal banks shall show ≤ 1% penetration.

(3) The results of laboratory carbon sample analysis shall show ≥ 90% methyl iodide removal efficiency when tested at 130°C, 95% R. H.

b. The system shall be shown to operate.

4.7 SURVEILLANCE REQUIREMENT

(1) In-place DOP test the HEPA filter banks to verify leak tight integrity.

(2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer to verify leak tight integrity.

(3) Remove one carbon test canister from the charcoal adsorber. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

b. At least once per operating cycle, but not to exceed 18 months, the following conditions shall be demonstrated:

(1) Pressure drop across the combined filters of each standby gas treatment system circuit is less than 6 inches of water at 4000 cfm (± 10%) flow rate.

(2) Operability of inlet heater at rated power.

(3) Automatic initiation of each standby gas treatment system circuit.

3.7 LIMITING CONDITION FOR OPERATION	4.7 SURVEILLANCE REQUIREMENT
3. Post Maintenance Requirements (See Note 1) a. After any maintenance or testing that could affect the HEPA filter or HEPA filter mounting frame leak tight integrity, the results of the inplace DOP tests at 4000 cfm (± 10%) on HEPA filters shall show ≤ 1% DOP penetration in accordance with Specification 3.7.B.2.a(1). b. After any maintenance or testing that could affect the charcoal adsorber leak tight integrity, the results of in-place halogenated hydrocarbon tests at 4000 cfm (± 10%) on charcoal adsorber banks shall show ≤ 1% penetration in accordance with Specification 3.7.B.2.a(2). c. The results of in-place air distribution tests shall show the air distribution is uniform within ± 20% to each HEPA filter when tested initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system.	3. Post Maintenance Testing (See Note 1) a. After any maintenance or testing that could affect the leak tight integrity of the HEPA filters, perform in-place DOP tests on the HEPA filters in accordance with Specification 3.7.B.2.a.(1). b. After any maintenance or testing that could affect the leak tight integrity of the charcoal adsorber banks, perform halogenated hydrocarbon tests on the charcoal adsorbers in accordance with Specification 3.7.B.2.a.(2). c. Perform an air distribution test on the HEPA filter bank initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system. The test shall be performed at 4000 cfm (± 10%) flow rate. 4. Standby gas treatment system surveillance shall be performed as indicated below: a. At least once per operating cycle it shall be demonstrated that:

Note 1: Because the accomplishment of Specifications 3.7.B.2, 3.7.B.3, 4.7.B.2, and 4.7.B.3 will require equipment modifications, their impelmentation will be delayed until about December 31, 1976. Until that time, the surveillance requirements of Specification 4.7.B.4 shall apply.

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 inches of water at 4000 cfm and

(2) Inlet heater ΔT shall be a minimum of 14°F at 4000 cfm.

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency and at intervals not to exceed six months between refueling outages, it shall be demonstrated that

(1) The removal efficiency of the particulate filters is not less than 99% for particulate matter larger than 0.3 micron.

(2) The removal efficiency of the charcoal filters is not less than 99% for iodine.

c. At least once each five years removable charcoal cartridges shall be removed and absorption shall be demonstrated.

d. At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.

e. At least once per operating cycle manual operability of the bypass valve for filter cooling shall be demonstrated.

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

A means to determine post LOCA containment oxygen concentration is necessary to readily enable the reactor operator to take appropriate action to control containment atmosphere. In the interim, prior to installation of the CAD and associated monitoring systems, the containment oxygen analyzing system will be available.

The maximum containment repressurization pressure of 26 psi provides adequate margin to containment design pressure and a delay time prior to purge which results in acceptable purge doses.

Following a LOCA, periodic operation of the drywell and torus sprays will be used to assist the natural convection and diffusion mixing of hydrogen and oxygen when other ECCS requirements are met and O_2 concentration exceeds 4%.

B. Standby Gas Treatment System and C Secondary Containment

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation, when the drywell is sealed and in service; the reactor building provides primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required as well as during refueling.

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the chimney during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. One standby gas treatment system circuit is designed to automatically start upon containment isolation and to maintain the reactor building pressure at the design negative pressure so that all leakage should be in-leakage. Should one circuit fail to start, the redundant alternate standby gas treatment circuit is designed to start automatically. Each of the two circuits has 100% capacity.

Only one of the two standby gas treatment system circuits is needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is no immediate threat to the containment system performance. Therefore, reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is placed in a condition that does not require a standby gas treatment system.

While only a small amount of particulates are released from the primary containment as a result of the loss of coolant accident, high-efficiency particulate filters before and after the charcoal filters are specified to minimize potential particulate release to the environment and to prevent clogging of the charcoal adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. (The in-place test results should indicate a system leak tightness of less than 1% bypass leakage for the charcoal adsorbers using halogenated hydrocarbon and a HEPA filter efficiency of at least 99% removal of DOP particulates. Laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

D. <u>Primary Containment Isolation Valves</u> - Double isolation valves are provided on lines penetrating the primary containment and open to the free space of the containment. Closure of one of the valves in each line would be sufficient to maintain the integrity of the pressure suppression system. Automatic initiation is required to minimize the potential leakage paths from the containment in the event of a loss of coolant accident.

provide indication and alarm if a disk opening occurs that is equivalent to one-sixteenth of an inch (1/16")at all points around the circumference of the valve disk. The control room alarm circuits for each vacuum breaker are redundant and fail safe. This assures that no single failure will defeat alarming the control room when a valve is open beyond allowable and when power to the switches fails. The alarm is needed to alert the operator that action must be taken to correct a malfunction or that system degradation has occurred and additional testing is required immediately. The frequency of testing the alarms is based on experience and quality of the equipment. During each refueling outage, three drywell-suppression chamber vacuum breakers will be inspected to assure sealing surfaces and components have not deteriorated. Since valve internals are designed for a 40-year lifetime, an inspection program which cycles through all valves in 1/10 of the design lifetime is extremely conservative.

The primary containment is normally slightly pressurized during periods of reactor operation. Nitrogen used for inerting could leak out of the containment but air could not leak in to increase oxygen concentration. Once the containment is filled with nitrogen to the required concentration, no monitoring of oxygen concentration is necessary. However, at least once a week the oxygen concentration will be determined as added assurance.

Recording N_2 storage tank level weekly and after containment reinerting provides assurance of an adequate onsite supply.

Weekly testing of the oxygen analyzer and monthly actuation of the nitrogen makeup and purge line valves provides assurance of operational readiness.

B. Standby Gas Treatment System and
C. Secondary Containment - Initiating reactor building isolation and operation of the standby gas treatment system to maintain the design negative pressure within the secondary containment provides an adequate test of the reactor building isolation valves and the standby gas treatment system. Periodic testing gives sufficient confidence of reactor building integrity and standby gas treatment system operational capability.

(The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Standby gas treatment system in-place testing procedures will be established utilizing applicable sections of ANSI N510-1975 standard as a procedural guideline only. Operation of the standby gas treatment system every month for 10 hours will reduce the moisture buildup on the adsorbent. If painting, fire, or chemical release occurs 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. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52, Revision 1 (June 1976). The charcoal adsorber efficiency test procedures will allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of Table 3 of Regulatory Guide 1.52, Revision 1 (June 1976). The sample will 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 will be replaced. High efficiency particulate filters are installed before and after the charcoal filters to prevent clogging of the carbon adsorbers and to minimize potential release of particulates to the environment. An efficiency of 99% is adequate to retain particulates that may be released to the reactor building following an accident. This will be demonstrated by in-place testing with DOP as the testing medium. Any HEPA filters found defective will be replaced with filters qualified pursuant to regulatory guide position C.3.d of Regulatory Guide 1.52, Revision 1 (June 1976). Once per operating cycle demonstration of HEPA filter pressure drop, operability of inlet heaters at rated power, air distribution to each HEPA filter, and automatic initiation of each standby gas treatment system circuit is necessary to assure system performance capability).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

D. Primary Containment Isolation Valves

Those large pipes comprising a portion of the reactor coolant system, whose failure could result in uncovering the reactor core, are supplied with automatic isolation valves (except those lines needed for emergency core cooling system operation or containment cooling). The closure times specified herein are adequate to prevent loss of more coolant from the circumferential rupture of any of these lines outside the containment than from a steam line rupture. Therefore, this isolation valve closure time is sufficient to prevent uncovering the core.

In order to assure that the doses that may result from a steam line break do not exceed the 10 CFR 100 guidelines, it is necessary that no fuel rod perforation resulting from the accident occur prior to closure of the main steam line isolation valves. Analyses indicate that fuel rod cladding perforations would be avoided for main steam valve closure times, including instrument delay, as long as 10.5 seconds. However, for added margin the Technical Specifications require a valve closure time of not greater than 5 seconds.

For reactor coolant system temperature less than 212^{o}F, the containment could not become pressurized due to a loss of coolant accident. The 212^{o}F limit is based on preventing pressurization of the reactor building and rupture of the blowout panels. These valves are highly reliable, have low service requirement and most are normally closed. The initiating sensors and associated trip channels are also checked to demonstrate the capability for automatic isolation. Ref. Section 5.2.2 and Table 5.2.4 SAR. The test interval of once per operating cycle for automatic initiation results in a failure probability of 1.1×10^{-7} that a line will not isolate. More frequent testing for valve operability results in a more reliable system.

The main steam line isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

The containment is penetrated by a large number of small diameter instrument lines. A program for periodic testing and examination of the floor check valves in these lines is performed similar to that described in Amendment No. 22, Millstone Unit 1, Dkt. 50-245.

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

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-254

QUAD CITIES UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 35
License No. DPR-29

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

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 5, 1975, 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 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;

   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 amended by changes 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

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 17, 1976

ATTACHMENT TO AMENDMENT NO. 35

FACILITY OPERATING LICENSE NO. DPR-29

DOCKET NO. 50-254

Replace the existing pages 3.7/4.7-7, 3.7/4.7-8, 3.7/4.7-13, 3.7/4.7-17, 3.7/4.7-18, and 3.7/4.7-19 of the Technical Specifications contained in Appendix A with the attached revised pages bearing the same numbers and additional pages 3.7/4.7-7a, 3.7/4.7-7b, 3.7/4.7-7c and 3.7/4.7-13a. Changed areas on the revised pages are shown by marginal lines.

except as specified in Specification 3.7.A.5.b.

b. Within the 24-hour period subsequent to placing the reactor in the Run mode following a shutdown, the containment atmosphere oxygen concentration shall be reduced to less than 5% by weight, and maintained in this condition. Deinerting may commence 24 hours prior to a shutdown.

6. If Specification 3.7.A cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition with 24 hours.

B. Standby Gas Treatment System

1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1.(a) and (b).

   a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours and daily thereafter. Within 36 hours following the 7 days, the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

   b. If both standby gas treatment system circuits are not operable, within 36 hours the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

B. Standby Gas Treatment System

1. At least once per month, initiate from the control room 4000 cfm (± 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power.

   a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperable for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (± 10%) flow through the operable circuit of the standby gas treatment system for at least 10 hours with the circuit heaters operating.

2. Performance Requirement (See Note 1)

a. Periodic Requirements

(1) The results of the in-place DOP tests at 4000 CFM (± 10%) on HEPA filters shall show ≤ 1% DOP penetration.

(2) The results of in-place halogenated tests at 4000 cfm (± 10%) on charcoal banks shall show ≤ 1% penetration.

(3) The results of laboratory carbon sample analysis shall show ≥ 90% methyl iodide removal efficiency when tested at 130°C and 95% R.H.

2. Performance Requirement Tests (See Note 1)

a. At least once per 1440 hours of system operation; or once per operating cycle, but not to exceed 18 months, whichever occurs first; or following painting, fire, or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal adsorbers, perform the following:

(1) In-place DOP test the HEPA filter banks to verify leak tight integrity.

(2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer to verify leak tight integrity.

(3) Remove one carbon test canister from the charcoal adsorber. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

b. At least once per operating cycle, but not to exceed 18 months, the following conditions shall be demonstrated:

(1) Pressure drop across the combined filters of each standby bas treatment system circuit is less than 6 inches of water at 4000 cfm (± 10%) flow rate.

(2) Operability of inlet heater at rated power.

(3) Automatic initiation of each standby gas treatment system circuit.

3. Post Maintenance Requirements (See Note 1)

a. After any maintenance or testing that could affect the HEPA filter or HEPA filter mounting frame leak tight integrity, the results of the inplace DOP tests at 4000 cfm ($\pm$ 10%) on HEPA filters shall show $\leq$ 1% DOP penetration in accordance with Specification 3.7.B.2.a(1).

b. After any maintenance or testing that could affect the charcoal adsorber leak tight integrity, the results of in-place halogenated hydrocarbon tests at 4000 cfm ($\pm$ 10%) shall show $\leq$ 1% penetration in accordance with Specification 3.7.B.2.a(2).

c. The results of in-place air distribution tests shall show the air distribution is uniform within $\pm$ 20% to each HEPA filter when tested initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system.

3. Post Maintenance Testing (See Note 1)

a. After any maintenance or testing that could affect the leak tight integrity of the HEPA filters, perform in-place DOP tests on the HEPA filters in accordance with Specification 3.7.B.2.a(1).

b. After any maintenance or testing that could affect the leak tight integrity of the charcoal adsorber banks, perform halogenated hydrocarbon tests on the charcoal adsorbers in accordance with Specification 3.7.B.2.a(2).

c. Perform an air distribution test on the HEPA filter bank initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system. The test shall be performed at 4000 cfm ($\pm$ 10%) flow rate.

4. Standby gas treatment system surveillance shall be performed as indicated below:

a. At least once per operating cycle it shall be demonstrated that:

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 inches of water at 4000 cfm and

(2) Inlet heater ΔT shall be a minimum of $14^{\circ}F$ at 4000 cfm.

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency and at intervals not to exceed six months between refueling outages, it shall be demonstrated that:

(1) The removal efficiency of the particulate filters is not less than 99% for particulates matter larger than 0.7 micron.

(2) No bypassing of the filter occurs, based on a freon 12 test. This test is considered satisfactory if 99% of the freon introduced is retained by the filters.

c. At least once each five years removable charcoal cartridges shall be removed and adsorption shall be demonstrated.

d. At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.

e. At least once per operating cycle manual operability of the bypass valve for filter cooling shall be demonstrated.

Note 1: Because the accomplishment of Specifications 3.7.B.2, 3.7.B.3, 4.7.B.2 and 4.7.B.3 will require equipment modifications, their implementation will be delayed until about December 31, 1976. Until that time, the surveillance requirements of Specification 4.7.B.4 shall apply.

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant operation except when all of the following conditions are met:

   a. The reactors are subcritical and Specification 3.3.A is met.

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

   a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either standby gas treatment system filter train in operation. Such tests shall demonstrate the capability to maintain an average 1/4 inch of water vacuum under calm wind ($2<\bar{u}<5$ mph) conditions with a filter train flow rate of not more than 4000 cfm.

hydrogen, if it is present in sufficient quantities to result in excessively rapid recombination, could result in a loss of containment integrity.

The 5% oxygen concentration minimizes the possiblity of hydrogen combustion following a loss-of-coolant accident. Significant quantities of hydrogen could be generated if the core cooling systems did not sufficiently cool the core.

The occurrence of primary system leakage following a major refueling outage or other scheduled shutdown is much more probable than the occurrence of the loss-of-coolant accident upon which the specified oxygen concentration limit is based. Permitting access to the drywell for leak inspections during a startup is judged prudent in terms of the added plant safety offered without significantly reducing the margin of safety. Thus, to preclude the possibility of starting the reactor and operating for extended periods of time with significant leaks in the primary system, leak inspections are scheduled during startup periods, when the primary system is at or near rated temperature and pressure.

The 24-hour period to provide inerting is judged to be sufficient to perform the leak inspection and establish the required oxygen concentration. The primary containment is normally slightly pressurized during periods of reactor operation. Nitrogen used for inerting could leak out of the containment but air could not leak in to increase oxygen concentration. Once the containment is filled with nitrogen to the required concentration, no monitoring of oxygen concentration is necessary. However, at least once a week, the oxygen concentration will be determined as added assurance.

B. Standby Gas Treatment System

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the chimney during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. One standby gas treatment system circuit is designed to automatically start upon containment isolation and to maintain the reactor building pressure at the design negative pressure so that all leakage should be in-leakage. Should one circuit fail to start, the redundant alternate standby gas treatment circuit is designed to start automatically. Each of the two circuits has 100% capacity. Only one of the two standby gas treatment system circuits is needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is not immediate threat to the containment system performance. Therefore, reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is placed in a condition that does not require a standby gas treatment system.

While only a small amount of particulates are released from the primary containment as a result of the loss-of-coolant accident, high-efficiency particulate filters before and after the charcoal filters are specified to minimize potential particulate release to the environment and to prevent clogging of the charcoal adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioidine to the environment. (The in-place test results should indicate a system leak tightness of less than 1% bypass leakage for the charcoal adsorbers using halogenated hydrocarbon and a HEPA filter efficiency of at least 99% removal of DOP particulates.

Laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

When a suppression chamber drywell vacuum breaker valve is excercised through an opening-closing cycle, the position-indicating lights at the remote test panel are designed to function as follows:

Full closed (Closed to ≤ 1/16 inch open)	2 Green - On 2 Red - Off
Intermediate position (≥ 1/16 inch open to < full open)	2 Green - On 2 Red - On
Full open	2 Green - Off 2 Red - On

The remote test panel consists of a push button to actuate the air cylinder for testing, two red lights, and two green lights for each of the twelve valves. The two switches controlling the red lights are adjusted to provide indication and alarm if a disk opening occurs that is equivalent to 1/16 inch at all points around the circumference of the valve disk. The physical characteristics of the valve and the positioning of the limit switches permit one setting of the limit switches to satisfy the criteria. The two switches controlling the green lights are adjusted to provide indication of the disk very near the full open position. The control room alarm circuits for each vacuum breaker are redundant and fail safe. This assures that no single failure will defeat alarming the control room when a valve is open beyond allowable and when power to the switches fail. The alarm is needed to alert the operator that action must be taken to correct a malfunction or that system degradation has occurred and additional testing is required immediately. The frequency of testing the alarms is based on experience and quality of the equipment.

B. Standby Gas Treatment System

See Specification 4.7.C

C. Secondary Containment

Initiating reactor building isolation and operation of the standby gas treatment system to maintain the design negative pressure within the secondary containment provides an adequate test of the reactor building isolation valves and the standby gas treatment system. Periodic testing gives sufficient confidence of reactor building integrity and standby gas treatment system operational capability.

(The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Standby gas treatment system inplace testing procedures will be established utilizing applicable sections of ANSI N510-1975 standard as a procedural guideline only. Operation of the standby gas treatment system every month for 10 hours will reduce the moisture buildup on the adsorbent. If painting, fire, or chemical release occurs 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. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52 Revision 1 (June 1976). The charcoal adsorber efficiency test procedures will allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of Table 3 of Regulatory Guide 1.52 Revision 1 (June 1976). The sample will 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 will be replaced. High efficiency particulate filters are installed before and after the charcoal filters to prevent clogging of the carbon adsorbers and to minimize potential release of particulates to the environment. An efficiency of 99% is adequate to retain particulates that may be released to the reactor building following an accident. This will be demonstrated by in-place testing with DOP as the testing medium. Any HEPA filters found defective will be replaced with filters qualified pursuant to regulatory guide position C.3.d of Regulatory Guide 1.52 Revision 1 (June 1976). Once per operating cycle demonstration of HEPA filter pressure drop, operability of inlet heaters at rated power, air distribution to each HEPA filter, and automatic initiation of each standby gas treatment system circuit is necessary to assure system performance capability).*

D. Primary Containment Isolation Valves

Those large pipes comprising a portion of the reactor coolant system, whose failure could result in uncovering the reactor core, are supplied with automatic isolation valves (except those lines needed for emergency core cooling system operation or containment cooling). The closure times specified herein are adequate to prevent loss of more coolant from the circumferential rupture of any of these lines outside the containment than from a steamline rupture. Therefore, this isolation valve closure time is sufficient to prevent uncovering the core.

In order that the doses that may result from a steamline break do not exceed the 10 CFR 100 guidelines, it is necessary that no fuel rod perforation resulting from the accident occur prior to closure of the main steamline isolation valves. Analyses indicate that fuel rod cladding perforations would be avoided for main steam valve closure times, including instrument delay, as long as 10.5 seconds. However, for added margin, the technical specifications require a valve close time of not greater than 5 seconds.

For reactor coolant system temperatures less than 212°F, the containment could not become pressurized due to a loss-of-coolant accident. The 212°F limit is based on preventing pressurization of the reactor building and rupture of the blowout panels. These valves are highly reliable, have low service requirement, and most are normally closed. The initiating sensors and associated trip channels are also checked to demonstrate the capability for automatic isolation (reference SAR Section 5.2.2 and Table 5.2.4).

The test interval at once per operating cycle for automatic initiation results in a failure probability of 1.1×10^{-7} that a line will not isolate. More frequent testing for valve operability results in a more reliable system. The main steamline isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

*Bases within parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

The containment is penetrated by a large number of small diameter instrument lines which contact the primary coolant system. A program for periodic testing and examination of the flow check valves in these lines is performed by blowing down the instrument line during a vessel hydro and observing the following two conditions, which will verify that the flow check valve is operable:

1. a distinctive 'click' when the poppet valve seats, and

2. an instrumentation high flow that quickly reduces to a slight trickle.

References

1. Quad Cities Special Report Number 4.

2. R. E. Adams and W. E. Browning, Jr., ORNL 3726, 'Iodine Vapor Adsorption Studies for the NS Savannah' Project, February 1965.

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

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NO. 50-265

QUAD CITIES UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
License No. DPR-30

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

   A. The application for amendment by Commonwealth Edison Company (the licensee) dated March 5, 1975, 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 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;

   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 amended by changes 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

Dennis L. Ziemann
Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance:

ATTACHMENT TO AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. DPR-30

DOCKET NO. 50-265

Replace the existing pages 3.7/4.7-7, 3.7/4.7-8, 3.7/4.7-13, 3.7/4.7-17, 3.7/4.7-18, and 3.7/4.7-19 of the Technical Specifications contained in Appendix A with the attached revised pages bearing the same numbers and additional pages 3.7/4.7-7a, 3.7/4.7-7b, 3.7/4.7-7c and 3.7/4.7-13a. Changed areas on the revised pages are shown by marginal lines.

except as specified in Specification 3.7.A.5.b.

b. Within the 24-hour period subsequent to placing the reactor in the Run mode following a shutdown, the containment atmosphere oxygen concentration shall be reduced to less than 5% by weight, and maintained in this condition. Deinerting may commence 24 hours prior to a shutdown.

6. If Specification 3.7.A cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition with 24 hours.

B. Standby Gas Treatment System

1. Two separate and independent standby gas treatment system circuits shall be operable at all times when secondary containment integrity is required, except as specified in sections 3.7.B.1.(a) and (b).

a. After one of the standby gas treatment system circuits is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding seven days, provided that all active components in the other standby gas treatment system shall be demonstrated to be operable within 2 hours and daily thereafter. Within 36 hours following the 7 days, the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

b. If both standby gas treatment system circuits are not operable, within 36 hours the reactor shall be placed in a condition for which the standby gas treatment system is not required in accordance with Specification 3.7.C.1.(a) through (d).

B. Standby Gas Treatment System

1. At least once per month, initiate from the control room 4000 cfm (± 10%) flow through both circuits of the standby gas treatment system for at least 10 hours with the circuit heaters operating at rated power.

a. Within 2 hours from the time that one standby gas treatment system circuit is made or found to be inoperable for any reason and daily thereafter for the next succeeding seven days, initiate from the control room 4000 cfm (± 10%) flow through the operable circuit of the standby gas treatment system for at least 10 hours with the circuit heaters operating.

2. Performance Requirement (See Note 1)

a. Periodic Requirements

(1) The results of the in-place DOP tests at 4000 CFM ($\pm$ 10%) on HEPA filters shall show $\leq$ 1% DOP penetration.

(2) The results of in-place halogenated tests at 4000 cfm ($\pm$ 10%) on charcoal banks shall show $\leq$ 1% penetration.

(3) The results of laboratory carbon sample analysis shall show $\geq$ 90% methyl iodide removal efficiency when tested at 130^{o}C and 95% R.H.

2. Performance Requirement Tests (See Note 1)

a. At least once per 1440 hours of system operation; or once per operating cycle, but not to exceed 18 months, whichever occurs first; or following painting, fire, or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal adsorbers, perform the following:

(1) In-place DOP test the HEPA filter banks to verify leak tight integrity.

(2) In-place test the charcoal adsorber banks with halogenated hydrocarbon tracer to verify leak tight integrity.

(3) Remove one carbon test canister from the charcoal adsorber. Subject this sample to a laboratory analysis to verify methyl iodide removal efficiency.

b. At least once per operating cycle, but not to exceed 18 months, the following conditions shall be demonstrated:

(1) Pressure drop across the combined filters of each standby bas treatment system circuit is less than 6 inches of water at 4000 cfm ($\pm$ 10%) flow rate.

(2) Operability of inlet heater at rated power.

(3) Automatic initiation of each standby gas treatment system circuit.

3. Post Maintenance Requirements
(See Note 1)

a. After any maintenance or testing that could affect the HEPA filter or HEPA filter mounting frame leak tight integrity, the results of the inplace DOP tests at 4000 cfm (± 10%) on HEPA filters shall show ≤ 1% DOP penetration in accordance with Specification 3.7.B.2.a(1).

b. After any maintenance or testing that could affect the charcoal adsorber leak tight integrity, the results of in-place halogenated hydrocarbon tests at 4000 cfm (± 10%) shall show ≤ 1% penetration in accordance with Specification 3.7.B.2.a(2).

c. The results of in-place air distribution tests shall show the air distribution is uniform within ± 20% to each HEPA filter when tested initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system.

3. Post Maintenance Testing
(See Note 1)

a. After any maintenance or testing that could affect the leak tight integrity of the HEPA filters, perform in-place DOP tests on the HEPA filters in accordance with Specification 3.7.B.2.a(1).

b. After any maintenance or testing that could affect the leak tight integrity of the charcoal adsorber banks, perform halogenated hydrocarbon tests on the charcoal adsorbers in accordance with Specification 3.7.B.2.a(2).

c. Perform an air distribution test on the HEPA filter bank initially and after any maintenance or testing that could affect the air distribution within the standby gas treatment system. The test shall be performed at 4000 cfm (± 10%) flow rate.

4. Standby gas treatment system surveillance shall be performed as indicated below:

a. At least once per operating cycle it shall be demonstrated that:

(1) Pressure drop across the combined high-efficiency and charcoal filters is less than 5.7 inches of water at 4000 cfm and

(2) Inlet heater ΔT shall be a minimum of 14°F at 4000 cfm.

b. At least once during each scheduled secondary containment leak rate test, whenever a filter is changed, whenever work is performed that could affect the filter system efficiency and at intervals not to exceed six months between refueling outages, it shall be demonstrated that:

(1) The removal efficiency of the particulate filters is not less than 99% for particulates matter larger than 0.7 micron.

(2) No bypassing of the filter occurs, based on a freon 12 test. This test is considered satisfactory if 99% of the freon introduced is retained by the filters.

c. At least once each five years removable charcoal cartridges shall be removed and adsorption shall be demonstrated.

d. At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.

e. At least once per operating cycle manual operability of the bypass valve for filter cooling shall be demonstrated.

Note 1: Because the accomplishment of Specifications 3.7.B.2, 3.7.B.3, 4.7.B.2 and 4.7.B.3 will require equipment modifications, their implementation will be delayed until about December 31, 1976. Until that time, the surveillance requirements of Specification 4.7.B.4 shall apply.

C. Secondary Containment

1. Secondary containment integrity shall be maintained during all modes of plant operation except when all of the following conditions are met:

   a. The reactors are subcritical and Specification 3.3.A is met.

C. Secondary Containment

1. Secondary containment surveillance shall be performed as indicated below:

   a. A preoperational secondary containment capability test shall be conducted after isolating the reactor building and placing either standby gas treatment system filter train in operation. Such tests shall demonstrate the capability to maintain an average 1/4 inch of water vacuum under calm wind ($2<\bar{u}<5$ mph) conditions with a filter train flow rate of not more than 4000 cfm.

hydrogen, if it is present in sufficient quantities to result in excessively rapid recombination, could result in a loss of containment integrity.

The 5% oxygen concentration minimizes the possiblity of hydrogen combustion following a loss-of-coolant accident. Significant quantities of hydrogen could be generated if the core cooling systems did not sufficiently cool the core.

The occurrence of primary system leakage following a major refueling outage or other scheduled shutdown is much more probable than the occurrence of the loss-of-coolant accident upon which the specified oxygen concentration limit is based. Permitting access to the drywell for leak inspections during a startup is judged prudent in terms of the added plant safety offered without significantly reducing the margin of safety. Thus, to preclude the possibility of starting the reactor and operating for extended periods of time with significant leaks in the primary system, leak inspections are scheduled during startup periods, when the primary system is at or near rated temperature and pressure.

The 24-hour period to provide inerting is judged to be sufficient to perform the leak inspection and establish the required oxygen concentration. The primary containment is normally slightly pressurized during periods of reactor operation. Nitrogen used for inerting could leak out of the containment but air could not leak in to increase oxygen concentration. Once the containment is filled with nitrogen to the required concentration, no monitoring of oxygen concentration is necessary. However, at least once a week, the oxygen concentration will be determined as added assurance.

B. Standby Gas Treatment System

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the chimney during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. One standby gas treatment system circuit is designed to automatically start upon containment isolation and to maintain the reactor building pressure at the design negative pressure so that all leakage should be in-leakage. Should one circuit fail to start, the redundant alternate standby gas treatment circuit is designed to start automatically. Each of the two circuits has 100% capacity. Only one of the two standby gas treatment system circuits is needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is not immediate threat to the containment system performance. Therefore, reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is placed in a condition that does not require a standby gas treatment system.

While only a small amount of particulates are released from the primary containment as a result of the loss-of-coolant accident, high-efficiency particulate filters before and after the charcoal filters are specified to minimize potential particulate release to the environment and to prevent clogging of the charcoal adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioidine to the environment. (The in-place test results should indicate a system leak tightness of less than 1% bypass leakage for the charcoal adsorbers using halogenated hydrocarbon and a HEPA filter efficiency of at least 99% removal of DOP particulates.

Laboratory carbon sample test results indicate a radioactive methyl iodide removal efficiency for expected accident conditions. Operation of the standby gas treatment circuits significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers. If the performance requirements are met as specified, the calculated doses would be less than the guidelines stated in 10 CFR 100 for the accidents analyzed).*

*Bases in parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

When a suppression chamber drywell vacuum breaker valve is excercised through an opening-closing cycle, the position-indicating lights at the remote test panel are designed to function as follows:

Full closed (Closed to ≤ 1/16 inch open)	2 Green - On 2 Red - Off
Intermediate position (≥ 1/16 inch open to < full open)	2 Green - On 2 Red - On
Full open	2 Green - Off 2 Red - On

The remote test panel consists of a push button to actuate the air cylinder for testing, two red lights, and two green lights for each of the twelve valves. The two switches controlling the red lights are adjusted to provide indication and alarm if a disk opening occurs that is equivalent to 1/16 inch at all points around the circumference of the valve disk. The physical characteristics of the valve and the positioning of the limit switches permit one setting of the limit switches to satisfy the criteria. The two switches controlling the green lights are adjusted to provide indication of the disk very near the full open position. The control room alarm circuits for each vacuum breaker are redundant and fail safe. This assures that no single failure will defeat alarming the control room when a valve is open beyond allowable and when power to the switches fail. The alarm is needed to alert the operator that action must be taken to correct a malfunction or that system degradation has occurred and additional testing is required immediately. The frequency of testing the alarms is based on experience and quality of the equipment.

B. Standby Gas Treatment System

See Specification 4.7.C

C. Secondary Containment

Initiating reactor building isolation and operation of the standby gas treatment system to maintain the design negative pressure within the secondary containment provides an adequate test of the reactor building isolation valves and the standby gas treatment system. Periodic testing gives sufficient confidence of reactor building integrity and standby gas treatment system operational capability.

(The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Standby gas treatment system inplace testing procedures will be established utilizing applicable sections of ANSI N510-1975 standard as a procedural guideline only. Operation of the standby gas treatment system every month for 10 hours will reduce the moisture buildup on the adsorbent. If painting, fire, or chemical release occurs 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. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52 Revision 1 (June 1976). The charcoal adsorber efficiency test procedures will allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of Table 3 of Regulatory Guide 1.52 Revision 1 (June 1976). The sample will 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 will be replaced. High efficiency particulate filters are installed before and after the charcoal filters to prevent clogging of the carbon adsorbers and to minimize potential release of particulates to the environment. An efficiency of 99% is adequate to retain particulates that may be released to the reactor building following an accident. This will be demonstrated by in-place testing with DOP as the testing medium. Any HEPA filters found defective will be replaced with filters qualified pursuant to regulatory guide position C.3.d of Regulatory Guide 1.52 Revision 1 (June 1976). Once per operating cycle demonstration of HEPA filter pressure drop, operability of inlet heaters at rated power, air distribution to each HEPA filter, and automatic initiation of each standby gas treatment system circuit is necessary to assure system performance capability).*

D. Primary Containment Isolation Valves

Those large pipes comprising a portion of the reactor coolant system, whose failure could result in uncovering the reactor core, are supplied with automatic isolation valves (except those lines needed for emergency core cooling system operation or containment cooling). The closure times specified herein are adequate to prevent loss of more coolant from the circumferential rupture of any of these lines outside the containment than from a steamline rupture. Therefore, this isolation valve closure time is sufficient to prevent uncovering the core.

In order that the doses that may result from a steamline break do not exceed the 10 CFR 100 guidelines, it is necessary that no fuel rod perforation resulting from the accident occur prior to closure of the main steamline isolation valves. Analyses indicate that fuel rod cladding perforations would be avoided for main steam valve closure times, including instrument delay, as long as 10.5 seconds. However, for added margin, the technical specifications require a valve close time of not greater than 5 seconds.

For reactor coolant system temperatures less than 212°F, the containment could not become pressurized due to a loss-of-coolant accident. The 212°F limit is based on preventing pressurization of the reactor building and rupture of the blowout panels. These valves are highly reliable, have low service requirement, and most are normally closed. The initiating sensors and associated trip channels are also checked to demonstrate the capability for automatic isolation (reference SAR Section 5.2.2 and Table 5.2.4).

The test interval at once per operating cycle for automatic initiation results in a failure probability of 1.1×10^{-7} that a line will not isolate. More frequent testing for valve operability results in a more reliable system. The main steamline isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

*Bases within parentheses will not be applicable until about December 31, 1976, when equipment modifications are completed to allow increased testing.

The containment is penetrated by a large number of small diameter instrument lines which contact the primary coolant system. A program for periodic testing and examination of the flow check valves in these lines is performed by blowing down the instrument line during a vessel hydro and observing the following two conditions, which will verify that the flow check valve is operable:

1. a distinctive 'click' when the poppet valve seats, and

2. an instrumentation high flow that quickly reduces to a slight trickle.

References

1. Quad Cities Special Report Number 4.

2. R. E. Adams and W. E. Browning, Jr., ORNL 3726, 'Iodine Vapor Adsorption Studies for the NS Savannah' Project, February 1965.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 17, 15, 35 AND 34 TO

FACILITY LICENSE NOS. DPR-19, DPR-25, DPR-29 AND DPR-30

COMMONWEALTH EDISON COMPANY

DRESDEN NUCLEAR POWER STATION UNITS 2 AND 3

QUAD CITIES NUCLEAR POWER STATION UNITS 1 AND 2

DOCKET NOS. 50-237, 50-249, 50-254 AND 50-265

INTRODUCTION

By letter dated March 5, 1975, Commonwealth Edison Company requested a change to the Technical Specifications appended to Facility Operating Licenses DPR-19 and DPR-25 for the Dresden Nuclear Power Station (Unit Nos. 2 and 3) and Operating Licenses DPR-29 and DPR-30 for the Quad Cities Nuclear Power Station (Unit Nos. 1 and 2). The proposed change involves:

1. Changes to the testing requirements for the standby gas treatment system (SGTS), HEPA and charcoal filters.

2. Increased testing requirements to verify performance capability of system fans and uniformity of flow in the systems within a specified range.

3. Establishment of test and analysis frequency as each operating cycle (not to exceed 18 months), or after 720 hours of system operation for Dresden Unit Nos. 2 and 3, 1440 hours of system operation for Quad Cities Unit Nos. 1 and 2.

4. Changes to Bases to reflect the changes of 1, 2 and 3 above and to provide further guidance on recommended filter replacement quality levels.

These proposed changes were in response to our letter dated January 7, 1975, to Commonwealth Edison Company in which we provided guidelines for assuring high confidence that the SGTS would function reliably, when needed, at a degree of efficiency equal to or better than that assumed in the accident analyses.

DISCUSSION

During our review of the proposed changes, we determined that modification of the submittal was necessary in order to fully meet the objectives discussed above. Our evaluation of the changes proposed by the licensee and modified by the staff with agreement of the licensee is as follows:

1. Specification 3.7.B.1 - This specification was changed to establish time limits for testing of the operable SGTS (should one system be made, or found to be, inoperable). No limits previously were specified, and the new time limits provide clarity and assure a prompt determination of the operability of the remainder of the system. Additionally, a time limit for single circuit operation has been added which would require the reactor to be shutdown within 36 hours should both circuits not be operable after seven days.

2. Specification 3.7.B.2.a(3) - One major change to this specification is that laboratory samples are now specifically required. This clarification is necessary to reflect the fact that field testing utilizing methyl iodide analysis is not deemed satisfactory. Additionally, the requirements for testing in accordance with RDTM16-1T temperature and humidity requirements (130°C, 95% RH) are incorporated. The relative humidity (R.H.) has been increased from 70 percent to 95 percent. If the results from the carbon sample analysis under the prescribed test conditions show a methyl iodide removal efficiency of at least 90 percent, we can assume that the charcoal adsorber in the SGTS from which the sample was taken would remove at least 90 percent of both inorganic and organic iodides contained in the air being filtered by the system under postulated accident conditions. The use of radioactive methyl iodide (organic iodine) as the test media assures that the capability of the charcoal to remove elemental (inorganic) iodine under postulated accident conditions will be equal to or greater than the efficiency measured under test conditions. The use of 95 percent humidity during the test will assure that the removal of organic iodine under the accident conditions will be equal to or greater than the efficiency measured under test conditions. The reduction of the relative humidity to 70 percent under accident conditions is assured by heaters in the SGTS. These removal efficiency values for the SGTS would maintain the combined thyroid dose from the postulated LOCA and post LOCA secondary containment purging within 10 CFR Part 100 guideline doses.

3. Specification 3.7.B.2.a - An acceptable air flow rate has been specified as a range within 10 percent of design flow rate. The addition of this range places an upper as well as a lower performance limit on system flow to define a range of normal system operation. Flow rate determined to be outside of this range would indicate an abnormality which should require investigation. Tests are required to be performed in accordance with the procedural guidelines of the recognized standard, ANSI N510-1975.

4. Specification 3.7.B.3 has been added to delineate that testing which will be necessary following any maintenance or testing which could affect the HEPA filter or HEPA filter mounting frame integrity or the charcoal adsorber leak tight integrity.

5. Specification 4.7.B.1 has been added to assure that filters and charcoal are dried out periodically to ensure continued high efficiency. Ten hours per month is considered sufficient to accomplish such drying. Specifications 4.7.B.1.a and 4.7.B.1.b further delineate the requirements for testing of the single operable circuit, should one circuit be found or made to be inoperable. They also establish the requirements for shutdown of the reactor should both circuits not be fully operable within 7 days.

6. Specification 4.7.B.2 - A limitation of 18 months has been placed on the allowable time between the performance of the DOP tests for the HEPA filters, the halogenated hydrocarbon tests for the charcoal adsorbers and laboratory charcoal methyl iodide analysis. This 18 month limitation stands regardless of the length of the operating cycle. The normal operating cycle is up to 15 months but conditions could exist in which actual calendar time between refuelings could be greater. The change assures that the demonstration tests will be performed within a given period of time.

   The requirement has been added to the Dresden Unit Nos. 2 and 3 Specifications for testing after 720 hours of system operation or following painting, fire, or chemical release in any ventilation zone communicating with the operating Standby Gas Treatment System. The 720 hour limitation will allow a minimum of 2 inspections prior to the estimated exhaustion point of the charcoal inservice. Manufacturers' literature has estimated service life to be approximately 2000 hours. We believe the more stringent testing frequency to be warranted because of lack of conclusive data regarding service life in the Dresden Unit Nos. 2 and 3 Standby Gas Treatment System environment and because of the need to assure the readiness of the system at all times. However, 1440 hours is assigned as the limitation for Quad Cities Unit Nos. 1 and 2. This extension is warranted because of the extensive charcoal testing which has been performed by Quad Cities personnel. Data gathered from these tests justify the lower frequency of testing.

7. Specification 4.7.B.2.b - The same limitation of 18 months has been placed upon the specified demonstrations, which were listed as 4.7.B.1 in the original submittal. The addition of $\pm$ 10% to the system design flow rate in 4.7.B.2.b(1) has been explained in 4 above. Specification 4.7.B.2.b(2) has been changed to require testing of the inlet heater and Specification 4.7.B.2.b(3) requires demonstration of the automatic initiation capability of each Standby Gas Treatment System circuit. This will involve the automatic shutting of the bypass valves for filter cooling and will provide assurance of proper automatic system operation.

8. Specification 4.7.B.3 addresses the specific post-maintenance surveillance requirements for the HEPA filters and charcoal adsorbers. Adherence to the post-maintenance testing specifications will assure that the integrity of HEPA filters and charcoal adsorber banks has not been violated.

9. Bases to 4.7.B - The bases were amended to reflect the changes mentioned in 1 through 8 above. In addition, guidance was provided to the licensee on recommended replacement of defective HEPA filters or unacceptable charcoal adsorbers in accordance with the regulatory recommendations stated in Regulatory Guide 1.52. These recommendations have been included in the bases associated with the testing specifications of the Standby Gas Treatment System.

ENVIRONMENTAL CONSIDERATION

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 impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

CONCLUSIONS

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do 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: November 17, 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-237, 50-249, 50-254 AND 50-265

COMMONWEALTH EDISON COMPANY
AND
IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 17, 15, 35 and 34 to Facility Operating License Nos. DPR-19, DPR-25, DPR-29 and DPR-30 (respectively), issued to the Commonwealth Edison Company (and in the matter of License Nos. DPR-29 and DPR-30, the Iowa-Illinois Gas and Electric Company), which revised Technical Specifications for operation of Unit Nos. 2 and 3 of the Dresden Nuclear Power Station (located in Grundy County, Illinois) and Unit Nos. 1 and 2 of the Quad Cities Nuclear Power Station (located in Rock Island County, Illinois). These amendments are effective as of their date of issuance.

The amendments permit changes to the testing requirements for the standby gas treatment system, make changes to clarify the intent of the current requirement on system fan performance, and change the frequency for tests and sample analyses to be consistent with the operating cycle of the reactor. Changes were made to the Bases to provide guidance on recommended filter replacement quality levels. Because modifications to the plant are necessary to accomplish several of the testing and surveillance requirements, implementation of the applicable Specifications and Bases have been delayed until about December 31, 1976. Interim requirements have been levied in these cases.

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 impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated March 5, 1975, (2) Amendment Nos. 17 and 15 to License Nos. DPR-19 and DPR-25, and Amendment Nos. 35 and 34 to License Nos. DPR-29 and DPR-30 and (3) the Commission's concurrently issued related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and for those items relating to Dresden Unit Nos. 2 and 3 at the Morris Public Library, 604 Liberty Street, Morris, Illinois 60450, and for those items relating to Quad Cities Unit Nos. 1 and 2 at the Moline Public Library, 504 - 17th Street, Moline, Illinois 60625. 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 17th day of November, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors