

50-237



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

April 25, 1997

Ms. Irene Johnson, Acting Manager
Nuclear Regulatory Services
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M98389 AND M98390)

Dear Ms. Johnson:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 158 to Facility Operating License No. DPR-19 and Amendment No. 153 to Facility Operating License No. DPR-25 for Dresden, Units 2 and 3. The amendments are in response to your application dated April 14, 1997, as supplemented on April 17, April 22, and April 24, 1997.

The proposed amendments requested (1) review and approval of an Unreviewed Safety Question (USQ) involving the control room operator dose resulting from an error in the secondary containment volume value as stated in the Technical Specification (TS) and Updated Final Safety Analysis Report (UFSAR), (2) a change in TS Surveillance Requirements (SR) 4.7.P.2.b and 4.7.P.3 values for the allowed methyl iodide penetration for the standby gas treatment charcoal adsorbers, and (3) change of TS 5.2.C to reflect the correctly calculated free volume of the secondary containment.

Dresden Unit 2 shutdown on April 11, 1997, because of concerns with the operability of safety related 4160 volt circuit breakers. The unit is currently scheduled to return to service on April 26, 1997. Dresden Unit 3 shutdown on March 29, 1997, for a refueling outage and expects to return to service on June 6, 1997.

In the April 14, 1997, application, the licensee requested that these amendments be processed on an emergency basis, because of the scheduled restart of Dresden Unit 2 on April 21, 1997, and indicated that the unit would not restart until resolution of the USQ and approval of the TS changes. However, in the April 17, 1997, submittal, the licensee advised the NRC that the emergency circumstances no longer existed and instead revised its application to request an exigent review by the staff because the scheduled return to service date for Dresden Unit 2 had changed to May 1, 1997. By letter dated April 22, 1997, the licensee advised the staff that the return to service date for Dresden Unit 2, would be on April 26, 1997.

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The exigency circumstances exists in that failure of the Commission to act in a timely manner would result in the prevention of the resumption of operation of Dresden, Units 2 and 3. In accordance with the NRC Inspection Manual

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Chapter 9900, the licensee made the decision that resumption of operation of both Dresden, Units 2 and 3, could not take place until the resolution of the USQ by the NRC staff.

The licensee was not able to make a more timely application, because the discovery that the error in the containment free air volume value resulted in a USQ was not made by the licensee until March 26, 1997. On March 24, 1997, discussions were held between the licensee and the staff concerning the error in the value of the secondary containment free air volume. Following the discussions the licensee chose to initiate a 10 CFR 50.59 evaluation. The evaluation was completed on March 26, 1997, and the results indicated that the error in the secondary containment free air volume valued was a USQ. A USQ existed because the error resulted in a reduction in the margin of safety and an increase in the consequences of an accident.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance of Amendments to Facility Operating Licenses and Final Determination of No Significant Hazards Consideration and Opportunity For a Hearing will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by:

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

Docket Nos. 50-237, 50-249

- Enclosures: 1. Amendment No. 158 to DPR-19
- 2. Amendment No. 153 to DPR-25
- 3. Safety Evaluation

cc w/encl: see next page

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I. Johnson
Commonwealth Edison Company

Dresden Nuclear Power Station
Unit Nos. 2 and 3

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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. 158
License No. DPR-19

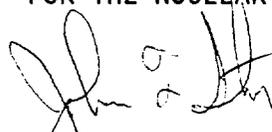
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated April 14, 1997, as supplemented on April 17, April 22, and April 24, 1997, complies with the standards and requirements of the Atomic Energy 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:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 158, 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 within 30 days.

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: April 25, 1997



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. 153
License No. DPR-25

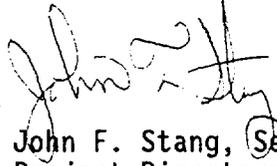
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Commonwealth Edison Company (the licensee) dated April 14, 1997, as supplemented on April 17, April 22, and April 24, 1997, complies with the standards and requirements of the Atomic Energy 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. 153, 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 within 30 days.

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: April 25, 1997

ATTACHMENT TO LICENSE AMENDMENT NOS. 158 AND 153

FACILITY OPERATING LICENSE NO. 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 numbers and contain marginal lines indicating the area of change.

REMOVE

3/4.7-23

3/4.7-24

5-4

INSERT

3/4.7-23

3/4.7-24

5-4

3.7 - LIMITING CONDITIONS FOR OPERATION

P. Standby Gas Treatment System

Two independent standby gas treatment subsystems shall be OPERABLE.

APPLICABILITY:

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

ACTION:

1. With one standby gas treatment subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days, or:
 - a. In OPERATIONAL MODE(s) 1,2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
 - b. In OPERATIONAL MODE *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATION(s), and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.C are not applicable.
2. With both standby gas treatment subsystems inoperable in OPERATIONAL MODE(s) 1,2 or 3, restore at least one subsystem to OPERABLE status within one hour, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

4.7 - SURVEILLANCE REQUIREMENTS

P. Standby Gas Treatment System

Each standby gas treatment subsystem shall be demonstrated OPERABLE:

1. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters operating.
2. 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 subsystem by:
 - a. Verifying that the subsystem satisfies the in-place penetration and bypass leakage testing acceptance criteria of < 1% 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 4000 cfm \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 testing criteria of ASTM-D-3803-89, for a methyl iodide penetration of < 2.5%, when tested at 30°C and 70% relative humidity; and

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

3.7 - LIMITING CONDITIONS FOR OPERATION

3. With both standby gas treatment subsystems inoperable in OPERATIONAL MODE *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATION(s), and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.C are not applicable.

4.7 - SURVEILLANCE REQUIREMENTS

- c. Verifying a subsystem flow rate of 4000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
3. After every 720 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 < 2.5%, when tested at 30°C and 70% relative humidity.
4. 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 4000 cfm \pm 10%.
 - b. Verifying that the filter train starts and isolation dampers open on each of the following test signals:
 - 1) Manual initiation from the control room, and
 - 2) Simulated automatic initiation signal.
 - c. Verifying that the heaters dissipate 30 \pm 3 kw when tested in accordance with ANSI N510-1989. This reading shall include the appropriate correction for variations in voltage.

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

5.0 DESIGN FEATURES

5.2 CONTAINMENT

Configuration

5.2.A The primary containment is a steel lined concrete structure consisting of a drywell and suppression chamber. The drywell is a steel structure composed of a spherical lower portion, a cylindrical middle portion, and a hemispherical top head. The drywell is attached to the suppression chamber through a series of downcomer vents. The drywell has a minimum free air volume of 158,236 cubic feet. The suppression chamber has an air region of 116,300 to 112,800 cubic feet and a water region of 116,300 to 119,800 cubic feet.

Design Temperature and Pressure

5.2.B The primary containment is designed and shall be maintained for:

1. Maximum internal pressure: 62 psig.
2. Maximum internal temperature: drywell 281°F.
suppression pool 281°F.
3. Maximum external pressure: drywell 2 psig.
suppression pool 1 psig.

Secondary Containment

5.2.C The secondary containment consists of the Reactor Building and a portion of the main steam tunnel and has a minimum free volume of 4,500,000 cubic feet. |



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 158 TO FACILITY OPERATING LICENSE NO. DPR-19
AND AMENDMENT NO. 153 TO FACILITY OPERATING LICENSE NO. DPR-25
COMMONWEALTH EDISON COMPANY
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
DOCKET NOS. 50-237 AND 50-249

1.0 INTRODUCTION

By letter dated April 14, 1997, as supplemented on April 17, April 22, and April 24, 1997, Commonwealth Edison Company (ComEd, the licensee) submitted an application requesting review and approval of exigent license amendments to allow a decrease in the methyl iodide penetration for standby gas treatment (SBGT) charcoal from 10 percent to 2.5 percent in Technical Specification (TS) Surveillance Requirements (SR) 4.7.P.2.b and 4.7.P.3 to compensate for a reduction in the calculated secondary containment free volume. The licensee's submittal also contained a revised evaluation of the dose consequences to a control room operator resulting from a loss-of-coolant accident (LOCA). This evaluation was submitted as a result of the identification of an error in the secondary containment free volume. As a result of this discrepancy, the licensee performed a 10 CFR 50.59 evaluation and found that the error in the secondary containment volume resulted in a Unreviewed Safety Question (USQ). In accordance with 10 CFR 50.59 and pursuant to 10 CFR 50.90, the licensee requested license amendments to evaluate the USQ and approve the associated TS changes. In addition, the licensee also proposed to change TS 5.2.C to reflect the new calculated minimum free volume for the secondary containment. The April 17, April 22 and April 24, 1997, submittals provided additional clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The licensee recently identified an error in the free volume value of secondary containment. The licensee utilized the volume of the secondary containment in the calculation of mixing for releases from the secondary containment to the environment. The licensee found that the free volume of the secondary containment was actually 22 percent less than the value previously assumed. Because the error was found to be a decrease in secondary containment volume, this decrease would result in an increase in the control room operator thyroid dose since the licensee had taken credit for 100 percent mixing in the secondary containment. Because the doses had increased and the licensee was unable to expand the volume of secondary containment to return the plant to its original design, the licensee determined that this

represented a USQ. Consequently, the licensee revised their LOCA analysis of the control room operator dose and submitted this USQ to the staff for review and approval. In the licensee's revised analysis they proposed to change the TS to offset any reduction in margin caused by the decrease in secondary containment volume. The licensee's revised evaluation assumed a removal efficiency for the SBT charcoal of 95 percent for the elemental and organic forms of radioiodine. This was an increase from the licensee's previous analysis which had assumed an efficiency of 90 percent. With this increase in SBT adsorber efficiency and the decrease in secondary containment volume, the licensee calculated the thyroid dose to the control room operator to be 23 rem.

To ensure that the charcoal was actually capable of performing at the 95 percent level, the licensee proposed to change the acceptance criteria of SRs 4.7.P.2.b and 4.7.P.3 to an allowable penetration of the methyl form of radioiodine to <2.5 percent. The licensee also proposed to change TS 5.2.C to provide the correct free volume for secondary containment.

In resolution of the USQ the licensee evaluated the reduction of the secondary containment volume and its affects on the following equipment operation and analysis as described in the UFSAR:

- A. Control Room Dose Analysis
- B. Offsite Dose Analysis
- C. Instrument Line Break Outside Primary Containment
- D. High Energy Line Break
- E. Reactor Building Ventilation
- F. Standby Gas Treatment System Performance
- G. Post Accident Radiation Levels
- H. Fuel Handling Accident
- I. Secondary Containment Isolation System
- J. Technical Support Center Dose Analysis

The licensee's evaluation indicated that the reduction in the secondary containment volume resulted in an increase in the dose to personnel in the control room and the Technical Support Center (TSC). To resolve the issue the licensee proposed to change the TS as indicated above. The licensee also indicated that the other issues listed above were evaluated in the resolution of the USQ and remain unaffected by the reduction in the secondary containment volume. Each of these issues are discussed below.

Offsite Dose Analysis

The licensee evaluated the consequences of the decrease in secondary containment free volume on the offsite doses. Because the secondary containment volume was not utilized by the licensee in the calculation of offsite doses, the licensee concluded that the change in volume would have no effect upon the offsite doses.

High Energy Line Break

The licensee evaluated the effect the reduction in the secondary containment free volume would have on the Environmental Qualification (EQ) pressure/temperature analysis during a High Energy Line Break (HELB). The licensee determined that the pressure rise in the secondary containment is a function of the release path through the building and is not sensitive to the building total air volume for breaks of this size compared to the secondary containment volume. The licensee concluded that the reduction in the secondary containment free volume does not adversely affect the EQ pressure/temperature analysis during a HELB. The HELB calculation uses only partial reactor building volumes of the area in the specific vent paths of the break. These volumes were independently calculated in preparing the HELB calculations and did not utilize the entire secondary containment volume value.

Instrument Line Break Outside Primary Containment

The licensee evaluated the effect the reduction in the secondary containment free volume would have on the pressure and temperature of the secondary containment during a 1-inch instrument line break accident. The licensee determined that the decrease in the secondary containment free volume would not adversely affect the calculated response to this line break because, as stated in the UFSAR, Section 15.6.2.4 the radiological consequences of this accident are based on an assumed release rate consistent with the reactor coolant activity and are not related to the secondary containment volume. Therefore the licensee determined there is no impact on this analysis resulting from the reduction in the secondary containment volume.

Reactor Building Ventilation

The licensee evaluated the effect the reduction in the secondary containment free volume would have on the normal reactor building ventilation system. The licensee determined that the commitment to provide at least one free volume change per hour in the reactor building is still provided. The licensee determined that the air flow rates, design basis temperatures, emergency isolation function, and the process radiation monitoring trip signal are not adversely affected. The licensee concluded that the reduction in the secondary containment free volume does not adversely affect the normal reactor building ventilation system.

Standby Gas Treatment System Performance

The licensee evaluated the consequences of the decrease in the secondary containment volume on the performance of the Standby Gas Treatment System (SBGTS). The reduction in volume does not result in any physical or operational changes to the SBGTS equipment. Specifically, the SBGTS will continue to operate as designed and within current capabilities. The reduction in the containment volume will cause the SBGTS to see an increased concentration of radioactive nuclides following certain accidents. As a

the licensee proposed to change the TS to the revised minimum methyl iodine removal efficiency of from 90% to 97.5%. The change in the TS will off set the reduction in the secondary containment free volume.

Post Accident Radiation Levels

The licensee evaluated the consequences of the decrease in the secondary containment volume on the potential to affect post accident radiation levels. Appendix 12A of the UFSAR describes the way plant area radiation levels following a postulated accident were calculated. Section 12A.2.3.3 develops the dose rates for a non-line break scenario. In this evaluation, the source term was distributed over a conservatively small, total air volume for the reactor building of 9.08×10^{10} cubic centimeters or approximately 3,200,000 ft³. This is conservatively less than the previously utilized building volume of 5,760,000 ft³. and the revised building volume of 4,500,000 ft³. The relatively small, conservative reactor building volume used in these calculations resulted in an increased radionuclide concentration and conservatively determined dose rates. Since the small volume utilized in the calculations remains well below the actual volume of the reactor building, the licensee concluded the identification of the reduced secondary containment volume does not affect the estimated post-accident radiation levels described in Appendix 12A of the UFSAR.

Fuel Handling Accident

The licensee evaluated the consequences of the decrease in the secondary containment volume on the fuel handling accident as described in the UFSAR. The fuel handling accident described in UFSAR section 17.7.3.4.3.3 and the fission product inventory given in UFSAR Tables 15.7-3, 15.7-4, and 15.7-5 are historical in nature and do not yet reflect the current Fuel Handling accident analysis. However, the current Fuel Handling analysis does not utilize the secondary containment volume for mixing or release decay in determining postulated accident doses. In the current analysis, the radio-iodides are assumed to be released immediately through Reactor Building Ventilation and subsequently through the SBGTS after a Secondary Containment isolation occurs. Therefore the licensee concluded that the reduction in secondary containment has no affect on the fuel handling accident.

Secondary Containment Isolation

The licensee evaluated the consequences of the decrease in the secondary containment volume on secondary containment isolation. Section 6.2.3.2.4 of the UFSAR contains a historically conservative assumption that the SBGTS will not be activated until 10 minutes after the accident. For that period of time, there is an unfiltered ground level release resulting in the very low specified doses described in that section. The change to the reactor building volume would result in a slight increase to these doses. However, since the SBGTS is automatically initiated and, since the activity at the start of the accident is insignificant, this conservative assumption is no longer contained in the current applicable accident dose analysis. Therefore the licensee

concluded that the reduction in the secondary containment volume is independent of the requirement to isolate the secondary containment.

Technical Support Center Dose Analysis

The secondary containment free volume is an input parameter to the Technical Support Center (TSC) dose calculation, and functions to provide radionuclide holdup and mixing prior to release by the SBGTS and the chimney. The reduction in the volume results in an increase to the TSC postulated dose.

Since it is not feasible to physically increase the secondary containment free volume to resolve the nonconforming condition, a 10 CFR 50.59 safety evaluation has been performed. This evaluation determined that an unreviewed safety question exists and a change to the facility Technical Specifications was required to resolve the issues identified. By changing the TS as described above the dose to the personnel in the TSC will be within the limits of General Design Criterion (GDC) 19 and therefore resolves the USQ associated with the reduction in the secondary containment volume.

3.0 EVALUATION

Evaluation of the USQ

The proposed amendments requested review of the USQ associated with the reduction in the secondary containment free volume. The licensee proposed to change the TS and take credit for a decrease in the allowed methyl iodide penetration for the SBGTS charcoal adsorbers to offset the reduction in safety margin caused by the reduction in the secondary containment free volume. In addition the licensee proposed to change Section 5.2 of the TS to correctly state the secondary containment free volume.

Credit for Decrease Allowed Charcoal Adsorber Penetration

The staff has evaluated the proposed TS change by the licensee and the revised control room operator dose from a LOCA. Inspection Report 50-254/91019 (DRSS) and 50-265/91015 (DRSS) contained an evaluation performed by the staff on the adequacy of the Dresden and Quad Cities control room emergency air cleaning systems to meet GDC 19. This evaluation was in response to a request from NRC Region III to NRR. The evaluation performed by NRR contains several tables which present the control room operator dose as a function of (1) time to begin pressurization flow, (2) SBGTS adsorber efficiency, and (3) control room emergency filter system (CREFS). Table 5 of the NRR evaluation assumes pressurization flow after the accident. In addition, the NRR evaluation uses International Committee on Radiation Protection (ICRP) 30 dose conversion factors and a retention factor for iodine in the suppression pool of one. Based upon a SBGTS adsorber efficiency of 95 percent and a CREFS efficiency of 90 percent, the staff projected the control room operator dose to be 20 rem thyroid. If those calculations are corrected to account for the 22 percent decrease in reactor building volume, then the revised dose would be an increase from the previously calculated dose by 39 percent, resulting in a

dose of 27.8 rem. This is below the acceptance limit of 30 rem thyroid for GDC 19 and, therefore, acceptable.

The staff has evaluated the licensee's proposed change to the acceptance criteria for the laboratory test of the SBGTS charcoal which is contained in SRs 4.7.P.2.b and 4.7.P.3 to <2.5 percent penetration. The staff has concluded reduction in the allowable penetration from the present value of <10 percent to <2.5 percent would provide adequate justification for assuming that the SBGTS charcoal will perform at least at a level of 95 percent if called upon to mitigate the consequences of an accident. The proposed acceptance criteria of 2.5 percent includes a safety factor of two which provides the staff a degree of assurance that, at the end of the operating cycle, the charcoal will be capable of performing at a level at least as good as that assumed in the staff evaluation. Because the SBGTS charcoal has a depth of 2 inches, an allowable adsorber efficiency of 95 percent can be assumed. In addition, the licensee presently performs the laboratory test using the American Society for Testing and Materials (ASTM) D3803-1989 protocol with the test temperature being at 30 degrees Celsius and the relative humidity at 70 percent. Therefore, the test method is considered adequate. Based upon the above, the staff concludes that the licensee can assume an adsorber efficiency of 95 percent for the SBGTS charcoal and the proposed change in SRs 4.7.P.2.b and 4.7.P.3 for allowable penetration for the laboratory test of charcoal is acceptable.

With respect to the consequences on offsite doses as a result of the decrease in secondary containment volume, the staff is in agreement with the licensee that the offsite consequences are not impacted since the licensee took no credit for mixing in the secondary containment.

With respect to the effect the reduction in the secondary containment free volume would have on the EQ pressure/temperature analysis during a HELB, the staff concurs with the licensee's conclusions that the EQ pressure/temperature analyses are not adversely affected.

With respect to the effect the reduction in the secondary containment free volume would have on the pressure and temperature of the secondary containment during a 1-inch instrument line break accident, the staff concludes that the pressure and temperature of the secondary containment is not adversely affected since the smaller air volume enables the SBGTS to draw down the pressure faster in the secondary containment and, thus, offsetting the slight increase in pressure due to the 1-inch line break.

With respect to the effect the reduction in the secondary containment free volume would have on the normal reactor building ventilation system, the staff concludes that the normal reactor building ventilation system is not adversely affected since the smaller air volume will increase the number of free volume changes per hour and cause the isolation trips to occur sooner.

The staff also assessed the impact of the decrease in secondary containment free volume on the radiological consequences of an instrument line break

outside primary containment and a fuel handling accident, post accident radiation levels in secondary containment, isolation time associated with secondary containment and the TSC doses. The licensee indicated that they had not assumed any credit for mixing within secondary containment for either the fuel handling accident or the instrument line break. The staff is in agreement with the licensee that if no credit was assumed for mixing than there would not be an impact upon the offsite or onsite doses as a result of changing the secondary containment volume. The staff has concluded that it did not take credit for mixing in evaluating the consequences of either of these accidents. Therefore, the staff concurs with the licensee that change in free volume of secondary containment will have no impact upon the previously calculated consequences of these accidents.

The staff concluded that correcting the free volume for secondary containment would not have an impact upon the post accident radiation levels for a non-line break scenario, as presented in Chapter 12 of the UFSAR, because the corrected free volume for secondary containment is still larger than that which was assumed by the licensee in their post-accident radiation level assessment.

The licensee had indicated that past accident evaluations had assumed that SBGTS would not be activated until 10 minutes following the accident. During these 10 minutes, an unfiltered ground level release was assumed to occur. The decrease in secondary containment volume would cause the dose contribution from this source to increase if mixing had been included in the assessment of dose consequences. However, in support of this amendment request the licensee changed their assumption concerning operation of the SBGTS. In support of this amendment request they assumed that the SBGTS was automatically initiated and that the activity at the start of the accident is insignificant. The staff believes that it is appropriate to assume automatic activation if, and only if, the SBGTS is always automatically activated to mitigate the consequences of an accident. Dresden TS 4.7.4.b.2 requires that an automatic initiation be demonstrated every 18 months. SRP 6.5.3 states that the "large reactor buildings around older BWR containment are usually maintained at a negative pressure during normal operation, and the dose model used for these cases has not assumed any positive pressure period." For Dresden, the secondary containment is maintained at a negative pressure during normal operation, per the requirements of TS 3/4.7.N.1, therefore, in accordance with the SRP, no period of unfiltered release need be assumed. The staff is not in agreement with the licensee that early period of release associated with a LOCA is insignificant when the accident analysis is based upon TID-14844 source terms.

The staff is in agreement with the licensee that the decrease in free volume will result in an increase in the doses to individuals in the TSC. By changing the TS as described above the dose to personnel in the TSC will be within the limits of General Design Criteria (GDC) 19. Therefore the staff finds changing the TS to offset any reduction in margin caused by the reduction in the secondary containment free volume is adequate to resolve the USQ associated with the increase in dose to the personnel in the TSC.

The staff finds the licensee's proposed change to TS 5.2.C to reflect the correct secondary containment volume acceptable.

4.0 SUMMARY

Based on the above evaluation the staff finds that the reduction in the secondary containment free volume value will not affect continued safe operation of Dresden Units 2 or 3. Further the staff finds that based on reanalyses performed by the licensee that dose to personnel following a LOCA is within the requirements of GDC 19. In addition based on the above evaluation the staff finds the proposed changes to the TS are acceptable.

5.0 EXIGENT CIRCUMSTANCES

In its April 14, 1997, application, as supplemented April 17, April 22, and April 24, 1997, the licensee requested that these amendments be treated as emergency amendments. In accordance with 10 CFR 50.91(a)(6), the licensee provided the following information regarding why this exigent situation occurred and how it could not have been avoided.

The licensee determined on March 24, 1997, that there existed a potential USQ, therefore, they initiated an immediate 10 CFR 50.59 evaluation. This discrepancy in the volume results in a calculated increase in dose to the operators in the control room during an accident. On March 26, 1997, the licensee completed the evaluation and determined that a USQ did exist due to a reduction in the margin to safety and an increase in the consequences of an accident.

Accordingly, an announcement of the proposed license change and a discussion of a proposed finding of no significant hazards consideration was published in Joliet Herald News on April 22, 1997. This announcement was in accordance with NRC procedures for exigent circumstances.

The staff concludes that an exigent condition exists in that failure to act in a timely way would result in prevention of resumption of operation of Dresden, Units 2 and 3. In addition, the staff has assessed the licensee's reasons for failing to file an application sufficiently in advance to preclude the exigent circumstances and concluded that the licensee identified the deficiency in the UFSAR and TS, notified the staff of the deficiency, and promptly proposed these amendments to remedy the situation. Thus, the staff concludes that the licensee has not abused the exigent provisions by failing to make timely application for the amendment. Thus, conditions needed to satisfy 10 CFR 50.91(a)(6) exist, and the amendments are being processed on an exigent basis.

6.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92(c) state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not: (1) involve a significant increase in the probability or

consequences of an accident previously evaluated, or (2) create the possibility of a new or different kind of accident from any previously evaluated, or (3) involve a significant reduction in a margin of safety.

The proposed changes do not involve a significant hazards consideration because operation of Dresden, Units 2 and 3, in accordance with the proposed changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated because of the following:

The consequences of previously analyzed accidents are not significantly affected by this proposed license amendment. It was determined that the only impact of the secondary containment free volume discrepancy was a small increase in control room operator dose; however, by decreasing the allowed methyl iodide penetration for SBGTS charcoal from 10 percent to 2.5 percent, calculated operator dose levels are lower than the value previously calculated. Calculated offsite dose levels are not impacted by this issue.

The proposed license amendment will not result in the reactor having the potential for operating in a different condition such that it may adversely affect the initial conditions assumed in any design basis accident analysis.

The associated systems related to this proposed amendment are not affected in a way that could impact the initiation of any accident sequence for Dresden; therefore, the probability of any accident previously evaluated is not increased by the proposed amendment. No modes of operation are introduced by the proposed changes such that adverse consequences are observed for Dresden.

- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated because:

The proposed license amendment for Dresden, Units 2 and 3, do not create the possibility of a new or different kind of accident previously evaluated for Dresden. No new modes of operation are introduced by the proposed changes. This change increases the SBGTS efficiency in accordance with generic industry guidance. This increase in SBGTS charcoal efficiency is required to compensate for the discrepancy in secondary containment free volume. As such, the proposed changes do not create the possibility of a new or different kind of accident.

- (3) Involve a significant reduction in the margin of safety because:

The proposed license amendment does not significantly affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analysis. The proposed changes ensure that control room operator doses are lower than the value previously calculated considering the impact of the secondary containment free volume discrepancy and the increase in SBGTS charcoal filter efficiency. In addition, the proposed license amendment for Dresden will not reduce the availability of systems required to mitigate

accident conditions; therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Accordingly, the Commission has made a final determination that the amendments involve no significant hazards consideration.

7.0 STATE CONSULTATION

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

8.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration determination with respect to these amendments. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

9.0 CONCLUSION

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

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