Commonwealth Edison
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Downers Grove, Illinois 60515

January 8, 1993

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attn: Document Control Desk

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Proposed Amendment to Facility Operating Licenses
DPR-19/25 and DPR-29/30
Appendix A, Technical Specifications
NRC Docket Nos. 50-237/249 and 50-254/265

References: (a) I.M. Johnson to T.E. Murley letter dated July 5, 1988.

(b) J.A. Silady to T.E. Murley letter dated August 11, 1988.

(c) R. Stols to T.E. Murley letter dated July 16, 1991.

(d) P. Piet to T.E. Murley letter dated December 4, 1991.

Dr. Murley:

In the Reference (a) letter, Commonwealth Edison Company (CECo) transmitted a proposed Technical Specification amendment for Quad Cities Station (DPR-29 and DPR-30). This was submitted in response to the identification of a discrepancy between an assumption used in the Control Room Habitability Study and the Technical Specifications for the Control Room Emergency Filtration (CREF) system (reference Licensee Event Report 87-025 for DPR-29, Revision 2, dated August 1988). The proposed amendment corrected the discrepancy. In the Reference (b) letter, CECo transmitted a proposed Technical Specification amendment for Dresden Station (DPR-19 and DPR-25). The proposed amendment involved the addition of provisions which ensured the availability and effectiveness of the CREF system, and incorporated the information and requirements which were transmitted in Reference (a). References (c) and (d) transmitted CECo's formal withdrawal of the proposed amendments, based upon NRR concerns with inconsistencies between the Dresden and Quad Cities Station submittals.

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If the Reference (d) letter, CECo also committed to submit a proposed, dual-station Technical Specification amendment for both Dresden Station and Quad Cities Station. This proposed amendment would incorporate the proposed changes from References (a) and (b), and would address the NRR concerns. The purpose of this letter is to formally transmit this proposed Dresden/Quad Cities Technical Specification amendment.

This proposed amendment request is presented as follows:

Attachment 1 provides a description and safety analysis of the proposed changes.

Attachment 2 provides a summary of the proposed changes for Quad Cities Station, DPR-29 and DPR-30.

Attachment 3 provides a summary of the proposed changes for Dresden Station, DPR-19 and DPR-25.

Attachments 4 and 5 provide the marked-up Technical Specification pages for Quad Cities Station and Dresden Station, respectively. Due to the extensive format and content changes, CECo has completely retyped each applicable Technical Specification page for both Dresden and Quad Cities Stations.

Attachment 6 provides CECo's evaluation performed in accordance with 10 CFR 50.92(c), which confirms that no significant hazards consideration is involved.

Attachment 7 provides the Environmental Assessment for the proposed changes.

This proposed amendment has been reviewed and approved by CECo On-Site and Off-Site Review in accordance with Commonwealth Edison procedures.

To the best of my knowledge and belief, the statements contained above are true and correct. In some respect these statements are not based on my personal knowledge, but obtained information furnished by other Commonwealth Edison employees, contractor employees, and consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

Commonwealth Edison is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

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If there are any questions or comments, please direct them to John L. Schrage at 708-663-7283.

John L. Schrage
Nuclear Licensing Administrator

Attachments:

1. Description and Safety Analysis of the Proposed Changes.
2. Summary of Proposed Changes - Quad Cities Station, DPR-29 and DPR-30.
3. Summary of Proposed Changes - Dresden Station, DPR-19 and DPR-25.
4. Marked-up Technical Specification Pages - Quad Cities Station, DPR-29 and DPR-30.
5. Marked-up Technical Specification Pages - Dresden Station, DPR-19 and DPR-25.
6. Evaluation of Significant Hazards Consideration.
7. Environmental Assessment.

cc: A. Bert Davis, Regional Administrator - RIII
C. Patel, Project Manager - NRR
B. Siegel, Project Manager - NRR
T. Taylor, Senior Resident Inspector - Quad Cities Station
M. Leach, Senior Resident Inspector - Dresden Station
Office of Nuclear Safety - IDNS

Signed before me this 8th day of January, 1993,
by: Maryellen D Long
Notary Public

" OFFICIAL SEAL "
MARYELLEN D. LONG
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 8/11/93

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ATTACHMENT 1

DESCRIPTION AND SAFETY ANALYSIS OF PROPOSED CHANGES

TO APPENDIX A, TECHNICAL SPECIFICATIONS

QUAD CITIES STATION (DPR-29 AND DPR-30)

AND

DRESDEN STATION (DPR-19 AND DPR-25)

I. BACKGROUND

In November 1987, Quad Cities Nuclear Power Station (QCNPS) personnel identified a discrepancy between an assumption used in the Control Room Habitability Study and the Technical Specifications. This discrepancy was reported in a Licensee Event Report (LER-87-025, for DPR-29, dated November 1987). The Quad Cities Station Technical Specifications (DPR-29 and DPR-30) require a 90% methyl iodide removal efficiency for the Standby Gas Treatment (SBGT) and Control Room Emergency Filtration (CREF) systems. The Control Room Habitability Study (June 1982) assumed a 99% removal efficiency for both systems. The original LER was supplemented in April 1988 (Revision 1) and August 1988 (Revision 2). These revisions documented the results of analyses which indicated that the maximum thyroid dose allowed for Control Room personnel would not have been exceeded. In addition, the analyses indicated that the current SBGT efficiency (90%) is adequate, provided that CREF efficiency of 99% is implemented. A revised habitability study was developed to define an operating envelope which conforms with General Design Criteria 19 (GDC-19) and Standard Review Plan, Section 6.4 (SRP 6.4) guidelines for thyroid dose limitations. The revised habitability study was also developed for Dresden Nuclear Power Station (DNPS). Subsequent to identification of the issue in November 1987, both Dresden and Quad Cities Stations have administratively controlled the proper efficiencies through controlled station procedures.

Although the issue identified in the Quad Cities Station LER applies to the Dresden Station Control Room Habitability Study, Dresden does not have a Technical Specification for the CREF system. Commonwealth Edison submitted proposed DNPS Technical Specifications for several items in response to Generic Letter 83-36 and NUREG 0737 in October 1984. This included proposed Technical Specifications for the CREF system. While other items were approved in Amendments 90 and 83 for DPR-19 and DPR-25 (Units 2 and 3) respectively, the specifications for the CREF system were not approved pending further staff review. The NRC approved Technical Specifications for the QCNPS CREF system in Amendments 94 and 90 for DPR-29 and DPR-30 (Units 1 and 2) respectively.

II. DESCRIPTION OF SYSTEM CONFIGURATION AND DESIGN BASIS

Both Dresden and Quad Cities Stations employ a dual containment design, serviced by a secondary containment system that includes four parts: 1) a single reactor building which completely encloses both reactors and the primary containment/pressure suppression systems, 2) a secondary containment isolation and control system that provides for normal reactor building ventilation and is automatically controlled at a slight negative pressure along with ventilation isolation valves that respond to loss-of-coolant and refuel accident sensor signals, 3) a standby gas treatment system, and 4) a 310-foot tall plant chimney.

The Standby Gas Treatment (SBGT) system consists of two complete subsystems, each capable of producing the negative pressure required to minimize the ground level release of airborne radioactivity. The design of the system ensures that each subsystem is capable of maintaining offsite doses below 10 CFR 100 guidelines for postulated loss-of-coolant accidents or refueling accidents. Each SBGT subsystem consists of a demister, an electric inlet heater, a rough pre-filter, HEPA pre-filters, a charcoal adsorber, a HEPA post-filter, a 100% capacity fan, and inlet and outlet dampers.

During isolation of secondary containment, the SBGT system filters the exhaust air from the reactor building and discharges the processed air to the main chimney. The charcoal adsorption section of the SBGT subsystem was designed and built to support elemental iodine and methyl iodide decontamination efficiencies of 90%, using a single two-inch charcoal bed.

A single control room is shared by both units at both Dresden and Quad Cities Stations. The control room at each site is equipped with an emergency air filtration unit (AFU). This system is designed to conform with GDC-19 and SRP 6.4 guidelines for thyroid dose limitations. The AFU consists of a roughing filter, an electric inlet heater, pre- and post-HEPA filters, a charcoal adsorber, two 100% capacity booster fans in parallel, a fire suppression valve, and inlet and outlet dampers.

The AFU induces unfiltered outside air to the roughing filter. This filter removes atmospheric dust and particulate with an efficiency rating of 80% to 85%. The booster fans also provide 100% capability to draw outside air throughout the filtering media. Dampers are provided for isolation of the idle booster fan.

After the roughing filter, the air passes through an electric inlet heater. This maintains the Relative Humidity (RH) of incoming air to less than 70%. Following the heater, the air passes through a pre-HEPA filter, the charcoal adsorber, and a post-HEPA filter. Together, these filters remove radioactive iodine and methyl iodide from the air stream. The adsorption section of the CREF system is designed and built to support elemental iodine and methyl iodide decontamination efficiencies of 99% using double two-inch charcoal beds.

III. PROPOSED CHANGES

A. The proposed changes to the Quad Cities Station CREF and SBGT system Technical Specifications (TS) will:

- Revise CREF system charcoal filter efficiency values to adopt revised design values.
- Revise laboratory test conditions for the activated carbon test (CREF and SBGT).
- Revise SBGT operability demonstration requirements when one SBGT subsystem is inoperable.
- Delete interim SBGT system surveillance requirements which are no longer applicable.
- Adopt a surveillance requirement for Control Room temperature (CREF system), consistent with BWR STS.
- Revise the units for system flow (CREF system) from cubic feet per minute (CFM) to standard cubic feet per minute (SCFM).
- Revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13. This includes:
  - ✓ Addition of a Service Usage frequency requirement for the CREF system.
  - ✓ Revision of the surveillance requirements and acceptance criteria for the CREF and SBGT system inlet heaters to BWR-STS requirements.

  In addition, the STS format, and wording will establish uniformity between Dresden Station Technical Specifications (TS) and Quad Cities Station TS.

B. The proposed changes to the Dresden Station SBGT system Technical Specifications will:

- Revise laboratory test conditions for the activated carbon test
- Revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13. This includes:
  - ✓ Revision of the Service Usage frequency requirement.
  - ✓ Revision of the surveillance requirements and acceptance criteria for the inlet heater.

  In addition, the STS format and wording will establish uniformity between Dresen Station Technical Specifications (TS) and Quad Cities Station TS.

C. The proposed CREF system Technical Specifications at Dresden Station will be based upon the Quad Cities specifications and will incorporate the proposed changes to the Quad Cities specifications. As previously stated,the proposed changes will revise the format and wording of the Limiting Conditions for Operation (LCO) and

Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13. This will establish uniformity between Dresden Station Technical Specifications (TS) and Quad Cities Station TS.

D. The proposed changes to the Secondary Containment system Technical Specifications at Quad Cities and Dresden Station will add an STS action provision for loss of secondary containment integrity.

E. The proposed changes are summarized as follows:

1. Quad Cities Station

a. CREF System

i. Revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13.

ii. Revise the acceptance criteria and test conditions for laboratory carbon sample analysis to show less than or equal to 0.5% methyl iodide penetration (overall). The revision will also require laboratory testing criteria to meet ASTM D 3803-89 when tested at 30°C and 70% relative humidity.

iii. Change the acceptance criteria for in-place penetration and bypass leakage testing of the charcoal adsorbers and HEPA filters to 0.05%, using 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.

iv. Adopt a surveillance requirement for Control Room temperature, consistent with BWR-STS requirements.

v. Revise the units of system flow from cubic feet per minute (CFM) to standard cubic feet per minute (SCFM).

vi. Revise the acceptance criteria for the inlet heater surveillance requirements to adopt an STS and LaSalle Station based kilowatt requirement.

vii. Adopt a service usage requirement for performance of SRs.

b. SBGT System

i. Revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13.

ii. Change the acceptance criteria and surveillance requirements for in-place penetration and bypass leakage testing to the format, wording and requirements of BWR Standard Technical Specifications (STS) and Generic Letter 83-13.

iii. Revise the acceptance criteria for laboratory carbon analysis to adopt the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13. The revision will also require laboratory testing criteria to meet ASTM D 3803-89 when tested at 30°C and 70% Relative Humidity.

iv. Delete the SBGT requirement to demonstrate operability of the other subsystem whenever a subsystem is inoperable.

v. Delete SBGT interim surveillance requirements which serve no further purpose.

vi. Revise the acceptance criteria for the inlet heater surveillance requirements to adopt an STS and LaSalle Station based kilowatt requirement.

c. Secondary Containment System

Revise the action provision to require the suspension of operations with a potential for draining the reactor vessel upon relaxation of Secondary Containment integrity.

2. Dresden Station

a. CREF System

The proposed Technical Specification for the Dresden Station CREF system is based upon the Quad Cities TS. As such, the proposed changes to the Quad Cities TS have been incorporated into the proposed Dresden Station TS. As previously stated, the proposed changes will revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Techical Specifications (STS) and Generic Letter 83-13. This will establish unifomity between Dresden Station TS and Quad Cities Station TS.

b. SBGT System

i. Revise the format and wording of the Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) to establish consistency with the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13.

ii. Change the acceptance criteria and surveillance requirements for in-place penetration and bypass leakage testing to the format, wording and requirements of BWR Standard Technical Specifications (STS) and Generic Letter 83-13.

iii. Revise the acceptance criteria for laboratory carbon analysis to adopt the format and wording of BWR Standard Technical Specifications (STS) and Generic Letter 83-13. The revision will also require laboratory testing criteria to meet ASTM D 3803-89 when tested at 30° and 70% Relative Humidity.

c. Secondary Containment System

Revise the Secondary Containment action provision to require the suspension of operations with a potential for draining the reactor vessel upon relaxation of Secondary Containment integrity.

IV. BASES FOR THE CURRENT REQUIREMENTS

A. Filter Efficiencies/Laboratory Test Conditions

The current LCOs for the SBGT and CREF systems require that two SBGT subsystems and the CREF system be operable when Secondary Containment integrity is required. The LCOs are further clarified with periodic performance requirements:

- In-place DOP tests of HEPA filters to show $\leq$ 1% DOP penetration.
- In-place halogenated hydrocarbon tests of charcoal adsorber banks to show $\leq$ 1% penetration.
- Laboratory carbon sample analysis to show $\geq$ 90% methyl iodide removal efficiency when tested at 130°C and 95% RH.

The LCOs also define post-maintenance requirements that ensure the periodic performance requirements are satisfied whenever maintenance has been performed that could affect the leaktight integrity of the applicable component.

The periodic performance requirements and acceptance criteria for the CREF system ensures that the removal efficiencies for the charcoal adsorbers and HEPA filters meet the design values assumed in the Control Room Habitability Study. This in turn ensures that the system is capable of maintaining doses to control room personnel less than GDC-19 guidelines. The acceptance criteria in the CREF and SBGT system Technical Specifications was non-conservative with respect to the assumed design values in the initial Control Room Habitibility Study (CRH). Specifically, the 1981 CRH study assumed a methyl iodide removal efficiency of 99% for both the CREF and SBGT systems. The Technical Specifications for these two systems incorrectly required 90% methyl iodide removal efficiency. Although the Technical Specification criteria were non-conservative with respect to the assumed values, an analysis of records and additional calculations indicated that the maximum thyroid dose for Control Room personnel would not have exceeded GDC-19 limits. In addition, the analysis indicated that the current SBGT Technical Specification (90% methyl iodide removal efficiency) is adequate to meet GDC-19 and SRP

6.4 limits, provided that the more conservative CREF efficiency (99% methyl iodide removal) is implemented. The test condition requirements for the laboratory analysis of activated carbon are specified to approximate operating or accident conditions which would severely reduce the performance of activated carbons. The current values of 130°C and 95% Relative Humidity (RH) are not realistic and potentially non-conservative. The current requirements for relative humidity (95%) assumes the worst case inlet air condition and does not take credit for the presence of a heater. The current requirement for temperature (130°C) resulted from an inadequate design review of the initial CRH study and applicable testing standards.

B. **SBGT Operability Demonstration (Quad Cities only)**

Current SBGT action provisions define a 7-day Allowable Outage Time (AOT) if one SBGT subsystem is inoperable. The action provision also requires that the remaining subsystem be demonstrated operable within 2 hours, and daily thereafter. The original need for demonstrating operability was due to a lack of industry plant operating history and equipment failure data. The current requirements are inconsistent with present day BWR licensing philosophy which base operability upon satisfactory completion of periodic performance tests.

C. **Filter Inlet Heater Performance and Operability Demonstration**

The current Quad Cities Technical Specification for the CREF system inlet heater requires that the heater is operable during the monthly CREF system surveillance, and that the operability of the heater is demonstrated once per operating cycle. The purpose of the current requirement for heater operability during the monthly surveillance is to reduce the build-up of moisture on the HEPA filters and charcoal adsorbers. The intent of the once per cycle operability demonstration is to detect degradation of inlet heater performance. Detection and correction of performance degradation will ensure that the inlet heater can meet the design basis of maintaining the relative humidity of inlet air to less than 70% under the worst case environmental conditions (95°F and 100% RH). The current acceptance criteria for demonstration of heater operability specifies a required differential temperature (ΔT) as a linear function of the flow rate. If the flow based ΔT requirement is met, the heater will maintain the relative humidity at the inlet to the charcoal adsorbers to less than 70% under the worst case environmental conditions (95°F and 100% RH).

The current Technical Specifications for the SBGT system at Quad Cities and Dresden Stations require that the heater is operating at rated power during the monthly SBGT system surveillance, and that the operability of the heater at rated power is demonstrated once per operating cycle. The purpose of the current requirement for heater operability during the monthly surveillance is to reduce the build-up of moisture on the HEPA filters and charcoal adsorbers. The intent of the once per cycle operability demonstration is to detect degradation of inlet heater performance. Detection and correction of performance degradation will ensure that the inlet heater can meet the design basis of maintaining the relative humidity of inlet air to less than 70% under the worst case inlet conditions.

D. Service Usage Frequency Requirement

The current required frequencies for periodic performance tests are listed below:

- **SBGT (Quad Cities):** Once per 1440 hours of system operation; or once per operating cycle but not to exceed 18 months
- **SBGT (Dresden):** Once per 720 hours of system operation; or once per operating cycle but not to exceed 18 months.
- **CREF (Quad Cities):** Once per operating cycle but not to exceed 18 months.

The service usage frequency requirement (720 and 1440 hours) defines the maximum time allowed between consecutive surveillances which will ensure the ability to meet the applicable performance requirement during the interval, given potential system degradation. The Dresden Station SBGT service usage frequency (720 hours) reflects current STS and licensing philosophy for atmospheric cleanup systems. The Quad Cities frequency of 1440 hours was the original service usage test frequency. CECo has verified the appropriateness of this frequency through successful completion of consecutive performance tests.

E. Secondary Containment Action Provisions

The current action provision for the CREF system requires the operability of the system when secondary containment integrity is required except during the Allowable Outage Time (AOT) and during surveillance testing. The current LCO for Secondary Containment does not include the STS action provision to suspend operations with a potential for draining the vessel when Secondary Containment integrity is relaxed.

F. Administrative Changes

The proposed changes to the Dresden Station and Quad Cities Station Technical Specifications establish consistency with the BWR-STS and uniformity between the specifications of the two stations.

V. DESCRIPTION AND BASES FOR THE PROPOSED CHANGES

A. Filter Efficiencies/Laboratory Test Conditions

The design basis assumptions used in the "Control Room Habitability Study," issued in December 1981 and revised in June 1982, assumed that SBGT adsorption and filtration efficiencies were 99% for organic iodide, elemental iodine, and particulate iodine removal. This assumption was different than the original Technical Specification organic iodide removal efficiency of 90%. For the CREF system, a 99% adsorption efficiency and 99.9% filtration efficiency were assumed as opposed to the Technical Specification 90% and 99% requirements. A reanalysis of the Control Room Habitability was performed and subsequently issued in March, 1988. The reanalysis utilized corrected assumptions of filter efficiencies for SBGT (90% filtration and 90% adsorption) and CREF (99% filtration and 99% adsorption).

In August 1989, CECo and NRC (NRR and Region III) representatives conducted a technical meeting to discuss the reanalysis of the

Control Room Habitability Study for Dresden, Quad Cities, and LaSalle Stations. During that meeting, CECo proposed a multi-action level approach to the acceptance criteria for laboratory analysis of activated charcoal samples. The multi-action level approach was developed by CECo to evaluate any potential degradation of the charcoal, and to implement corrective actions which will ensure that the methyl iodide removal efficiency will remain above the dose analysis basis throughout the surveillance interval. Subsequent discussions between CECo and the NRC representatives (teleconferences) led to the conclusion that the multi-action level approach provides a sufficient margin of safety above the conservatisms contained in the calculated dose analysis (as described in the Dresden and Quad Cities Control Room Habitability Study).

Enclosure A provides the proposed multi-action level acceptance criteria for laboratory analysis of activiated charcoal samples. This includes progressively restrictive remedial actions if the associated acceptance criteria are not met. Action Levels I and II provide additional assurance that the Technical Specification LCO and dose calculation basis are not exceeded. CECo will incorporate these Action Levels into appropriate Station controlled procedures following approval of this proposed amendment.

The current laboratory test conditions for carbon test canisters of 130°C and 95% RH have been determined to not be realistic and potentially non-conservative. While testing at 95% RH is conservative for atmospheric cleanup systems with an inlet heater, the effects are offset when testing at 130°C. The higher temperature utilized during the equalization portion of the activated carbon test has a regenerative effect on the charcoal (i.e., the adsorbed radioactive materials are driven off/released). The proposed laboratory test conditions (30°C and 70% RH) are consistent with the requirements of ASTM D 3803-89, "Standard Test Method for Nuclear-Grade Activated Carbon" (30°C and 95% RH) and the specific operating conditions for the SBGT and CREF systems. Both the SBGT and CREF systems are equipped with an electric inlet heater, which is designed to reduce relative humidity to 70% at the inlet to the charcoal adsorbers.

B. <u>SBGT Operability Demonstration (Quad Cities only)</u>

The original need for demonstrating operability of redundant subsystems was based upon a lack of industry plant operating history and equipment failure data. However, plant operating history now shows that testing of redundant systems when one system is inoperable is not necessary to provide adequate assurance of system operability. In addition, removal of the redundant system from service for testing increases the risk that the redundant system will fail. Actual observations of this configuration have indicated that failures of the redundant system are related to the testing itself, and are not an indication that the system would have failed should it have been needed. Operability of these subsystems can be verified through an administrative check of valve lineups, electrical lineups and instrumentation requirements. If these have not changed since the most recent verification of operability, then the subsystem can be considered operable. The current requirement for redundant subsystem testing is inconsistent with current BWR licensing philosophy which bases operability on satisfactory performance of monthly, quarterly, refueling, and post-maintenance performance tests.

C. **Filter Inlet Heater Performance**

The proposed changes to the CREF and SBGT system inlet heater specifications clarify the acceptance criteria for the once-per-cycle operability demonstration and the monthly operating surveillance. The current specifications (Quad Cities CREF and SBGT; Dresden SBGT) require a once-per-cycle demonstration of operability at rated power. This requirement does not specify an acceptable value for rated power. The rated capacity of the heaters ensures that the relative humidity of the inlet air (to the charcoal adsorbers) is less than 70%. The proposed change adopts an acceptance criteria based upon the rated capacity of the heater. This is consistent with STS surveillance requirements, and provides a method to accurately verify the ability of the inlet heater to reduce the relative humidity of inlet air to less than 70%. In addition, the proposed change establishes a voltage correction to the rated capacity acceptance criteria. This is based upon a similar amendment for the LaSalle County Station TS (NPF-11 and NPF-18). By SER dated October 2, 1985, the NRC indicated that the proposed change to add a voltage correction to the rated kilowatt acceptance criteria for the Control Room Emergency Air Make-up Heaters was acceptable. This position was based upon the fact that the voltage correction did not affect the ability of the heater to reduce the relative humidity to the required level. The SBGT system inlet heater at Quad Cities Station and Dresden Station has been sized to a rated capacity of 30.0 kilowatts. The CREF system inlet heaters at Quad Cities Station and Dresden Station have been sized to a rated capacity of 12.00 kilowatts.

Variation in supply voltage from 480 volts is expected; and therefore heater power consumption will be affected by the supply voltage changes. The proposed performance acceptance criteria for the SBGT and CREF system inlet heaters would be:

> "Inlet heaters dissipate X $\pm$ Y Kw when tested in accordance with ANSI N510-1980. This reading shall include the appropriate correction for variation from 480 volts at the bus."

The intent of the SBGT and CREF inlet heater specifications is to monitor any performance degradation of the inlet heater. The proposed changes will ensure that the heaters will continue to provide the rated capacity necessary to ensure a RH of less than 70% at the charcoal adsorber inlet. Allowing for a voltage correction and rated Kw value with an acceptable range will prevent future ambiguities in interpreting the testing requirements.

The proposed change to the CREF system and SBGT system inlet heater monthly surveillance requirement revises the acceptance criteria from "operable" to "operating". The proposed change clarifies the acceptance criteria with respect to the purpose of the monthly surveillance. The purpose of the monthly surveillance is to reduce the build-up of moisture on the HEPA filters and charcoal adsorbers, not to detect degradation of the heater (once-per cycle operability demonstration). The proposed change provides an unambiguous and efficient method to verify acceptability of the monthly surveillance, and eliminates unnecessary performance of the once-per cycle operability demonstration, now performed each month.

D. Service Usage Frequency Requirement

The proposed change to the Dresden Station SBGT system service usage requirement extends the interval from 720 hours to 1440 hours. Available test data indicate that the surveillance requirements could have been consistently met for consecutive periods, thereby justifying the lower frequency of testing. The current Quad Cities Station CREF system frequency does not specify a service usage requirement. The proposed change adopts a service usage requirement of 1440 hours. This extended interval is also justified based upon available test data. These data indicate that the surveillance requirements could have been consistently met for consecutive periods, thereby justifying the lower frequency of testing.

E. Secondary Containment Action Provisions

The current Secondary Containment action provisions are not consistent with STS provisions and current BWR licensing philosophy. The proposed change is consistent with STS, and will add a requirement to suspend operations with a potential for draining the reactor vessel when Secondary Containment integrity is relaxed.

F. Administrative Changes

The proposed typographical and editorial changes to the text of the Dresden Station and Quad Cities Station TS are intended to clarify the intent of the TS, establish uniformity between the TS of the two stations, and establish consistency with BWR Standard Technical Specifications. This consistency will facilitate a uniform interpretation of the specifications and enhance future revisions to the specifications.

G. Control Room Temperature Surveillance

The current CREF system specification does not include a surveillance for Control Room temperature. The BWR-STS requires a verification of Control Room temperature every twelve hours, with an action level of (90°F).

The design objective of the Control Room HVAC system is to maintain the Control Room environment suitable for plant personnel habitability and for equipment functional reliability under all plant conditions. The current Control Room HVAC system for both Dresden and Quad Cities Stations is capable of maintaining the Control Room temperature within the range of 70°F to 80°F. This range approximately coincides with the NUREG 0700 (Guidelines for Control Room Design Review) temperature range of 73°F to 78°F for a comfort zone. This criteria is based upon the ASHRAE 55-74 "Comfort Standard". Currently, however, there is no specific habitability criteria applicable to operation of the Control Room HVAC system in a degraded mode. Due to the relative large number of failures of Control Room air conditioning systems reported in Licensee Event Reports, the NRC-sponsored Control Room Habitability Working Group recommended the establishment of a temperature and relative humidity

criteria for operation of the Control Room HVAC system in a degraded mode (as described in the June 1984 "Control Room Habitability" Report of the NRC Control Room Habitability Working Group). This group determined that an effective temperature range from 85°F at 100% Relative Humidity (RH) to 104°F at 20% RH is the maximum allowable range for reliable human performance. For equipment functional reliability, the current temperature range (70°F to 80°F) is well below the maximum allowable temperature of 120°F for the continuous duty rating of critical Control Room instrumentation. The value of 120°F is based upon the Condition 1 assumption for thermal induced equipment failure in a station blackout for the control room complex (NUMARC 87-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors").

The proposed surveillance acceptance criteria of 95°F is based upon the maximum 120°F criteria for equipment functional reliability, with sufficient margin to ensure reliable human performance. The proposed temperature surveillance limit is also within the recommended comfort zone, as described in the June 1984 "Control Room Habitability" Report of the NRC Control Room Habitability Working Group.

H. Flow Measurement Units

The current CREF system specification at Quad Cities Station refers to system flow in units of cubic feet per minute (CFM). The proposed change would revise the units of measurement from CFM to standard cubic feet per minute (SCFM). The system flow instrumentation is calibrated to SCFM. In order to verify compliance with the technical specification, the flow rate at SCFM must be converted to CFM. The proposed change would allow direct readout and comparison of the system flow rate with the applicable technical specification requirement. Since the calculations for Control Room habitability (CRH) with respect to the CREF system are performed with SCFM, the proposed change does not adversely impact the assumptions of the CRH study.

ENCLOSURE A

Proposed Charcoal Laboratory Testing Criteria

ACTION LEVEL I	CREF 4" Bed	SBGT 2" Bed
Procedural Initial Action Level - See Steps 2 to 4	<99.825% Eff. (≥0.175% Pen.)	<98.0% Eff. (≥2.0% Pen.)
ACTION LEVEL II		
Procedural Action Level See Step 5	≤99.6% Eff. (≥0.4% Pen.)	<96.0% Eff. (≥4.0% Pen.)
ACTION LEVEL III		
Tech. Spec. LCO Action Level-See Step 6	<99.5% Eff. (≥0.5% Pen.)	<90.0% Eff. (≥10.0% Pen.)
DOSE ANALYSIS BASIS	99.0% Eff. (1.0% Pen.)	90.0% Eff. (10.0% Pen.)

NOTE: The terms "above" and "below" in the attached list of actions are used with respect to the efficiency values and not the corresponding penetration values.

Proposed Actions for Charcoal Laboratory Tests

1. If periodic surveillance testing results are above the Action Level I efficiency value for the filter of interest, no action is required.

2. If periodic surveillance testing results are between Action Levels I and III, retest new sample and verify results within 45 days.

3. If initial retest results are above Action Level I, no action is required.

4. If initial retest results are between Action Levels I and II;

   a. Replace charcoal within the next 90 days, or

   b. Retest as above every 90 days for a maximum of two additional retests (180 days) until charcoal is replaced or results of retesting are above A Level I.

5. If any retest results are between Action Levels II and III, replace charcoal within the next 30 days.

6. If periodic testing or retesting results are confirmed to be below Action Level III, declare system inoperable per TS and follow appropriate action statement and reporting requirements.

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ATTACHMENT 2

SUMMARY OF THE PROPOSED CHANGES TO APPENDIX A

TECHNICAL SPECIFICATIONS

QUAD CITIES STATION

DPR-29 and DPR-30

Unit 1 (DPR-29)
Unit 2 (DPR-30)

DPR-29 Page 3.7/4.7-12 through 17
DPR-30 Page 3.7/4.7-7 through 7c

1. The proposed changes to the Standby Gas Treatment Technical Specifications (TS 3.7.B/4.7.B) adopt the wording and format of the BWR Standard Technical Specifications (STS) and Generic Letter (GL) 83-13. These administrative changes establish consistency with accepted BWR technical specifications and establish uniformity between Quad Cities and Dresden Station Technical Specifications.

2. The action provision of current TS 3.7.B.1.a to demonstrate operability of the redundant SBGT subsystem when the other subsystem is inoperable has been deleted. This proposed change is based upon current STS and BWR accepted philosophy that demonstration of the redundant system is not necessary to provide adequate assurance of system operability. The supporting surveillance requirement (SR) 4.7.B.1.a has also been deleted.

3. Laboratory carbon sample test conditions of current TS 3.7.B.2.c are proposed that would change the laboratory test conditions from 130°C and 95% Relative Humidity to 30°C and 70% Relative Humidity to comply with the requirements of ASTM D 3803-89 and operating conditions for the SBGT system.

4. The proposed change to current SR 4.7.B.2.b(3), inlet heater demonstration, is based on the similar STS and LaSalle County Station Technical Specifications that provide a surveillance acceptance criteria based on detecting heater performance degradation as a function of power dissipation in kilowatts, when corrected to 480 volts. This proposed change will ensure that the design heater capacity is maintained within an acceptable range that is easily verified and is not susceptible to the ambiguities associated with the interpretation of test data. Additionally, SR 4.8.B.1.a is reworded to reflect the need for heater operation during the monthly 10 hour run to reduce the buildup of moisture on the adsorbers and HEPA filters.

5. Specification 4.6.B.4 is deleted since this interim requirement serves no further purpose.

JLS/lk:ZNLD/1466:13

DPR-29 Page 3.7/4.7-18
DPR-30 Page 3.7/4.7-9

Specification 3.7.C.1.d is changed to reflect the need to suspend operations with a potential for draining the reactor vessel when secondary containment integrity is relaxed.

DPR-29 Page 3.7/4.7-30 through 31
DPR-30 Page 3.6/4.7-17 through 18

Editorial changes are made to the bases section to: 1) reflect commitments to the testing methods of Regulatory Guide 1.52, Revision 2, March 1978 and ANSI N510-1980; 2) establish consistency between the Technical Specifications/Bases for Quad Cities and Dresden Stations.

DPR-29 Page 3.8/4.8-18 through 21
DPR-30 Page 3.8/4.8-14a through 14b

1. The proposed changes to the Control Room Emergency Filtration System Technical Specifications (TS 3.8.H/4.8H) adopt the wording and format of the BWR Standard Technical Specifications (STS) and Generic Letter (GL) 83-13. These changes establish consistency with accepted BWR technical specifications. The proposed changes also establish uniformity between Quad Cities Station and Dresden Station Technical Specifications.

2. Current Specifications 3.8.H.2.b and c are revised to reflect a 99% methyl iodide efficiency. The proposed acceptance criteria for in-place halogenated hydrocarbon tests and results of laboratory carbon sample analysis are changed to require a 99.5% overall decontamination efficiency by demonstration of less than or equal to 0.05% bypass leakage when performing halogenated hydrocarbon test and 0.5% penetration when conducting laboratory carbon sample analysis. The in-place DOP testing criteria for HEPA filters (current specification 3.8.H.2) is revised to adopt the requirements of RG 1.52, Rev. 2, March 1978.

3. Laboratory carbon sample test conditions of TS 3.8.H.2.c are proposed that would change the test conditions from 130°C and 95% Relative Humidity to 30°C and 70% Relative Humidity to comply with the requirements of ASTM D 3803-89 and operating conditions for the CREF system.

4. This proposed change also adds a modified service usage frequency requirement consistent with the SBGT service usage requirement and STS philosophy.

5. The proposed change to current SR 4.8.H.2.b(3), inlet heater demonstration, is based on the similar STS and LaSalle County Station Technical Specifications that provide a surveillance acceptance criteria based on detecting heater performance degradation as a function of power dissipation in kilowatts, when corrected to 480 volts. This proposed change will ensure that the design heater capacity is maintained within an acceptable range that is easily verified and is not susceptible to the ambiguities associated with the interpretation of test data. Additionally, SR 4.8.H.1 is reworded to reflect the need for heater operation during the monthly 10 hour run to reduce the buildup of moisture on the adsorbers and HEPA filters.

DPR-29 Page 3.8/4.8-26
DPR-30 Page 3.8.4.8-19 through 19a

1. Editorial changes are made to the bases section to: 1) reflect commitments to the testing methods of Regulatory Guide 1.52, Revision 2, March 1978 and ANSI N510-1980; and, 2) establish consistency between the Technical Specifications/Bases for Quad Cities and Dresden Stations.

ATTACHMENT 3

SUMMARY OF THE PROPOSED CHANGE TO APPENDIX A

TECHNICAL SPECIFICATIONS

DRESDEN STATION

DPR-19 AND DPR-25

UNIT 2 (DPR-19)
UNIT 3 (DPR-25)

DPR-19 Page 3/4.7-19 through 23
DPR-25 Page 3/4.7-19 through 23

1. The proposed changes to the Standby Gas Treatment System Technical Specifications (TS 3.7.B/4.7.B) adopt the wording and format of the BWR Standard Technical Specifications (STS) and Generic Letter (GL) 83-13. These administrative changes establish consistency with accepted BWR technical specifications and establish uniformity between Quad Cities and Dresden Station Technical Specifications.

2. Laboratory carbon sample test conditions of current TS 3.7.B.2.c are proposed that would change the test conditions from 130°C and 95% Relative Humidity to 30°C and 70% Relative Humidity to comply with the requirements of ASTM D 3803-89 and operating conditions for the SBGT system.

3. The service usage test frequency (current SR 4.7.B.2.a), has been extended to 1440 hours based upon an evaluation of historical testing data.

4. The proposed change to the inlet heater operability demonstration, (current SR 4.7.B.2.b(3)), is based upon the similar STS and LaSalle County Station Technical Specifications that provide a surveillance acceptance criteria based on detecting heater performance degradation as a function of dissipated power in kilowatts when corrected to 480 volts. This proposed change will ensure that the design heater capacity is maintained within an acceptable range that is easily verified and is not susceptible to the ambiguities associated with the interpretation of test data. Additionally, current SR 4.7.B.1 is reworded to reflect the need for heater operation during the monthly 10 hour run to ensure that the buildup of moisture on the adsorbers and HEPA filters is reduced.

DPR-19 Page 3/4.7-27
DPR-25 Page 3/4.7-27

1. Specification 3.7.C.1.d is changed to reflect the need to suspend operations with a potential for draining the reactor vessel when secondary containment integrity is relaxed.

JLS/lk:ZNLD/1466:16

DPR-19 Page B3/4.7-45 and 46
DPR-25 Page B3/4.7-45 and 46

1. Editorial changes are made to the bases section to: 1) reflect commitments to the testing methods of Regulatory Guide 1.52, Revision 2, March 1978 and ANSI N510-1980; and, 2) establish consistency between the Technical Specifications/Bases for Quad Cities and Dresden Stations.

DPR-19 Page 3/4.8-21a through 21c (new pages); B 3/4.8-37
DPR-25 Page 3/4.8-21a through 21c (new pages); B 3/4.8-37

1. Technical Specifications and Bases are proposed for the CREF system (TS 3.8.I and 4.8.I). These specifications are consistent with the existing and proposed changes (Attachment 2) to the Quad Cities Station (DPR-29 and DPR-30) CREF system Technical Specifications (3.8.H and 4.8.H).

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