



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 144
License No. DPR-19

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated September 10, 1993, as supplemented by letter dated June 16, 1995, 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 and paragraph 2.C.(2) of Facility Operating License No. DPR-19 is hereby amended to read as follows:

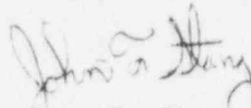
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(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 144, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented no later than June 30, 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stang, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 19, 1995



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 138
License No. DPR-25

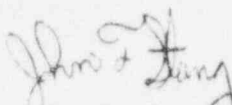
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated September 10, 1993, as supplemented by letter dated June 16, 1995, complies with the standards and requirements of the Atomic Energy Act of 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 and paragraph 3.B. of Facility Operating License No. DPR-25 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 138, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented no later than June 30, 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stang, Senior Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 19, 1995

ATTACHMENT TO LICENSE AMENDMENT NOS. 144 AND 138
FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25
DOCKET NOS. 50-237 AND 50-249

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number.

<u>UNIT 2</u> <u>REMOVE</u>	<u>UNIT 3</u> <u>REMOVE</u>	<u>INSERT</u>
3/4.8-1	3/4.8-1	3/4.8.1
3/4.8-2	3/4.8-2	3/4.8.2
3/4.8-3	3/4.8-3	3/4.8.3
3/4.8-4	3/4.8-4	3/4.8-4
3/4.8-5	3/4.8-5	3/4.8-5
3/4.8-6	3/4.8-6	3/4.8-6
3/4.8-7	3/4.8-7	3/4.8-7
3/4.8-8	3/4.8-8	3/4.8-8
3/4.8-9	3/4.8-9	3/4.8-9
3/4.8-10	3/4.8-10	3/4.8-10
3/4.8-11	3/4.8-11	3/4.8-12
3/4.8-12	3/4.8-12	3/4.8-12
3/4.8-13	3/4.8-13	3/4.8-13
3/4.8-14	3/4.8-14	3/4.8-14
3/4.8-15	3/4.8-15	3/4.8-15
3/4.8-16	3/4.8-16	3/4.8-16
3/4.8-17	3/4.8-17	3/4.8-17
3/4.8-18	3/4.8-18	3/4.8-18
3/4.8-19	3/4.8-19	3/4.8-19
3/4.8-20	3/4.8-20	3/4.8-20
3/4.8-21	3/4.8-21	3/4.8-21
3/4.8-22	3/4.8-22	3/4.8-22
3/4.8-23	3/4.8-23	3/4.8-23
3/4.8-24	3/4.8-24	3/4.8-24
3/4.8-25	3/4.8-25	---
3/4.8-26	3/4.8-26	---
3/4.8-27	3/4.8-27	---
3/4.8-28	3/4.8-28	---
3/4.8-29	3/4.8-29	---
3/4.8-30	3/4.8-30	---
3/4.8-31	3/4.8-31	---
B 3/4.8-32	B 3/4.8-32	B 3/4.8-1
B 3/4.8-33	B 3/4.8-33	B 3/4.8-2
B 3/4.8-34	B 3/4.8-34	B 3/4.8-3
B 3/4.8-35	B 3/4.8-35	B 3/4.8-4
B 3/4.8-36	B 3/4.8-36	---
B 3/4.8-37	B 3/4.8-37	---
B 3/4.8-38	B 3/4.8-38	---
B 3/4.8-39	B 3/4.8-39	---
B 3/4.8-40	B 3/4.8-40	---
B 3/4.8-41	B 3/4.8-41	---

3.8 - LIMITING CONDITIONS FOR OPERATIONA. Containment Cooling Service Water System

At least the following independent containment cooling service water (CCSW) subsystems, with each subsystem comprised of:

1. Two OPERABLE CCSW pumps, and
2. An OPERABLE flow path capable of taking suction from the ultimate heat sink and transferring the water:
 - a. Through one LPCI heat exchanger^(a), and separately,
 - b. To the associated safety related equipment,

shall be OPERABLE:

1. In OPERATIONAL MODE(s) 1, 2 and 3, two subsystems.
2. In OPERATIONAL MODE(s) 4, 5 and *, the subsystem(s) associated with subsystems/loops and components required OPERABLE by Specification 3.8.D.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and *.

4.8 - SURVEILLANCE REQUIREMENTSA. Containment Cooling Service Water System

Each of the required CCSW subsystems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

a The LPCI heat exchanger is not required to support operation of the CREFS.

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTSACTION:

1. In OPERATIONAL MODE 1, 2 or 3:
 - a. With one CCSW pump inoperable, restore the inoperable pump to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - b. With one CCSW pump in each subsystem inoperable, restore at least one inoperable pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - c. With one CCSW subsystem otherwise inoperable, restore the inoperable subsystem to OPERABLE status with at least one OPERABLE pump within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - d. With both CCSW subsystems otherwise inoperable, restore at least one subsystem to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

2. In OPERATIONAL MODE 4, 5 or * with the CCSW subsystem which is associated with the safety related equipment required OPERABLE by Specification 3.8.D inoperable, declare the associated safety related equipment inoperable and take the ACTION required by Specification 3.8.D.

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION

B. Diesel Generator Cooling Water System

A diesel generator cooling water (DGCW) subsystem shall be OPERABLE for each required diesel generator with each subsystem comprised of:

1. One OPERABLE DGCW pump, and
2. An OPERABLE flow path capable of taking suction from the ultimate heat sink and transferring the water to the associated diesel generator.

APPLICABILITY:

When the diesel generator is required to be OPERABLE.

ACTION:

With one or more DGCW subsystems inoperable, declare the associated diesel generator inoperable and take the ACTION required by Specifications 3.9.A or 3.9.B, as applicable.

4.8 - SURVEILLANCE REQUIREMENTS

B. Diesel Generator Cooling Water System

Each of the required DGCW subsystems shall be demonstrated OPERABLE:

1. At least once per 31 days by verifying that each valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
2. At least once per 18 months by verifying that each pump starts automatically upon receipt of a start signal for the associated diesel generator.

3.8 - LIMITING CONDITIONS FOR OPERATION

C. Ultimate Heat Sink

The ultimate heat sink shall be OPERABLE with:

1. A minimum water level at or above elevation 500 ft Mean Sea Level, and
2. An average water temperature of $\leq 95^{\circ}\text{F}$.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and *.

ACTION:

With the requirements of the above specification not satisfied:

1. In OPERATIONAL MODE(s) 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
2. In OPERATIONAL MODE(s) 4 or 5 declare the diesel generator cooling water system inoperable and take the ACTION required by Specification 3.8.B.
3. In OPERATIONAL MODE *, declare the diesel generator cooling water system inoperable and take the ACTION required by Specification 3.8.B. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

C. Ultimate Heat Sink

The ultimate heat sink shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential to drain the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION

D. Control Room Emergency Filtration System

The control room emergency filtration system shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, and *.

ACTION:

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2. In OPERATIONAL MODE *, with the control room emergency filtration system inoperable, suspend CORE ALTERATION(s), handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

3. The provisions of Specification 3.0.C are not applicable in OPERATIONAL MODE *.

4.8 - SURVEILLANCE REQUIREMENTS

D. Control Room Emergency Filtration System

The control room emergency filtration system shall be demonstrated OPERABLE:

1. At least once per 12 hours by verifying that the control room air temperature is $\leq 95^{\circ}\text{F}$.

2. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters operating.

3. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 - a. Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of $< 0.05\%$ and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is $2000 \text{ scfm} \pm 10\%$.

 - b. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

testing criteria of ASTM-D-3803-89, for a methyl iodide penetration of <0.50%, when tested at 30°C and 70% relative humidity; and

- c. Verifying a system flow rate of 2000 scfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
4. After every # hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM-D-3803-89, for a methyl iodide penetration of <0.50%, when tested at 30°C and 70% relative humidity.
5. At least once per 18 months by:
 - a. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is <6 inches water gauge while operating the filter train at a flow rate of 2000 scfm \pm 10%.
 - b. Verifying that the filter train starts and isolation dampers close on manual initiation from the control room.
 - c. Verifying that during the pressurization mode of operation, control room positive pressure is maintained at \geq 1/8 inch water gauge relative to adjacent areas during system operation at a flow rate \leq 2000 scfm.

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3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

- d. Verifying that the heaters dissipate 12 ± 1.2 kw when tested in accordance with ANSI N510-1980. This reading shall include the appropriate correction for variations from 480 volts at the bus.
6. After each complete or partial replacement of an HEPA filter bank by verifying that the HEPA filter bank satisfies the in-place penetration and leakage testing acceptance criteria of $<0.05\%$ in accordance with ANSI N510-1980 while operating the system at a flow rate of $2000 \text{ scfm} \pm 10\%$.
7. After each complete or partial replacement of an charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the in-place penetration and leakage testing acceptance criteria of $<0.05\%$ in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at flow rate of $2000 \text{ scfm} \pm 10\%$.

3.8 - LIMITING CONDITIONS FOR OPERATION

E. Flood Protection

Flood protection shall be available for all required safe shutdown systems, components and structures.

APPLICABILITY:

At all times.

ACTION:

With the water level, as measured at the Unit 2/3 cribhouse:

1. Above elevation 506.5 ft Mean Sea Level USGS datum, initiate the applicable flood protection measures.
2. Above, or predicted to exceed within 3 days, elevation 509.0 ft Mean Sea Level USGS datum, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN with the following 24 hours.

4.8 - SURVEILLANCE REQUIREMENTS

E. Flood Protection

The water level at the Unit 2/3 cribhouse shall be determined to be within the limit by:

1. Measurement at least once per 24 hours when the water level is below elevation 506.0 ft Mean Sea Level USGS datum, and
2. Measurement at least once per 2 hours when the water level is equal to or above elevation 506.0 ft Mean Sea Level USGS datum.

3.8 - LIMITING CONDITIONS FOR OPERATION

F. Snubbers

All required snubbers shall be OPERABLE. The only snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse impact on any safety-related system.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 3.
OPERATIONAL MODE(s) 4 and 5 for snubbers located on systems required OPERABLE in OPERATIONAL MODE(s) 4 and 5.

ACTION:

With one or more snubbers inoperable, on any system, within 72 hours:

1. Replace or restore the inoperable snubber(s) to OPERABLE status, and
2. Perform an engineering evaluation per Specification 4.8.F.7 on the attached component.

Otherwise, declare the attached system inoperable and follow the appropriate ACTION statement for that system.

4.8 - SURVEILLANCE REQUIREMENTS

F. Snubbers

Each snubber shall be demonstrated OPERABLE by the performance of the following augmented inservice inspection program in addition to the requirements of Specification 4.0.E.

1. Inspection Types

As used in this specification, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

2. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.8.F-1. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 4.8.F-1^(a).

3. Visual Inspection Acceptance Criteria

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of

a The first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before amendment nos 144 & 138.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

visual inspections shall be classified as unacceptable. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

Snubbers originally classified as unacceptable may be reclassified as acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.8.F.6.

4. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients, as determined from a review of operational data or a visual inspection of the systems, within 72 hours for accessible systems and 6 months for inaccessible systems following this determination. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS5. Functional Tests

At least once per 18 months, a representative sample of snubbers shall be tested using one of the following sample plans for each type of snubber. The sample plan shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected prior to the test period or the sample plan used in the prior test period shall be implemented:

- a. At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.8.F.6, an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or
- b. A representative sample of each type of snubber shall be functionally tested, in accordance with Figure 4.8.F-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements of Specification 4.8.F.6. The cumulative number of snubbers of a type tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.8.F-1.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

If at any time the point plotted falls on or above the "Reject" line, all snubbers of that type shall be functionally tested. If at any time the point plotted falls on or below the "Accept" line, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time, providing all snubbers tested with the failed equipment during the day of equipment failure are retested; or

- c. An initial representative sample of 55 snubbers of each type shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, $1 + C/2$, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this sample plan shall be plotted using an "Accept" line which follows the equation $N = 55(1 + C/2)$. Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

"Accept" line, testing of that type of snubber may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls on or below the "Accept" line or all the snubbers of that type have been tested.

The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure as far as practical that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type.

Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan, and failure of this functional test shall not be the sole cause for increasing the sample size under the sample plan. If during testing, additional sampling is required due to failure of only one type of snubber, the functional testing results shall be reviewed at the time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

6. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

- a. Activation (restraining action) is achieved within the specified range in both tension and compression;

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

- b. The force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and
- c. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

7. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause for the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen-in-place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in Specification 4.8.F.5 for snubbers not meeting the functional test acceptance criteria.

8. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom-of-motion test must have been performed within 12 months before being installed in the unit.

9. Snubber Service Life Program

The service life of all snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The maximum expected service life for various seals, springs, and other critical parts shall be extended or shortened based on monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when

3.8 - LIMITING CONDITIONS FOR OPERATION

4.8 - SURVEILLANCE REQUIREMENTS

the snubber is required to be OPERABLE. The parts replacements shall be documented and the documentation shall be retained in accordance with Specification 6.5.B.

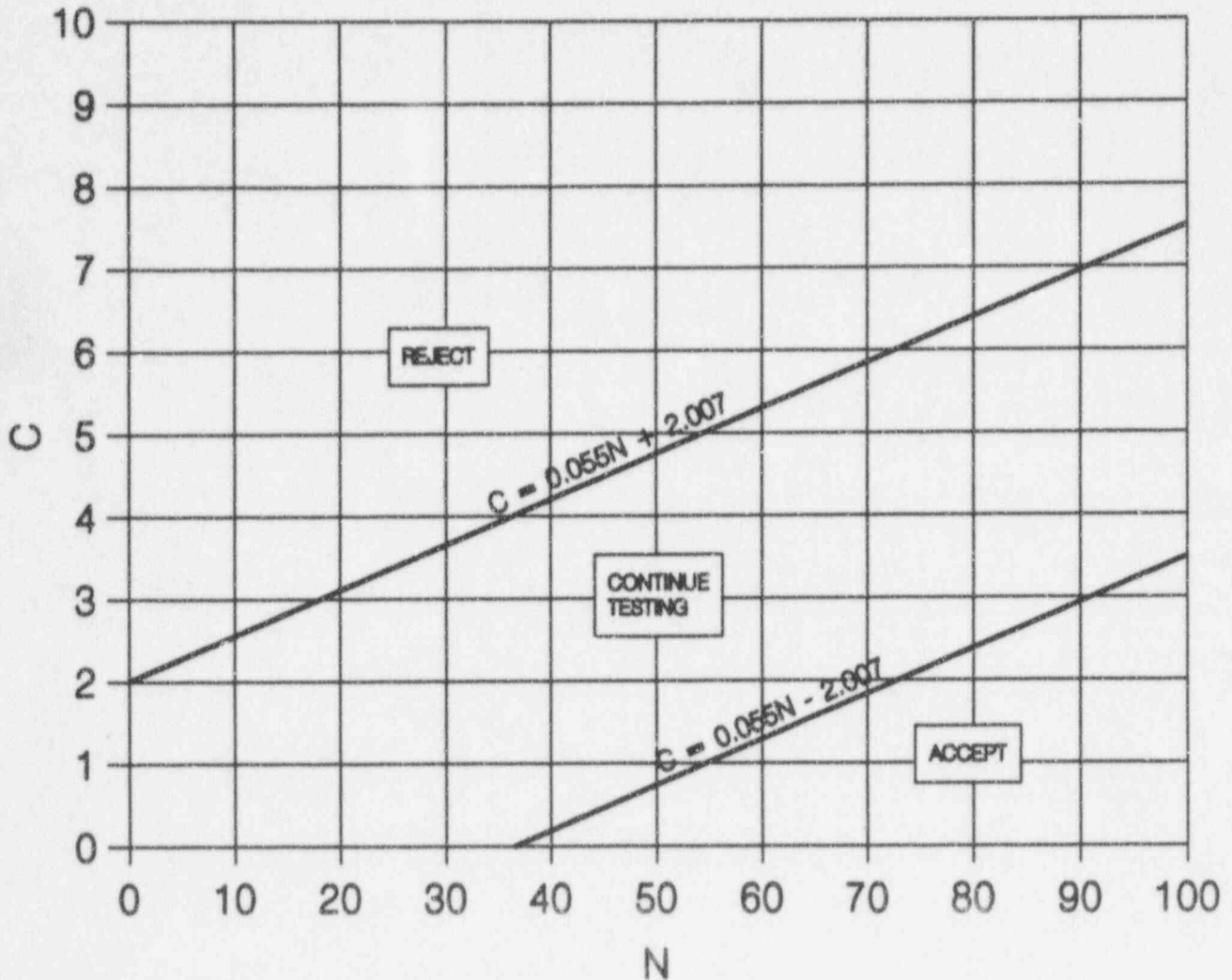
TABLE 4.8.F-1

SNUBBER VISUAL INSPECTION CRITERIA

Population ^{(a)(b)} or Category	<u>NUMBER OF UNACCEPTABLE SNUBBERS</u>		
	Column A ^{(c)(f)} <u>Extend Interval</u>	Column B ^{(d)(f)} <u>Repeat Interval</u>	Column C ^{(e)(f)} <u>Reduce Interval</u>
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥1000	29	56	109

- a The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the decision must be made and documented before any inspection and shall be used as the basis upon which to determine the next inspection interval for that category.
- b Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.
- c If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval, but not greater than 48 months.
- d If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.
- e If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval, but not less than 31 days. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.
- f The provisions of Specification 4.0.B are applicable for all inspection intervals up to and including 48 months.

FIGURE 4.8.F-1
 SAMPLING PLAN FOR SNUBBER FUNCTIONAL TESTING



N = Cumulative number of snubbers of a type tested.

C = Total number of snubbers of a type not meeting acceptance requirements.

3.8 - LIMITING CONDITIONS FOR OPERATION

G. Sealed Source Contamination

Each sealed source containing radioactive material either in excess of 100 μCi of beta and/or gamma emitting material or 5 μCi of alpha emitting material shall be free of $\geq 0.005 \mu\text{Ci}$ of removable contamination.

APPLICABILITY:

At all times.

ACTION:

1. With a sealed source having removable contamination in excess of the above limit, withdraw the sealed source from use and either:
 - a. Decontaminate and repair the sealed source, or
 - b. Dispose of the sealed source in accordance with Commission Regulations.
2. With a sealed source leakage test revealing the presence of removable contamination in excess of the above limit, a report shall be prepared and submitted to the Commission on an annual basis.
3. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

G. Sealed Source Contamination

1. Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:
 - a. The licensee, or
 - b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 μCi per test sample.

2. Test Frequencies - Each category of sealed sources, excluding startup sources and fission detectors previously subjected to core flux, shall be tested at the frequency described below.
 - a. Sources in use - At least once per 6 months for all sealed sources containing radioactive material:
 - 1) With a half-life > 30 days, excluding Hydrogen 3, and
 - 2) In any form other than gas.
 - b. Stored sources not in use - Each sealed source shall be tested prior to use or transfer to another licensee unless tested within the previous 6 months. Sealed sources transferred without a certificate indicating the last test date shall be tested prior to being placed into use.

3.8 - LIMITING CONDITIONS FOR OPERATION

4.8 - SURVEILLANCE REQUIREMENTS

- c. Startup sources and fission detectors - Each sealed startup source and fission detector shall be tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.

3.8 - LIMITING CONDITIONS FOR OPERATION

H. Offgas Explosive Mixture

The concentration of hydrogen in the offgas holdup system shall be limited to $\leq 4\%$ by volume.

APPLICABILITY:

During offgas holdup system operation.

ACTION:

With the concentration of hydrogen in the offgas holdup system exceeding the limit, restore the concentration to within the limit within 48 hours. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

H. Offgas Explosive Mixture

The concentration of hydrogen in the offgas holdup system shall be determined to be within the above limits as required by Table 3.2.H-1 of Specification 3.2.H.

3.8 - LIMITING CONDITIONS FOR OPERATION

I. Main Condenser Offgas Activity

The release rate of the sum of the activities of the noble gases measured prior to the offgas holdup line shall be limited to $\leq 100 \mu\text{Ci}/\text{sec}/\text{MWt}$, after 30 minutes decay.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2^(a) and 3^(a).

ACTION:

With the release rate of the sum of the activities of the noble gases at the main condenser air ejector effluent (as measured prior to the offgas holdup line) $> 100 \mu\text{Ci}/\text{sec}/\text{MWt}$, after 30 minutes decay, restore the release rate to within its limit within 72 hours or be in at least STARTUP with the main steam isolation valves closed within the next 8 hours.

4.8 - SURVEILLANCE REQUIREMENTS

I. Main Condenser Offgas Activity

1. The release rate of noble gases from the main condenser air ejector shall be continuously monitored in accordance with the ODCM.
2. The release rate of the sum of the activities from noble gases from the main condenser air ejector shall be determined to be within the limits of Specification 3.8.1 at the following frequencies^(b) by performing an isotopic analysis of a representative sample of gases taken at the recombiner outlet, or the air ejector outlet, if the recombiner is bypassed:
 - a. At least once per 31 days, and
 - b. Within 4 hours following the determination of an increase, as indicated by the air ejector noble gas monitor, of $> 50\%$, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant.

a When the main condenser air ejector is in operation.

b The provisions of Specification 4.0.D are not applicable.

3.8 - LIMITING CONDITIONS FOR OPERATION

J. Liquid Holdup Tanks

The quantity of radioactive material contained in each of the following tanks shall be limited to ≤ 0.7 curies and the total of all the tanks shall not exceed 3.0 curies.

- a. Waste sample tanks,
- b. Floor drain sample tanks,
- c. Waste surge tank, and
- d. Any outside temporary tank used for storage of radioactive liquids.

APPLICABILITY:

At all times.

ACTION:

With the quantity of radioactive material in any of the above identified tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

J. Liquid Holdup Tanks

The quantity of radioactive material contained in each of the identified tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank and within 7 days of completion of the addition of radioactive materials to the tank.

BASES

3/4.8.A Containment Cooling Service Water System

The containment cooling service water system, with the ultimate heat sink, provides sufficient cooling capacity for continued operation of the containment cooling system and of other safety-related equipment (e.g., CCSW keep-fill, the control room emergency ventilation system refrigeration units), during normal and accident conditions. The redundant cooling capacity of the system, assuming a single failure, is consistent with the assumptions used in the safety analysis to keep the accident conditions within acceptable limits. Since only one of the four pumps is required to provide the necessary cooling capacity, a thirty day repair period is allowed for one pump out of service. OPERABILITY of this system is also dependent upon special measures for protection from flooding in the condenser pit area.

3/4.8.B Diesel Generator Cooling Water System

The diesel generator cooling water system, with the ultimate heat sink, provides sufficient cooling capacity for continued operation of the diesel generators during normal and accident conditions. The cooling capacity of the system is consistent with the assumptions used in the safety analysis to keep the accident conditions within acceptable limits. OPERABILITY of this system is also dependent upon special measures for protection from flooding in the condenser pit area.

3/4.8.C Ultimate Heat Sink

The canals provide an ultimate heat sink with sufficient cooling capacity to either provide normal cooldown of the units, or to mitigate the effects of accident conditions within acceptable limits for one unit while conducting a normal cooldown on the other unit.

3/4.8.D Control Room Emergency Filtration System

The control room emergency filtration system maintains habitable conditions for operations personnel during and following all design basis accident conditions. This system, in conjunction with control room design, is based on limiting the radiation exposure to personnel occupying the room to five rem or less whole body, or its equivalent.

The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. The control room emergency filtration system in-place testing procedures are established utilizing applicable sections of ANSI N510-1980 standard. Operation of the system with the heaters OPERABLE for ten hours a month is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The charcoal adsorber efficiency test procedures allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of ASTM-D-3803-89. The sample is at least two inches in diameter and has a length equivalent to the thickness of the bed. If the iodine removal efficiency

BASES

test results are unacceptable, all adsorbent in the system is replaced. HEPA filter particulate removal efficiency is verified to be at least 99% by in-place testing with a DOP testing medium.

3/4.8.E Flood Protection

Flood protection measures are provided to protect the systems and equipment necessary for safe shutdown during high water conditions. The equipment necessary to implement the appropriate measures, as detailed in plant procedures, is required to be available, but not necessarily onsite, to implement the procedures in a timely manner. The selected water levels are based on providing timely protection from the design basis flood of the river.

3/4.8.F Snubbers

Mechanical snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic event or other event initiating dynamic loads. Snubbers are classified and grouped by design, manufacturer and accessibility. A list of individual snubbers with information of snubber location, classification or group, and system affected is maintained at the plant. The accessibility of each snubber is determined and documented for each snubber. The determination is based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operation (e.g., temperature, atmosphere, location, etc.), and the recommendations of Regulatory Guides 8.8 and 8.10.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to the systems. Therefore, the required inspection interval varies with the number of unacceptable snubbers found during the previous inspection, the total population or category size for each snubber type, and the previous inspection interval. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly as determined and documented prior to the inspections. The categorization is used as the basis for determining the next inspection interval for that category.

If a review and evaluation can not justify continued operation with an unacceptable snubber, the snubber is declared inoperable and the applicable action taken. To determine the next surveillance interval, the unacceptable snubber may be reclassified as acceptable if it can be demonstrated that the snubber is OPERABLE in its as-found condition by the performance of a functional test. The next visual inspection interval may be twice, the same, or reduced by as much as two-thirds of the previous inspection interval, depending on the number of unacceptable snubbers found in proportion to the size of the population or category for each type of snubber included in the previous inspection. The inspection interval may be as long as 48 months and the provisions of Specification 4.0.B may be applied.

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When a snubber is found to be inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide additional assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested at 18 month intervals. This sample is identified using one of three methods:

1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or
2. Functionally test a sample size and determine sample acceptance or rejection using Figure 4.8.F-1, or
3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.

Figure 4.8.F-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the NRC if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted are listed in the list of individual snubbers indicating the extent of the exemptions.

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replace, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records provide statistical bases for future consideration of snubber service life.

3/4.8.G Sealed Source Contamination

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources, including startup sources and fission detectors, are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed

BASES

within a shielded mechanism, i.e., sealed sources within radiation monitoring or boron measuring devices, are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.8.H Explosive Gas Mixture

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the offgas holdup system is maintained below the flammability limits of hydrogen and oxygen. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10CFR Part 50.

3/4.8.I Main Condenser Offgas Activity

Restricting the gross radioactivity rate of noble gases from the main condenser provides reasonable assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a small fraction of the limits of 10CFR Part 100 in the event this effluent is inadvertently discharged directly to the environment without treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10CFR Part 50.

3/4.8.J Liquid Holdup Tanks

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area. Recirculation of the tank contents for the purpose of reducing the radioactive content is not considered to be an addition of radioactive material to the tank.



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

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 166
License No. DPR-29

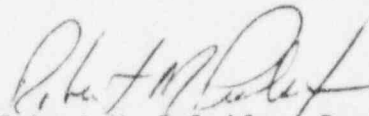
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated September 10, 1993, as supplemented by letter dated June 16, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, 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, and paragraph 3.B. of Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 166, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented no later than June 30, 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 19, 1995



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

COMMONWEALTH EDISON COMPANY

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 162
License No. DPR-30

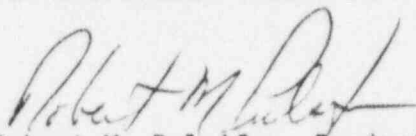
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Commonwealth Edison Company (the licensee) dated September 10, 1993, as supplemented by letter dated June 16, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, 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, and paragraph 3.B. of Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 162, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented no later than June 30, 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 19, 1995

ATTACHMENT TO LICENSE AMENDMENT NOS. 166 AND 162
FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30
DOCKET NOS. 50-254 AND 50-265

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number.

<u>UNIT 1</u> <u>REMOVE</u>	<u>UNIT 2</u> <u>REMOVE</u>	<u>INSERT</u>
3.8/4.8-1	3.8/4.8-1	3/4.8.1
3.8/4.8-2	3.8/4.8-2	3/4.8.2
3.8/4.8-3	3.8/4.8-3	3/4.8.3
3.8/4.8-4	3.8/4.8-4	3/4.8-4
3.8/4.8-5	3.8/4.8-5	3/4.8-5
3.8/4.8-6	3.8/4.8-6	3/4.8-6
---	3.8/4.8-6a	---
3.8/4.8-7	3.8/4.8-7	3/4.8-7
---	3.8/4.8-7a	---
3.8/4.8-8	3.8/4.8-8	3/4.8-8
3.8/4.8-9	3.8/4.8-9	3/4.8-9
3.8/4.8-10	3.8/4.8-10	3/4.8-10
3.8/4.8-11	3.8/4.8-11	3/4.8-12
3.8/4.8-12	3.8/4.8-12	3/4.8-12
3.8/4.8-13	3.8/4.8-13	3/4.8-13
3.8/4.8-14	3.8/4.8-14	3/4.8-14
---	3.8/4.8-14a	---
---	3.8/4.8-14b	---
3.8/4.8-15	3.8/4.8-15	3/4.8-15
3.8/4.8-16	3.8/4.8-16	3/4.8-16
3.8/4.8-17	3.8/4.8-17	3/4.8-17
3.8/4.8-18	3.8/4.8-18	3/4.8-18
3.8/4.8-19	3.8/4.8-19	3/4.8-19
3.8/4.8-20	3.8/4.8-20	3/4.8-20
3.8/4.8-21	3.8/4.8-21	3/4.8-21
---	3.8/4.8-21a	---
---	---	3/4.8-22
---	---	3/4.8-23
---	---	3/4.8-24
3.8/4.8-22	3.8/4.8-22	B 3/4.8-1
3.8/4.8-23	3.8/4.8-23	B 3/4.8-2
3.8/4.8-24	3.8/4.8-24	B 3/4.8-3
3.8/4.8-25	3.8/4.8-25	B 3/4.8-4
3.8/4.8-26	3.8/4.8-26	---
3.8/4.8-27	3.8/4.8-27	---
3.8/4.8-28	3.8/4.8-28	---
3.8/4.8-29	3.8/4.8-29	---
---	3.8/4.8-29a	---
3.8/4.8-30	3.8/4.8-30	---
3.8/4.8-31	---	---

UNIT 1
REMOVE CONT.

3.8/4.8-32
3.8/4.8-33
3.8/4.8-34
3.8/4.8-35
3.8/4.8-36
3.8/4.8-37
3.8/4.8-38
Figure 4.8-1

UNIT 2
REMOVE CONT.

INSERT CONT.

3.8 - LIMITING CONDITIONS FOR OPERATION

A. Residual Heat Removal Service Water System

At least the following independent residual heat removal service water (RHRSW) subsystems, with each subsystem comprised of:

1. Two OPERABLE RHRSW pumps, and
2. An OPERABLE flow path capable of taking suction from the ultimate heat sink and transferring the water:
 - a. Through one RHR heat exchanger, and separately,
 - b. To the associated safety related equipment,

shall be OPERABLE:

1. In OPERATIONAL MODE(s) 1, 2 and 3, two subsystems.
2. In OPERATIONAL MODE(s) 4, 5 and * the subsystem(s) associated with subsystems/loops and components required OPERABLE by Specifications 3.6.O, 3.6.P, 3.8.D, 3.10.K and 3.10.L.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and *.

4.8 - SURVEILLANCE REQUIREMENTS

A. Residual Heat Removal Service Water System

Each of the required RHRSW subsystems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTSACTION:

1. In OPERATIONAL MODE 1, 2 or 3:

- a. With one RHRSW pump inoperable, restore the inoperable pump to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one RHRSW pump in each subsystem inoperable, restore at least one inoperable pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With one RHRSW subsystem otherwise inoperable, restore the inoperable subsystem to OPERABLE status with at least one OPERABLE pump within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With both RHRSW subsystems otherwise inoperable, restore at least one subsystem to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN^(a) within the following 24 hours.

a Whenever both RHRSW subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

3.8 - LIMITING CONDITIONS FOR OPERATION

2. In OPERATIONAL MODE 3 or 4 with the RHRSW subsystem which is associated with an RHR subsystem required OPERABLE by Specification 3.6.O or 3.6.P inoperable, declare the associated RHR subsystem inoperable and take the ACTION required by Specification 3.6.O or 3.6.P, as applicable.
3. In OPERATIONAL MODE 5 with the RHRSW subsystem which is associated with an RHR subsystem required OPERABLE by Specification 3.10.K or 3.10.L inoperable, declare the associated RHR subsystem inoperable and take the ACTION required by Specification 3.10.K or 3.10.L, as applicable.
4. In OPERATIONAL MODE * with both unit RHRSW subsystem(s) inoperable, declare the control room emergency filtration system, Train B, inoperable and take the ACTION required by Specification 3.8.D.

4.8 - SURVEILLANCE REQUIREMENTS

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION

B. Diesel Generator Cooling Water System

A diesel generator cooling water (DGCW) subsystem shall be OPERABLE for each required diesel generator with each subsystem comprised of:

1. One OPERABLE DGCW pump, and
2. An OPERABLE flow path capable of taking suction from the ultimate heat sink and transferring cooling water to the associated diesel generator.

APPLICABILITY:

When the diesel generator is required to be OPERABLE.

ACTION:

With one or more DGCW subsystems inoperable, declare the associated diesel generator inoperable and take the ACTION required by Specifications 3.9.A or 3.9.B, as applicable.

4.8 - SURVEILLANCE REQUIREMENTS

B. Diesel Generator Cooling Water System

Each of the required DGCW subsystems shall be demonstrated OPERABLE:

1. At least once per 31 days by verifying that each valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
2. At least once per 18 months by verifying that each pump starts automatically upon receipt of a start signal for the associated diesel generator.

3.8 - LIMITING CONDITIONS FOR OPERATION

C. Ultimate Heat Sink

The ultimate heat sink shall be OPERABLE with:

1. A minimum water level at or above elevation 561 ft Mean Sea Level, and
2. An average water temperature of $\leq 95^{\circ}\text{F}$.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, 4, 5 and *.

ACTION:

With the requirements of the above specification not satisfied:

1. In OPERATIONAL MODE(s) 1, 2 or 3, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
2. In OPERATIONAL MODE(s) 4 or 5 declare the RHRSW system and the diesel generator cooling water system inoperable and take the ACTION(s) required by Specifications 3.8.A and 3.8.B.
3. In OPERATIONAL MODE *, declare the diesel generator cooling water system inoperable and take the ACTION(s) required by Specification 3.8.B. The provisions of Specification 3.0.C are not applicable.

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

4.8 - SURVEILLANCE REQUIREMENTS

C. Ultimate Heat Sink

The ultimate heat sink shall be determined OPERABLE at least once per 24 hours by verifying the average water temperature and water level to be within their limits.

3.8 - LIMITING CONDITIONS FOR OPERATIOND. Control Room Emergency Filtration System

The control room emergency filtration system shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, and *.

ACTION:

1. LEFT INTENTIONALLY BLANK

2. In OPERATIONAL MODE *, with the control room emergency filtration system inoperable, suspend CORE ALTERATION(s), handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

3. The provisions of Specification 3.0.C are not applicable in OPERATIONAL MODE *.

4.8 - SURVEILLANCE REQUIREMENTSD. Control Room Emergency Filtration System

The control room emergency filtration system shall be demonstrated OPERABLE:

1. At least once per 12 hours by verifying that the control room air temperature is $\leq 95^{\circ}\text{F}$.

2. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters operating.

3. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 - a. Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of $< 0.05\%$ and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is $2000 \text{ scfm} \pm 10\%$.

 - b. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory

* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS

- testing criteria of ASTM-D-3803-89, for a methyl iodide penetration of <0.50%, when tested at 30°C and 70% relative humidity; and
- c. Verifying a system flow rate of 2000 scfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
4. After every # hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of ASTM-D-3803-89, for a methyl iodide penetration of <0.50%, when tested at 30°C and 70% relative humidity.
 5. At least once per 18 months by:
 - a. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is <6 inches water gauge while operating the filter train at a flow rate of 2000 scfm \pm 10%.
 - b. Verifying that the isolation dampers close on each of the following signals:
 - 1) Manual initiation from the control room, and
 - 2) Simulated automatic isolation signal.
 - c. Verifying that during the pressurization mode of operation, control room positive pressure is maintained at \geq 1/8 inch water gauge relative to adjacent areas during system operation at a flow rate \leq 2000 scfm.

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- d. Verifying that the heaters dissipate 12 ± 1.2 kw when tested in accordance with ANSI N510-1980. This reading shall include the appropriate correction for variations from 480 volts at the bus.
6. After each complete or partial replacement of an HEPA filter bank by verifying that the HEPA filter bank satisfies the in-place penetration and leakage testing acceptance criteria of $<0.05\%$ in accordance with ANSI N510-1980 while operating the system at a flow rate of $2000 \text{ sc}'\text{m} \pm 10\%$.
7. After each complete or partial replacement of an charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the in-place penetration and leakage testing acceptance criteria of $<0.05\%$ in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at flow rate of $2000 \text{ scfm} \pm 10\%$.

3.8 - LIMITING CONDITIONS FOR OPERATION

E. Flood Protection

Flood protection shall be available for all required safe shutdown systems, components and structures.

APPLICABILITY:

At all times.

ACTION:

With the water level, as measured at the plant intake bay:

1. Above elevation 586 ft Mean Sea Level USGS datum, initiate the applicable flood protection measures.
2. Above, or predicted to exceed within 3 days, elevation 594 ft Mean Sea Level USGS datum, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

4.8 - SURVEILLANCE REQUIREMENTS

E. Flood Protection

The water level at the plant intake bay shall be determined to be within the limit by:

1. Measurement at least once per 24 hours when the water level is below elevation 585.5 ft Mean Sea Level USGS datum, and
2. Measurement at least once per 2 hours when the water level is equal to or above elevation 585.5 ft Mean Sea Level USGS datum.

3.8 - LIMITING CONDITIONS FOR OPERATION

F. Snubbers

All required snubbers shall be OPERABLE. The only snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse impact on any safety-related system.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 3.
OPERATIONAL MODE(s) 4 and 5 for snubbers located on systems required OPERABLE in OPERATIONAL MODE(s) 4 and 5.

ACTION:

With one or more snubbers inoperable, on any system, within 72 hours:

1. Replace or restore the inoperable snubber(s) to OPERABLE status, and
2. Perform an engineering evaluation per Specification 4.8.F.7 on the attached component.

Otherwise, declare the attached system inoperable and follow the appropriate ACTION statement for that system.

4.8 - SURVEILLANCE REQUIREMENTS

F. Snubbers

Each snubber shall be demonstrated OPERABLE by the performance of the following augmented inservice inspection program in addition to the requirements of Specification 4.0.E.

1. Inspection Types

As used in this specification, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

2. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.8.F-1. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 4.8.F-1^(a).

3. Visual Inspection Acceptance Criteria

Visual inspections shall verify that: (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of

a The first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before amendment nos 166 & 162.

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visual inspections shall be classified as unacceptable. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

Snubbers originally classified as unacceptable may be reclassified as acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.8.F.6.

4. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients, as determined from a review of operational data or a visual inspection of the systems, within 72 hours for accessible systems and 6 months for inaccessible systems following this determination. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

3.8 - LIMITING CONDITIONS FOR OPERATION4.8 - SURVEILLANCE REQUIREMENTS5. Functional Tests

At least once per 18 months, a representative sample of snubbers shall be tested using one of the following sample plans for each type of snubber. The sample plan shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected prior to the test period or the sample plan used in the prior test period shall be implemented:

- a. At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.8.F.6, an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or
- b. A representative sample of each type of snubber shall be functionally tested, in accordance with Figure 4.8.F-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements of Specification 4.8.F.6. The cumulative number of snubbers of a type tested is denoted by "N". At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.8.F-1.

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If at any time the point plotted falls on or above the "Reject" line, all snubbers of that type shall be functionally tested. If at any time the point plotted falls on or below the "Accept" line, testing of snubbers of that type may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time, providing all snubbers tested with the failed equipment during the day of equipment failure are retested; or

- c. An initial representative sample of 55 snubbers of each type shall be functionally tested. For each snubber type which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, $1 + C/2$, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this sample plan shall be plotted using an "Accept" line which follows the equation $N = 55(1 + C/2)$. Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the

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"Accept" line, testing of that type of snubber may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls on or below the "Accept" line or all the snubbers of that type have been tested.

The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure as far as practical that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type.

Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan, and failure of this functional test shall not be the sole cause for increasing the sample size under the sample plan. If during testing, additional sampling is required due to failure of only one type of snubber, the functional testing results shall be reviewed at the time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.

6. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

- a. Activation (restraining action) is achieved within the specified range in both tension and compression;

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- b. The force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and
- c. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

7. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause for the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

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If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen-in-place, the cause will be evaluated and, if caused by manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in Specification 4.8.F.5 for snubbers not meeting the functional test acceptance criteria.

8. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom-of-motion test must have been performed within 12 months before being installed in the unit.

9. Snubber Service Life Program

The service life of all snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The maximum expected service life for various seals, springs, and other critical parts shall be extended or shortened based on monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when

3.8 - LIMITING CONDITIONS FOR OPERATION

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the snubber is required to be OPERABLE. The parts replacements shall be documented and the documentation shall be retained in accordance with Specification 6.5.B.

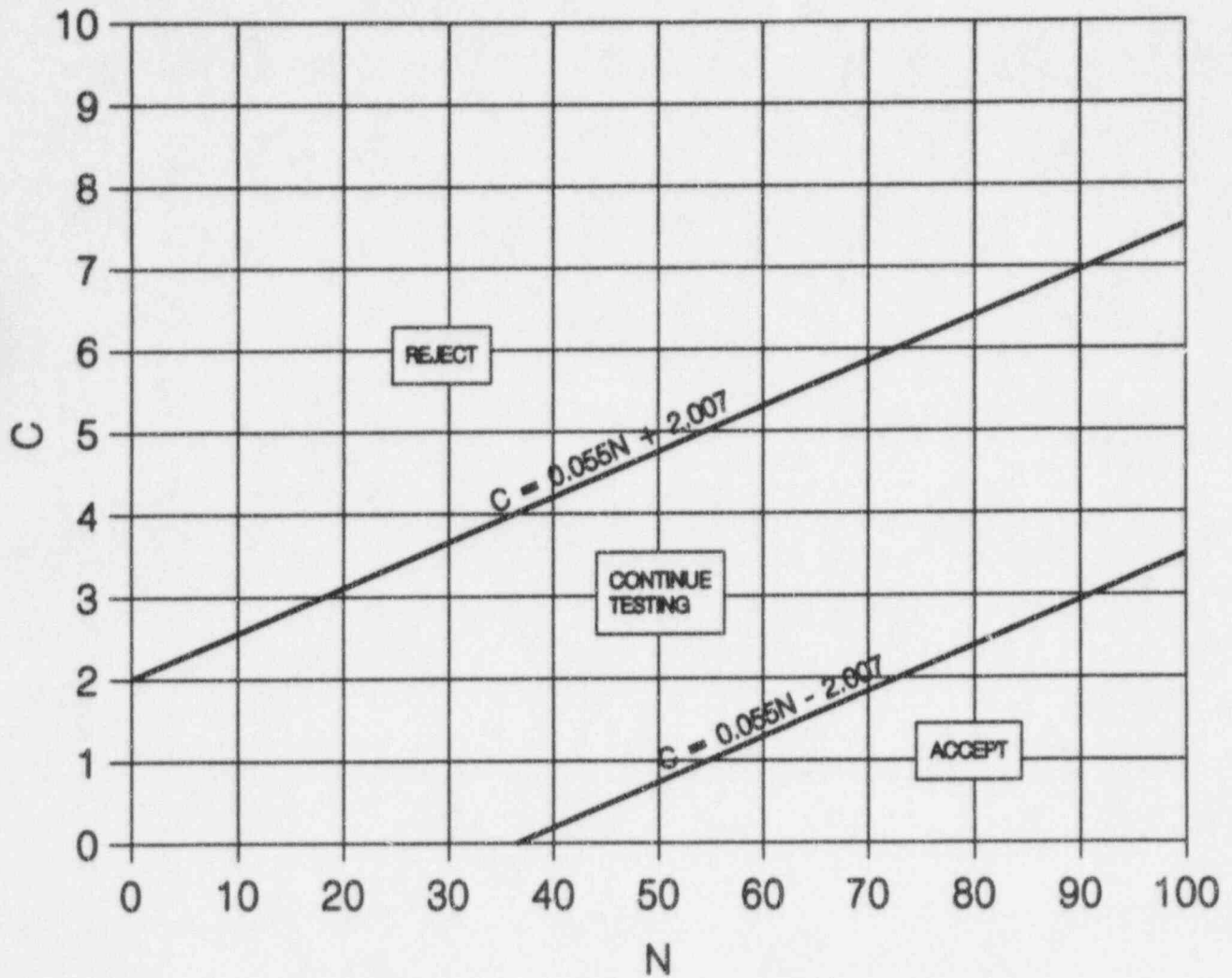
TABLE 4.8.F-1

SNUBBER VISUAL INSPECTION CRITERIA

Population ^{(a)(b)} or Category	NUMBER OF UNACCEPTABLE SNUBBERS		
	Column A ^{(c)(f)} Extend Interval	Column B ^{(d)(f)} Repeat Interval	Column C ^{(e)(f)} Reduce Interval
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
≥1000	29	56	109

- a The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the decision must be made and documented before any inspection and shall be used as the basis upon which to determine the next inspection interval for that category.
- b Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.
- c If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval, but not greater than 48 months.
- d If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.
- e If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval, but not less than 31 days. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.
- f The provisions of Specification 4.0.B are applicable for all inspection intervals up to and including 48 months.

FIGURE 4.8.F-1
SAMPLING PLAN FOR SNUBBER FUNCTIONAL TESTING



N = Cumulative number of snubbers of a type tested.

C = Total number of snubbers of a type not meeting acceptance requirements.

3.8 - LIMITING CONDITIONS FOR OPERATION

G. Sealed Source Contamination

Each sealed source containing radioactive material either in excess of 100 μCi of beta and/or gamma emitting material or 5 μCi of alpha emitting material shall be free of $\geq 0.005 \mu\text{Ci}$ of removable contamination.

APPLICABILITY:

At all times.

ACTION:

1. With a sealed source having removable contamination in excess of the above limit, withdraw the sealed source from use and either:
 - a. Decontaminate and repair the sealed source, or
 - b. Dispose of the sealed source in accordance with Commission Regulations.
2. With a sealed source leakage test revealing the presence of removable contamination in excess of the above limit, a report shall be prepared and submitted to the Commission on an annual basis.
3. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

G. Sealed Source Contamination

1. Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:
 - a. The licensee, or
 - b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 μCi per test sample.

2. Test Frequencies - Each category of sealed sources, excluding startup sources and fission detectors previously subjected to core flux, shall be tested at the frequency described below.
 - a. Sources in use - At least once per 6 months for all sealed sources containing radioactive material:
 - 1) With a half-life > 30 days, excluding Hydrogen 3, and
 - 2) In any form other than gas.
 - b. Stored sources not in use - Each sealed source shall be tested prior to use or transfer to another licensee unless tested within the previous 6 months. Sealed sources transferred without a certificate indicating the last test date shall be tested prior to being placed into use.

3.8 - LIMITING CONDITIONS FOR OPERATION

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- c. Startup sources and fission detectors - Each sealed startup source and fission detector shall be tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.

3.8 - LIMITING CONDITIONS FOR OPERATION

H. Offgas Explosive Mixture

The concentration of hydrogen in the offgas holdup system shall be limited to $\leq 4\%$ by volume.

APPLICABILITY:

During offgas holdup system operation.

ACTION:

With the concentration of hydrogen in the offgas holdup system exceeding the limit, restore the concentration to within the limit within 48 hours. The provisions of Specification 3.0.C are not applicable.

4.8 - SURVEILLANCE REQUIREMENTS

H. Explosive Gas Mixture

The concentration of hydrogen in the offgas holdup system shall be determined to be within the above limits as required by Table 3.2.H-1 of Specification 3.2.H.

3.8 - LIMITING CONDITIONS FOR OPERATION

I. Main Condenser Offgas Activity

The release rate of the sum of the activities of the noble gases measured prior to the offgas holdup line shall be limited to $\leq 100 \mu\text{Ci}/\text{sec}/\text{MWt}$, after 30 minutes decay.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2^(a) and 3^(a).

ACTION:

With the release rate of the sum of the activities of the noble gases in the main condenser air ejector effluent (as measured prior to the offgas holdup line) $> 100 \mu\text{Ci}/\text{sec}/\text{MWt}$, after 30 minutes decay, restore the release rate to within its limit within 72 hours or be in at least STARTUP with the main steam isolation valves closed within the next 8 hours.

4.8 - SURVEILLANCE REQUIREMENTS

I. Main Condenser Offgas Activity

1. The release rate of noble gases from the main condenser air ejector shall be continuously monitored in accordance with the ODCM.
2. The release rate of the sum of the activities from noble gases from the main condenser air ejector shall be determined to be within the limits of Specification 3.8.1 at the following frequencies^(b) by performing an isotopic analysis of a representative sample of gases taken at the recombiner outlet, or the air ejector outlet, if the recombiner is bypassed:
 - a. At least once per 31 days, and
 - b. Within 4 hours following the determination of an increase, as indicated by the air ejector noble gas monitor, of $> 50\%$, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant.

a When the main condenser air ejector is in operation.

b The provisions of Specification 4.0.D are not applicable.

3.8 LIMITING CONDITIONS FOR OPERATION

J. Safe Shutdown Makeup Pump

The Safe Shutdown Makeup Pump (SSMP) shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 3 with reactor steam dome pressure greater than 150 psig.

ACTION:

1. With the SSMP system inoperable, restore the inoperable SSMP system to OPERABLE status within 67 days, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

4.8 - SURVEILLANCE REQUIREMENTS

J. Safe Shutdown Makeup Pump

The SSMP system shall be demonstrated OPERABLE:

1. At least once per 31 days by:
 - a. Verifying that each valve, manual, power operated or automatic in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
 - b. Verifying that the pump flow controller is in the correct position.
2. At least once per 92 days by verifying that the SSMP develops a flow of greater than or equal to 400 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure of greater than 1150 psig.

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3/4.8.A Residual Heat Removal Service Water System

The residual heat removal service water system, with the ultimate heat sink, provides sufficient cooling capacity for continued operation of the residual heat removal system and of other safety-related equipment, e.g., RHRSW vault coolers and the control room emergency ventilation system refrigeration units, during normal and accident conditions. The redundant cooling capacity of the system, assuming a single failure, is consistent with the assumptions used in the safety analysis to keep the accident conditions within acceptable limits. Since only one of the four pumps is required to provide the necessary cooling capacity, a thirty day repair period is allowed for one pump out of service. OPERABILITY of this system is also dependent upon special measures for protection from flooding in the condenser pit area.

3/4.8.B Diesel Generator Cooling Water System

The diesel generator cooling water system, with the ultimate heat sink, provides sufficient cooling capacity for continued operation of the diesel generators during normal and accident conditions. The cooling capacity of the system is consistent with the assumptions used in the safety analysis to keep the accident conditions within acceptable limits. OPERABILITY of this system is also dependent upon special measures for protection from flooding in the condenser pit area.

3/4.8.C Ultimate Heat Sink

The Mississippi River provides an ultimate heat sink with sufficient cooling capacity to either provide normal cooldown of the units, or to mitigate the effects of accident conditions within acceptable limits for one unit while conducting a normal cooldown on the other unit.

3/4.8.D Control Room Emergency Filtration System

The control room emergency filtration system maintains habitable conditions for operations personnel during and following all design basis accident conditions. This system, in conjunction with control room design, is based on limiting the radiation exposure to personnel occupying the room to five rem or less whole body, or its equivalent.

The frequency of tests and sample analysis is necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. The control room emergency filtration system in-place testing procedures are established utilizing applicable sections of ANSI N510-1980 standard. Operation of the system with the heaters OPERABLE for ten hours a month is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The charcoal adsorber efficiency test procedures allow for the removal of one representative sample cartridge and testing in accordance with the guidelines of ASTM-D-3803-89. The sample is at least two inches in diameter and has a length equivalent to the thickness of the bed. If the iodine removal efficiency test results are

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unacceptable, all adsorbent in the system is replaced. HEPA filter particulate removal efficiency is verified to be at least 99% by in-place testing with a DOP testing medium.

3/4.8.E Flood Protection

Flood protection measures are provided to protect the systems and equipment necessary for safe shutdown during high water conditions. The equipment necessary to implement the appropriate measures, as detailed in plant procedures, is required to be available, but not necessarily onsite, to implement the procedures in a timely manner. The selected water levels are based on providing timely protection from the design basis flood of the river.

3/4.8.F Snubbers

Mechanical snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic event or other event initiating dynamic loads. Snubbers are classified and grouped by design, manufacturer and accessibility. A list of individual snubbers with information of snubber location, classification or group, and system affected is maintained at the plant. The accessibility of each snubber is determined and documented for each snubber. The determination is based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operation (e.g., temperature, atmosphere, location, etc.), and the recommendations of Regulatory Guides 8.8 and 8.10.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to the systems. Therefore, the required inspection interval varies with the number of unacceptable snubbers found during the previous inspection, the total population or category size for each snubber type, and the previous inspection interval. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly as determined and documented prior to the inspections. The categorization is used as the basis for determining the next inspection interval for that category.

If a review and evaluation can not justify continued operation with an unacceptable snubber, the snubber is declared inoperable and the applicable action taken. To determine the next surveillance interval, the unacceptable snubber may be reclassified as acceptable if it can be demonstrated that the snubber is OPERABLE in its as-found condition by the performance of a functional test. The next visual inspection interval may be twice, the same, or reduced by as much as two-thirds of the previous inspection interval, depending on the number of unacceptable snubbers found in proportion to the size of the population or category for each type of snubber included in the previous inspection. The inspection interval may be as long as 48 months and the provisions of Specification 4.0.B may be applied.

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When a snubber is found to be inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide additional assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested at 18 month intervals. This sample is identified using one of three methods:

1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or
2. Functionally test a sample size and determine sample acceptance or rejection using Figure 4.8.F-1, or
3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.

Figure 4.8.F-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the NRC if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted are listed in the list of individual snubbers indicating the extent of the exemptions.

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replace, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records provide statistical bases for future consideration of snubber service life.

3/4.8.G Sealed Source Contamination

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources, including startup sources and fission detectors, are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed

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within a shielded mechanism, i.e., sealed sources within radiation monitoring or boron measuring devices, are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.8.H Explosive Gas Mixture

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the offgas holdup system is maintained below the flammability limits of hydrogen and oxygen. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10CFR Part 50.

3/4.8.I Main Condenser Offgas Activity

Restricting the gross radioactivity rate of noble gases from the main condenser provides reasonable assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a small fraction of the limits of 10CFR Part 100 in the event this effluent is inadvertently discharged directly to the environment without treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10CFR Part 50.

3/4.8.J Safe Shutdown Makeup Pump System (SSMP)

The SSMP system provides a common backup to the Unit 1 and 2 RCIC systems to satisfy the requirements of 10 CFR 50, Appendix R, Section III.G, "Fire Protection of Safe Shutdown Capability." The system bypasses fire zones which could theoretically disable the RCIC system.

In the event that the reactor vessel becomes isolated, and the feedwater supply becomes unavailable, makeup can be provided by manually initiating the SSMP system to supply demineralized makeup water from the CCST or as an alternate source, makeup water from the fire header. The flow rate of the SSMP system is approximately equal to the reactor water boil-off rate 15 minutes after shutdown.

The SSMP system is required to be OPERABLE when either Unit 1 or Unit 2 is in OPERATIONAL MODE(s) 1, 2 or 3 with reactor steam dome pressure greater than 150 psig. With the SSMP system inoperable, a 67-day allowable out-of-service (AOS) is provided to restore the inoperable system to OPERABLE status before the Unit(s) must be shut down. (Reference: Fire Protection Plan Documentation Package (FPPDP), "Fire Protection Reports," Volume 2, Tab 4, Safe Shutdown Analysis.)

The surveillance requirements provide adequate assurance that the SSMP system will be OPERABLE when required. A design flow test can be performed during plant operation using a full flow test return line to the CCST.