TXU Power
Comanche Peak Steam
Electric Station
P O Box 1002 E01
Glen Rose, TX 76043
Tel: 254 897 5209
Fax: 254 897 6652
mike.blevins@txu.com

Mike Blevins
Senior Vice President &
Chief Nuclear Officer

Ref: 10CFR50.90

CPSES-200401863
Log # TXX-04102
File # 00236

August 5, 2004

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
LICENSE AMENDMENT REQUEST LAR 04-05
CHANGE TO TECHNICAL SPECIFICATION (TS) 3.7.10,
CONTROL ROOM EMERGENCY FILTRATION/PRESSURIZATION
SYSTEM (CREFS)

Gentlemen:

Pursuant to 10CFR50.90, TXU Generation Company LP (TXU Power) hereby requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications. This change request applies equally to both units.

The proposed change revises TS 3.7.10 entitled "Control Room Emergency Filtration /Pressurization System (CREFS)" to add a new Condition for an inoperable Control Room boundary. The new, plant specific Condition is added to the LCO Actions as follows: Condition B "Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening (breach) to the Cable Spreading Room." The associated Required Action B.1 "Restore control room boundary to OPERABLE status" has a Completion Time of 14 days. This proposed new Condition and Completion Time is requested to accommodate the implementation of planned future upgrade modifications which require opening the CPSES Common Control Room boundary to the Cable Spreading Room for an extended time period (> 24 hours).

This proposed change also revises the current existing Conditions of TS 3.7.10 to be consistent with the addition of new Condition B as noted above. These changes include reformatting the Conditions and deleting description added in License Amendment Number 108 which is no longer effective.

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Attachment 1 provides a detailed description of the proposed change, a safety analysis of the proposed change, TXU Power's determination that the proposed change does not involve a significant hazard consideration, a regulatory analysis of the proposed change and an environmental evaluation. Attachment 2 provides the affected Technical Specification pages marked-up to reflect the proposed change. Attachment 3 provides a proposed change to the Technical Specification Bases for information only. Attachment 4 provides the retyped Technical Specification pages which incorporate the requested change. Attachment 5 provides the retyped Technical Specification Bases pages which incorporate the proposed change. These changes will be processed per CPSES site procedures.

TXU Power requests approval of the proposed license amendment by February 1, 2005 to be implemented within 120 days of the issuance of the amendment. The approval date was selected to support the implementation of the Turbine Generator Protection System Digital Modification during the eighth refueling outage for Unit 2 (2RF08) currently scheduled to start in March, 2005. This modification will require opening the Control Room pressure boundary in excess of the current Completion Time of 24 hours. Other openings of the Control Room boundary to support modifications will be required during the eleventh refueling outage for Unit 1 (1RF11 - Fall, 2005) and in additional outages beyond year 2005.

In accordance with 10CFR50.91(b), TXU Power is providing the State of Texas with a copy of this proposed amendment.

This communication contains the following new commitment which will be completed as noted:

Commitment Number	Commitment
[# 27321]	[In order to ensure that operator protection objectives will continue to be met during the 2RF08 and 1RF11 planned boundary openings, TXU Power intends to implement the following measures: (1) administrative controls to provide a designated, readily available individual(s) who can be readily contacted by the control room (e.g., audible range or via radio, plant gaitronics system). The individual(s) will have a method to rapidly close the opening when needed for control room isolation; and (2) provisions for operator action to secure the Uncontrolled Access Area Ventilation supply and exhaust fans at the onset of an accident.]

Should you have any questions, please contact Mr. Connie Wilkerson at (254) 897-0144 or e-mail at cwilker3@txu.com.

I state under penalty of perjury that the foregoing is true and correct.

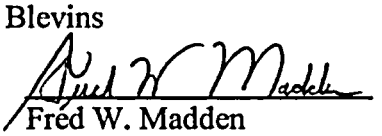
Executed on August 5, 2004.

Sincerely,

TXU Generation Company LP

By: TXU Generation Management Company LLC
Its General Partner

Mike Blevins

By: 
Fred W. Madden
Regulatory Affairs Director

CLW/clw

Attachments
1. Description and Assessment
2. Markup of Technical Specification Pages
3. Markup of Technical Specification Bases Pages (for information only)
4. Retyped Technical Specification Pages
5. Retyped Technical Specification Bases Pages (for information only)

c - B. S. Mallett, Region IV
W. D. Johnson, Region IV
M. C. Thadani, NRR
Resident Inspectors, CPSES

Ms. Alice Rogers
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78756-3189

ATTACHMENT 1 to TXX-04102

DESCRIPTION AND ASSESSMENT

LICENSEE'S EVALUATION

1.0 DESCRIPTION

By this letter, TXU Generation Company LP (TXU Power) requests an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) by incorporating the attached change into the CPSES Unit 1 and 2 Technical Specifications (TS). Proposed License Amendment Request (LAR) 04-05 is a request to revise Technical Specification (TS) 3.7.10, "Control Room Emergency Filtration/Pressurization System (CREFS)" for Comanche Peak Steam Electric Station (CPSES) Units 1 and 2.

CPSES has a Common Control Room design and the specifications for the CPSES CREFS allow the Control Room boundary to be inoperable for up to 24 hours. In CPSES License Amendment Number 108 (Reference 1), the NRC approved a one-time alternative Completion Time for LCO 3.7.10, Condition B "Two CREFS Trains inoperable due to inoperable Control Room boundary," which extended the time the boundary could be inoperable to 14 days; however, this alternative 14 day Completion Time was conditional based on the information provided in TXU Power's application and was specifically approved only for the Turbine Generator Control Digital Modification that was scheduled during the Unit 2 Refueling Outage 2RF07 (Fall, 2003) and Unit 1 Refueling Outage 1RF10 (Spring, 2004). The Completion Time alternative allowed by the Amendment 108 change is no longer effective.

CPSES now has a need to implement additional future upgrade modifications that will require opening the Control Room boundary for > 24 hours. Therefore, TXU Power proposes herein a more general and permanent change to LCO 3.7.10 to accommodate these modifications and required boundary openings. The current Completion Time of Required Action B.1 "Restore control room boundary to OPERABLE status" is 24 hours. TXU Power requests that LCO 3.7.10 be revised to add a new, plant specific Condition for an inoperable Control Room boundary as follows: Condition B "Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening (breach) to the Cable Spreading Room." The associated Required Action B.1 "Restore control room boundary to OPERABLE status" has a Completion Time of 14 days. This proposed Condition is specific to an opening (breach) between the CPSES Control Room and the adjacent Cable Spreading Room. A technical analysis has been performed for this breach pathway (see Section 4.0) concerning toxic gas and smoke, and radiological impacts. The technical analysis has verified that this breach will not significantly affect existing accident analyses or control room habitability; the requirements of General Design Criterion (GDC) 19 of Appendix A to 10 CFR Part 50 will continue to be met.

To be consistent with the addition of new Condition B as noted above, this proposed license amendment also re-identifies and revises the current Conditions for LCO 3.7.10. These changes are to properly reflect the addition of new Condition B, and re-identify/reformat the other Conditions in accordance with standard practices for writing the technical specifications. These proposed changes include re-identifying the current Condition B (with a 24 hour Completion Time) as new Condition C, and deleting description added previously in License Amendment Number 108 to Conditions B and E. The latter description and related one-time alternative 14 day Completion Time for an inoperable control room boundary is no longer effective.

As an example of the need for this proposed license amendment, in the upcoming Unit 2 Spring 2005 refueling outage (2RF08) and Unit 1 Fall 2005 refueling outage (1RF11) there is a planned Turbine Generator Protection System Digital Modification that will require floor penetrations in the Control Room boundary be opened to accommodate installation. The planned opening of the Control Room boundary during 2RF08 and 1RF11 will span a period of several days and require that twenty 8" X 9" cable penetration blockouts be opened between the Control Room and the Cable Spreading Room. In addition, 4" conduits may also be opened to accommodate cable pulls. In some cases, multiple penetrations will be simultaneously open. The analysis provided in Section 4.0 applies to these planned modifications and openings of the control room pressure boundary and supports (for these activities) the use of the proposed new TS 3.7.10 Condition B and 14 day Completion Time. In accordance with the revised TS 3.7.10 Bases proposed with this license amendment request, TXU Power has considered conservative, defense-in-depth administrative controls and/or compensatory measures for these control room boundary openings. To ensure that operator protection objectives will continue to be met during the 2RF08 and 1RF11 planned boundary openings, TXU Power intends to implement the following measures: (1) administrative controls to provide a designated, readily available individual(s) who can be readily contacted by the control room (e.g., audible range or via radio, plant gaitronics system). The individual(s) will have a method to rapidly close the opening when needed for control room isolation; and (2) provisions for operator action to secure the Uncontrolled Access Area Ventilation supply and exhaust fans at the onset of an accident. Under the administrative controls as noted above, conservative estimate of the time to seal all openings is three hours with cables running through all twenty 8' X 9" cable penetration blockouts.

Other modifications being considered beyond year 2005 will require similar openings to the Cable Spreading Room for installation.

This proposed TS change is requested to support the implementation of planned future modifications beginning with the Turbine Generator Protection System Digital Modification during the upcoming Unit 2 refueling outage (2RF08). An approval date of February 1, 2005 will accommodate this request. This change will also be needed for the next Unit 1 refueling outage (1RF11) scheduled for Fall, 2005 and for additional digital upgrade modifications being considered beyond year 2005 (i.e., Upgrade of Unit 1 & 2 Plant Computer; Unit 1 & 2 Diesel Engine Controls; Unit 1 & 2 Steam Generator Level Control; and Migrate the Unit 1 & 2 Feed Water Pump Mark V controls onto the TXP system).

No changes to the CPSES Final Safety Analysis Report are anticipated at this time as a result of this License Amendment Request.

2.0 PROPOSED CHANGE

The proposed change revises the Actions specified for TS 3.7.10 to add a new, plant specific Condition (identified as new Condition B) and to revise and reformat the existing current TS 3.7.10 Conditions B, C, D, E and F. The change also deletes description added previously to Conditions B and E by License Amendment Number 108. This description is no longer effective.

The proposed changes to TS 3.7.10 are shown in Attachments 2 and 4 and are as follows:

1. Add new Condition B "Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening (breach) to the Cable Spreading Room." The associated Required Action B.1"Restore Control Room boundary to OPERABLE status" has a Completion Time of 14 days.

2. Re-identify existing Condition B as new Condition C. Revise the Condition description to add the words "for reasons other than Condition B." Delete the alternative Completion Time "OR 14 days for a one time implementation for each unit of the Turbine Control Digital Modification to be completed during 2RF07 and 1RF10."

3. Re-identify existing Condition E as new Condition D. Revise the Condition description to add the words " OR Required Action and associated Completion Time of Condition B not met in MODE 5 or 6, or during movement of irradiated fuel assemblies", and delete the words "except for up to 14 days for a one time implementation for each unit of the Turbine Control Digital Modification to be completed during 2RF07 and 1RF10."

4. Re-identify existing Condition C as new Condition E. Revise the Condition description to add "or C" regarding the Required Action and associated Completion Time of Conditions not met in MODE 1, 2, 3 or 4.

5. Revise the description for existing Condition F to add the words "or C" regarding for reasons other than Condition.

6. Re-identify existing Condition D as new Condition G.

In summary, a TS 3.7.10 change is requested to allow the Control Room boundary to be opened to the Cable Spreading Room (and declared inoperable) for a time not to exceed 14 days. Fourteen (14) days is requested because the current schedule for future planned modifications shows that the Control Room pressure boundary will be declared inoperable approximately 11 days. Fourteen (14) days allows some margin that may be required due to unforseen implementation schedule changes. Consistent with the addition of new proposed Condition B, the current TS 3.7.10 Conditions are re-identified and revised accordingly. Description added in License Amendment 108 to Conditions B and E is deleted as it is no longer effective.

For information only, this LAR includes proposed associated changes to the Technical Specification Bases. The Bases are revised to reflect the above TS changes.

3.0 BACKGROUND

Ongoing Control Room Habitability/Boundary Integrity Issues

With respect to related and ongoing control room habitability and boundary integrity issues for CPSES, TXU Power notes the following information: (1) Integrated Tracer Gas and Component tests conducted in 2001 determined that unfiltered inleakage into the CPSES Control Room Envelope was 0 scfm (see Reference 2 for more information); (2) CPSES is currently continuing periodic evaluations (i.e., control room habitability assessments and tests) consistent with guidance provided in Regulatory Guide 1.196, Regulatory Position 2.7.1"Periodic Evaluations and Maintenance" and Regulatory Guide 1.197, Regulatory Position 1.5 "Periodicity." Also, in response to Generic Letter 2003-01 (Reference 3), TXU Power has provided the following response, in part:

> "TXU Energy believes that the positive pressure surveillance does verify the operability of the CREFS train and provides an indication of control room boundary integrity, although not confirmation. In light of the ASTM E741 testing results reported in Generic Letter 2003-01, inleakage testing appears to be the best method to confirm boundary integrity. Therefore, TXU Energy plans to submit a Technical Specification change to include periodic verification of control room inleakage. This change will take into consideration the CPSES control room envelope design, the current CPSES Technical Specifications, Standard Technical Specification Traveler TSTF-448, and the inleakage testing previously performed at CPSES. TXU Energy is aware that the NRC is currently reviewing TSTF-448 and has not yet approved it. It is anticipated that any issues that the NRC may have with TSTF-448 will be resolved in the near future. TXU Energy plans to submit the Technical Specification change to include periodic verification of control room inleakage by September 30, 2004, or within 90 days after TSTF-448 is available for use, whichever is later."

Notwithstanding the above, the current anticipated schedule/availability for an approved TSTF-448 does not support TXU Power's schedule as described in Section 1.0 for requesting a CPSES TS change by February 1, 2005. Accordingly, TXU Power submits this License Amendment Request 04-05 based on the existing CPSES philosophy, the need for installing upgrade modifications in the CPSES Common Control Room, and the information/evaluation provided herein. When TSTF-448 is approved and available for use, TXU Power intends to assess the TSTF-448 provisions against the reasons for requesting this amendment, and revise CPSES TS 3.7.10 accordingly as stated above.

CPSES Control Room Design/Boundary Integrity Discussion

The CPSES Control Room Emergency Filtration/Pressurization System (CREFS) design is zone isolation, with filtered recirculation air, and with a positive pressure. This design maximizes the iodine protection factors and minimizes the dose from iodine. The total unfiltered infiltration rate into the Control Room is conservatively assumed to be 12 scfm, including 10 scfm due to ingress/egress and 2 scfm leakage from the ductwork passing through the Control Room pressure boundary. Filtered inleakage through the closed dampers due to the pressure differential is also included. The damper leakage air will be filtered by the recirculation filtration units.

Because the control room door ingress/egress is to a stairwell which is equivalent to a two-door vestibule, backflow will not occur with the CPSES CREFS design and the 10 scfm is not applicable per Standard Review Plan (SRP) 6.4. The ductwork has all welded joints which were leak tested prior to operation. Therefore, the assumed unfiltered inleakage from adjacent areas is conservative with respect to the SRP review criteria.

The Control Room Habitability is maintained by limiting the inleakage of potentially contaminated air into the Control Room Envelope. The potential leakage paths for the Control Room Envelope include the control room enclosure (e.g., walls, penetrations, floors, ceilings, joints, etc.), and other potential paths such as pressurized ductwork from other HVAC systems, pressurized air systems (e.g., instrument air) or isolated HVAC intakes.

The CPSES Technical Specification surveillances require that the control room ventilation system be capable of maintaining positive pressure in the Control Room relative to adjacent areas. The Bases for this surveillance states that it verifies the capability of the CREFS to pressurize the Control Room Envelope. The Bases further state that a positive pressure of 0.125 inches water gauge in the Control Room with respect to adjacent areas helps to minimize the unfiltered inleakage into the Control Room boundary. This function was designed to ensure the integrity of the control room enclosure by limiting the actual unfiltered inleakage rate of the potentially contaminated air to a value below that assumed in the safety analyses. If the Control Room is at a positive pressure with respect to all interior and exterior areas adjacent to the boundary, leakage through the boundary from the low pressure adjacent areas to the higher pressure Control Room side is minimized. While this pressurization will not preclude 1) inleakage from adjacent areas that are at a higher pressure than that of the Control Room boundary, 2) inleakage from plant systems that penetrate the Control Room boundary, and are maintained at a higher pressure than that of the surrounding Control Room environment (provided the system breach occurs within the Control Room boundary) and 3) entrainment of contaminants into the Control Room environment through the seals on the suction side of the CREFS equipment (ducts seams, fan shaft seals, housing inspection doors etc), it is still an integral safety feature relied upon to meet General Design Criterion (GDC) 19 (Reference 4) requirements. The inability to pressurize the Control Room boundary puts the plant and its operators in a vulnerable condition which may result in excessive dose to the operators as well as the general public. It is noted that the three limitations of the pressurization test (described

above) are under evaluation by CPSES, the NRC, and the industry through NEI and are not specifically addressed in this request for a new Condition B and 14 day Competion Time.

The philosophy at CPSES has been to declare the boundary inoperable at the time it becomes known that there is a hole in the boundary that exceeds a pre-determined limit. The boundary is declared operable at the time when the opening is sufficiently sealed. The Control Room is sufficiently sealed when the determination can be made that the ability to pressurize the boundary to 0.125 inches water gauge at less than or equal to 800 cfm of makeup air is restored.

The note that modifies the LCO has been typically only used for the opening and closing of the Control Room doors for normal ingress and egress. So, for normal ingress and egress, the boundary is not considered to be inoperable. Furthermore, CPSES has determined a limiting set of Control Room boundary openings that may exist and not render the Control Room pressure boundary inoperable. In other words, if a hole in the boundary is less than a specified size (square inches) then one train of the Control Room pressurization units is capable of pressurizing the envelope to 0.125 inches water gauge at less than or equal to 800 cfm of makeup air. If planned maintenance or modifications will breach the boundary, the size of the opening is compared against the maximum allowable. If the breach exceeds the maximum allowable, the boundary is typically declared inoperable and must be restored within 24 hours.

During the period that any known breach exists, administrative controls are in place to address the breach commensurate with the size, expected duration, and location of the breach. Administrative controls and compensatory measures, in some cases, extend beyond the TS pressurization requirement. For example, security and fire protection may have their own set of actions to implement based on the size and location of the boundary breach. The need for administrative controls relative to Control Room boundary breaches are already established within existing site programs. This application will not affect the CPSES adherence to the use of any of the existing programs for these administrative controls/compensatory measures. This license amendment request is to accommodate the implementation schedule of the planned future modifications described in Section 1.0. In other words, the boundary will be knowingly breached under administrative controls. It may be required that CPSES be in the LCO of TS 3.7.10 for one extended duration or it may be that multiple entries and exits from the LCO are required to implement the proposed modification. In either case, the amount of time that CPSES will be in the LCO for T.S. 3.7.10 exceeds the current time allowed (i.e., 24 hours). The proposed 14 day Completion Time for Required Action B.1 represents a total of 14 days based on the time required to install a modification during an outage. It is intended to allow the option of 1) opening the Control Room boundary and leaving it open for 14 days, or 2) opening and closing the Control Room boundary entries and exits multiple times during a modification but not exceeding a total time in the LCO of 14 days. In either case, the total time from first opening until the final closing is planned within 14 days for each modification. During modification activities there may be times when the control room boundary is not needed to be opened; in this case the boundary will be sealed if the opportunity exists to do so efficiently. The Control Room

boundary will be left open for the duration of the modification if the opportunity to seal the boundary is not clearly advantageous.

For the planned 2RF08 and 1RF11 modifications, the basis of the three hours to seal all openings is as follows: The procedure used to reseal the penetrations in the Control Room floor is MSG-1018. Procedure MSG-1018 addresses the installation and re-work of penetration seals, which will be used in the process of pulling cables in the Control Room. CPSES also has Technical Evaluations (TE), EVAL-1999-002540-01-00, Evaluation 93-001752 and EVAL-2004-001328-01 specifying that a minimum of four inches of seal material in the penetrations will meet the pressure requirements of the Control Room. In addition, CPSES has TE 92-000974 and TE 93-001881 that establish cure times required to satisfactorily maintain the pressure boundary. The designated individual(s), who is readily available onsite, is seal certified. In addition, the seal machine will be in place and ready before breaching the boundary. As a backup to the machine, a sufficient quantity of Symkits (hand pump up tubes of seal material) will be staged for use in the Cable Spreading Room below the Control Room. The material being used to seal the penetrations is Dow Corning Corp. 3-6548 silicon RTV foam. The foam is self adhering and sets up (snaps) in 30 seconds to 2 minutes, depending on temperature and humidity. Per TE 92 - 000974, in fifteen minutes the material has cured enough to provide pressure boundary characteristics. If there are no cables in the penetrations they will be covered with visquen material and taped down from the top side to seal off the breach. Again this material will also be staged prior to any breaches.

Based on history and experience with seals of this size and nature, TXU Power is confident that one qualified person utilizing the seal machine could install the seals within the three hour time, including cure time. The twenty 8 inch by 9 inch blockouts are in a row, 2 per cabinet. It will take approximately five minutes to set the foam in each blockout, with a 15 minute cure time. As soon as one seal is installed, the next penetration will be sealed, etc. After all seals are initially installed, the seals will be inspected and could require additional foam. This would take no more than two minutes per blockout. All twenty seals should be installed within three hours (20 seals times 5 minutes plus 20 seals times 2 minutes equals 140 minutes) and the Control Room boundary would be in place 15 minutes after the last seal was installed based on cure time. In the event the seal machine malfunctioned, two qualified people could manually install the seals utilizing Symkits in the time allotted including cure time. Based on the CPSES Common Control Room design, there is over 100 feet of separation between the cabinets for the blockouts on the outage unit and the operating area of the other unit (at power) in the Control Room. The process of sealing the blockouts would not interfere with the operation of the operating unit.

4.0 TECHNICAL ANALYSIS

The proposed change will modify the Technical Specifications (TS) to accommodate the implementation of future planned modifications beginning with the Unit 2 Turbine Generator Protection System Digital Modification scheduled for the Spring of 2005. Specifically, a new plant specific Condition for an inoperable Control Room boundary is added to the Limiting

Condition for Operation (LCO) Actions for TS 3.7.10. The Condition added is new Condition B "Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening "breach" to the Cable Spreading Room." The associated Required Action B.1 "Restore control room boundary to OPERABLE status" has a Completion Time of 14 days. The acceptability of this change is addressed below in this section.

Consistent with addition of new Condition B, the current Conditions of TS 3.7.10 are re-identified and revised accordingly. These changes include re-identifying current Condition B as new Condition C, and deleting description previously added in License Amendment Number 108 which is no longer effective. These are administrative/reformatting type changes which have no technical significance.

It is important to note that the discussions below are applicable only to breaches in the Control Room boundary that are between the Control Room and the Cable Spreading Room. For planned modifications, the breach locations and magnitude are known prior to entering the LCO for T.S. 3.7.10. The control room habitability General Design Criterion (GDC) 19 aspects of the described change are discussed in the following paragraphs. Toxic gas and smoke are addressed first followed by radiological impacts.

Toxic Gas and Smoke

The location and layout of the Comanche Peak Steam Electric Station (CPSES) is such that the threat of smoke or toxic gas from offsite sources is not credible. Chemicals and combustibles are controlled such that the threat of smoke and toxic gas from onsite sources is negligible. However, if the need for toxic gas or smoke protection arises, the CPSES Control Room ventilation line-up is the isolation mode which does not pressurize the boundary. In the isolation mode, the Control Room Heating, Ventilation and Air-Conditioning (HVAC) system is used to recirculate the air within the envelope. In this mode, the Control Room is not pressurized and the pressure boundary is not critical. For the planned modifications and requested TS change, the boundary breach will be in the floor of the Control Room/ceiling of the Cable Spreading Room. Given that this boundary breach pathway is not on the Control Room exterior that is exposed to outside atmosphere, there are only two ways for smoke or toxic gas to be drawn into the Control Room ventilation and circulated throughout the Control Room volume in the isolation mode: 1) if the location of a toxic gas or smoke source is in the Cable Spreading Room; or 2) if the toxic gas or smoke is discharged into the Cable Spreading Room via the Uncontrolled Access Area Ventilation (the intakes are exterior to the plant). The Cable Spreading Room is in the same fire safe shutdown area as the main Control Room; so, a fire in the Cable Spreading Room is no different than a fire in the Control Room. In this case, when the boundary between the Cable Spreading Room and Control Room is breached, fire protection requirements will cause a continuous fire watch to be implemented in the Cable Spreading Room. If the source is outside the Cable Spreading Room and it becomes necessary, the Uncontrolled Access Area Ventilation supply and exhaust could be secured to eliminate this potential source of smoke or toxic gas. However, as previously stated, onsite sources of chemicals and combustibles are administratively controlled and offsite sources are not credible, so a breach in this location will not significantly

challenge Control Room habitability as it relates to smoke or toxic gas. It is also noted that if for some reason the Control Room becomes uninhabitable due to toxic gas or smoke, the operators would relocate to the remote shutdown panel in the Safeguards Building. Therefore, the time interval over which the boundary integrity in this particular location is lost is not relevant and the requested extension of the Completion Time from 24 hours to 14 days is acceptable from a smoke and toxic gas perspective. However, in the event that a toxic gas or smoke threat becomes apparent, it is prudent to take measures to close the boundary breach with readily available methods.

Radiological Impacts

The primary safety function of the Control Room Emergency Filtration/Pressurization System (CREFS) at CPSES is to limit the amount of radioactive contaminants that infiltrate the Control Room prior to passing through filter banks. The largest source of potential radioactive contaminants is nuclear fuel/reactor core damage followed by a subsequent release to the atmosphere. The other significant source of potential radioactive contaminants is the failure of a radioactive waste system followed by a subsequent release to the atmosphere. At CPSES, control room habitability is evaluated for the following Design Basis events.

Large Break Loss of Coolant Accident
Main Steam Line Break Accident
Steam Generator Tube Rupture Accident
Small Break Loss of Coolant Accident (3" CVCS Line Break Outside Containment)
Rod Ejection Accident
RCP Locked Rotor Accident
Fuel Handling Accident
Gas Decay Tank Rupture Accident
Radioactive Liquid Waste Tank Rupture Accident

Administrative controls will be in place to restore the Control Room boundary to design status rapidly following the onset of any accident. Even though the dose analyses assume a large, instantaneous, ground level release of radioactivity, it is acceptable to account for 1) likelihood of the event, 2) expected delays in the release 3) realistic quantities of radioactivity when assessing the time requirements associated with the restoration of Control Room boundary operability.

The probability of any of the above Design Basis Accidents (DBAs) occurring during the time period when the Control Room boundary is degraded is very low. More specific justification for each individual accident is provided in the following paragraphs.

Large Break Loss of Coolant, Rod Ejection and RCP Locked Rotor Accidents

These accidents are applicable only to the operating unit(s).

Although the design basis Large Break Loss of Coolant Accident (LOCA) is typically the maximum credible accident, the DBAs were not intended to be actual event sequences, but rather, were intended to be surrogates to enable deterministic evaluation of the response of a facility's engineered safety features. These accident analyses were intentionally conservative in order to compensate for known uncertainties in accident progression, fission product transport, and atmospheric dispersion. The potential radioactive release paths for these accidents occur from leakage from the containment atmosphere and exhaust from buildings containing radioactive systems. In addition to these release paths, the Rod Ejection and Locked Rotor events result in a release path through the main steam system (Atmospheric Relief Valves (ARVs)/Main Steam Supply Valves (MSSVs) and Condenser). The releases through the ARVs/MSSVs are addressed below for the Main Steam Line Break and Steam Generator Tube events. The release path through the Condenser is via the condenser offgas system which discharges to the atmosphere through the Primary Plant Ventilation Stack as addressed below in this section.

Based on Regulatory Guide 1.183, the alternate source term based on the post-Three Mile Island (TMI) accident, only the gap activity is assumed to be released in the first 30 minutes (i.e. 0.5 hours). Any radioactivity that is released in containment will be significantly held up and only a small fraction of what is assumed in the radiological analyses will actually be released to the atmosphere. The latest containment leak rate measurement results are tabulated below against the CPSES limits.

Unit	As left Value (sccm)	Limit (sccm)*
1	10,595.79	151,000
2	7422.32	151,000

*The limit of 151,000 sccm is equivalent to 0.6 L_A and the TS limit is 1.0 L_A.

The Control Room pressure boundary is not adjacent to any rooms of the Auxiliary or Safeguards buildings at CPSES which contain containment penetrations or engineered safety feature (ESF) systems which recirculate reactor coolant before, during or after an accident. The Control Room HVAC System, which includes both the CREFS and the Control Room Air Conditioning System (CRACS), is located totally within the Control Room Envelope (i.e., pressure boundary). The Electrical and Control (E&C) Building and Control Room fresh air intakes are West of the primary plant buildings (Containment Buildings, Safeguards Buildings, Auxiliary Building, and Fuel Building). The distance from the Containment to the Control Room air intake is 94 feet, and the air intake is located 56 feet above ground. The distance from the primary plant vent stack (i.e., the ESF leakage release point) to the closest air intake is 138 feet.

The Cable Spreading Rooms, located below the Control Room, are served by the Uncontrolled Access Area Ventilation System described in CPSES Final Safety Analysis Report (FSAR) Section 9.4C.4. The Uncontrolled Access Area Ventilation System supply and exhaust are located in the Office and Service Area Equipment Room (X-151 at Elevation 854' in the E&C Building adjacent to the CREFS and CRACS equipment room). The fresh air intake is located on the West side of the E&C Building.

Any radioactivity that is released through leakage in the Emergency Core Cooling System and Containment Spray paths outside containment will be carried away through the Primary Plant Ventilation where it is filtered at a minimum efficiency of 95% and then discharged into the atmosphere approximately 100 feet East of and 140 feet above the Control Room Ventilation intake ducts. The predominant wind direction at CPSES is from the South. As can be seen with the wind direction frequency distribution at CPSES (FSAR Figure 2.3-10), the predominate winds are at approximately 90 degree angles to the path from the ventilation exhaust to the Control Room intakes. By inspection of the building layout, it is evident that for either of the Primary Plant Ventilation exhausts to be directed towards either of the Control Room intakes, the wind must have an East to West component. Based on FSAR Table 2.3-25, the wind in this region of Texas blows from the easterly direction (Northeast through Southeast) only 26% of the time.

These accidents will not result in signals which will automatically trip Uncontrolled Access Area Ventilation. However, plant communications, indications, and alarms provide the operator with ample warning before radioactive releases could reach the intakes. Therefore, the supply and exhaust fans can be stopped using existing operating procedures well before any radiological hazard from accidents inside containment could reach the intake thus eliminating the path for significant unfiltered air to enter the Cable Spreading Room via the intake on the West side of the E&C Building. Stopping these fans will result in an alternate fresh air intake path to open into the Office and Service Area HVAC equipment room adjacent to the Control Room Envelope to supply the battery room exhaust fans; however, the Class 1E redundant battery room exhaust fans will ensure the Office and Service Area HVAC equipment room is at negative pressure with respect to the Control Room Envelope.

The ventilation supply to each of the two stairwells that connects to the Control Room Envelope is the Uncontrolled Access Area Ventilation supply which would be stopped as described above.

With exception of the Locked Rotor event, these accidents will automatically align the HVAC systems for the Auxiliary and Safeguards buildings and rooms adjacent to the Control Room such that the pressure in these buildings and rooms is negative relative to atmospheric pressure and therefore will also necessarily be at a lower pressure than the Control Room. As for the Locked Rotor event, the pressure in the Auxiliary and Safeguards buildings and rooms is normally negative relative to atmospheric pressure and thus are likely at a lower pressure than the Control Room. Even if the Control Room Ventilation cannot pressurize to 0.125 inches of water gauge there will still be no leakage into the Control Room Envelope from the adjacent buildings and rooms which contain radioactive systems and containment penetrations.

The Control Room boundary is well sealed as demonstrated by the fact that a pressure of 0.125 inches of water gauge can be maintained with far less than 800 cfm of makeup air. Even if the Control Room Ventilation can not pressurize to 0.125 inches of water gauge there will still be no radioactive leakage into the envelope through the exterior walls and the roof. For that leakage to occur, there would have to be a wind loading on the E&C Building which is physically impossible for an Easterly wind because the entire E&C Building is shielded by the primary plant structures. For a positive pressure to be exerted on the exterior control room pressure boundary, the wind must be from the North, South or West. Therefore, the only way for radioactivity to get into the Control Room Envelope is if the exhaust from the primary plant vent stack is drawn through the CREFS fresh air intake. This air will be filtered and recirculated as designed. This path is not expected to introduce any significant amount of radioactivity given the elevation difference.

The above discussion and justification demonstrates that positive pressure is not necessary to prevent significant amounts of unfiltered inleakage into the Control Room Envelope from these design basis accidents. A breach in the boundary will not significantly affect the dose consequences to the operator.

Main Steam Line Break and Steam Generator Tube Rupture accidents

The thermal-hydraulic analyses associated with the Main Steam Line Break Accident and the Steam Generator Tube Rupture accident show that core damage is not expected to result from these events. Therefore, the only potential for Control Room Operator dose will result directly from the activity that exists in the primary and secondary coolant at the onset of the accident. Potential radiological release paths are from the atmospheric relief valves, the main steam and feedwater areas adjacent to the containment buildings and the Primary Plant Ventilation stack exhaust. These release points are essentially the same as for that for LOCA from containment. There would be no release via the Primary Plant Ventilation stack exhaust after the containment and Main Steam Isolation Valves are closed. Therefore, the discussion for LOCA release points above would also apply to these design basis accidents.

The main steam lines outside containment up to the main steam isolation valves are located above the E&C Building roof (Elevation 873'-4"). The Atmospheric Relief Valve (ARV) stacks are located above Elevation 896'-4".

The potential for these two accidents is only applicable to the operating unit(s). The activity in the primary and secondary coolant of both units is very small compared to those assumed in the Design Basis analyses. The ARV release, although not filtered, is emitted vertically by high energy steam. Any particles in this release will be carried high into the air and thus, taken away from the vicinity of the Control Room Ventilation intakes. Similarly, a main steam line break would tend to disperse radioactivity vertically. Similar to LOCA, it would be unlikely for both the radioactive plume from these accidents and a positive pressure due to wind loading on the E&C Building to exist at the same time.

This accident does not automatically trip Uncontrolled Access Area Ventilation off, thus this is a potential path for unfiltered air to enter the Cable Spreading Room via the intake on the West side of the E&C Building. However, the Control Rroom would have notification of any steam line break or tube rupture accident well before significant radioactivity could be transported to the ventilation intakes and could secure Uncontrolled Access Area Ventilation as discussed for LOCA, above.

The above discussion and justification demonstrates that positive pressure is not necessary to prevent significant amounts of unfiltered inleakage into the Control Room Envelope from these design basis accidents. A breach in the boundary will not significantly affect the dose consequences to the operator.

Small Break Loss of Coolant Accident (3" CVCS Line Break Outside Containment)

The thermal-hydraulic analyses associated with this accident shows that core damage is not expected to result from this event. Therefore, the only potential for Control Room Operator dose will result directly from the activity that exists in the primary coolant at the onset of the accident. The potential radiological release path is from the Primary Plant Ventilation stack exhaust which is as described for LOCA above, except the normal exhaust is filtered at a minimum efficiency of 90%.

The potential for this accident is only applicable to the operating unit(s). The activity in the primary coolant of both units is very small compared to those assumed in the Design Basis analyses.

This accident will not automatically align the HVAC systems for the buildings and rooms in the Auxiliary Building adjacent to the Control Room; however, the pressure in these buildings and rooms is normally negative relative to atmospheric pressure. A pressure transient would occur within the primary plant buildings until the event is terminated by operator isolation of letdown. The operator response time to identify and isolate this break would be less than 10 minutes based on the CPSES FSAR Section 3.6B.1.3. The absence of the 0.125 inch positive pressure between the control room and the primary plant would not significantly alter the consequences of this event.

The above discussion and justification demonstrates that positive pressure is not necessary to prevent significant amounts of unfiltered inleakage into the Control Room Envelope from this design basis accident. A breach in the boundary will not significantly affect the dose consequences to the operator.

Fuel Handling Accident

This accident can occur in either the Fuel Building or the Containment and will result in the radiological effluent being drawn into the particular building's HVAC exhaust. The exhaust from these two buildings ultimately exhausts from the Plant Vent Stack. Therefore, the potential

radiological release path is from the Primary Plant Ventilation stack exhaust which is normally filtered at a minimum efficiency of 90%. These release points are essentially the same as for that for LOCA from containment. This accident will not automatically align the HVAC systems for the buildings and rooms in the Auxiliary Building adjacent to the Control Room, however, the pressure in these buildings and rooms is normally negative relative to atmospheric pressure. The potential for this accident is only applicable during fuel handling operations.

This accident does not automatically trip Uncontrolled Access Area Ventilation off, thus this is a potential path for unfiltered air to enter the Cable Spreading Room via the intake on the West side of the Electrical and Controls building. However, the Control Room would have notification of any fuel handling accident as well as alarms from the ventilation exhaust radiation monitors well before significant radioactivity could be transported to the ventilation intakes and could secure Uncontrolled Access Area Ventilation as discussed for LOCA, above.

The above discussion and justification demonstrates that positive pressure is not necessary to prevent significant amounts of unfiltered inleakage into the Control Room Envelope from these design basis accidents. A breach in the boundary will not significantly affect the dose consequences to the operator.

<u>Gas Decay Tank Rupture and Radioactive Liquid Waste Tank Rupture Accidents</u>

These accidents occur in their respective tank rooms in the Auxiliary and Safeguards Buildings. The result of these accidents will be localized contamination as well as airborne activity. The airborne radiological effluent will be drawn into the HVAC exhaust which eventually ends up in the Plant Vent Stack. These release points are essentially the same as for that for LOCA from containment. This accident will not automatically align the HVAC systems for the buildings and rooms in the Auxiliary Building adjacent to the Control Room, however, the pressure in these buildings and rooms is normally negative relative to atmospheric pressure. Therefore, the potential radiological release path is from the Primary Plant Ventilation stack exhaust which is filtered at a minimum efficiency of 90%. The Control Room would have notification of any tank rupture via alarms from the ventilation exhaust radiation monitors well before significant radioactivity could be transported to the ventilation intakes and could secure Uncontrolled Access Area Ventilation as discussed for LOCA, above. Furthermore, the gas decay tank is primarily noble gas which will disperse away when discharged from the stack rather than fall to the Control Room intake. The actual activity in these tanks is well below the activity assumed in the design basis accident.

The above discussion and justification demonstrates that positive pressure is not necessary to prevent significant amounts of unfiltered inleakage into the Control Room Envelope from these design basis accidents. A breach in the boundary will not significantly affect the dose consequences to the operator.

Summary of Accidents

It is shown in the paragraphs above that a breach in the Control Room boundary will not significantly affect the dose consequences to the operator. By applying simple compensatory measures and administrative controls, a breach in the Control Room that provides direct communication to the Cable Spreading Room will not affect the habitability of the Control Room. The administrative action to seal the boundary is strictly to restore the Control Room Envelope to design status and provide a defense in depth compensatory measure. The only other compensatory measure that should be taken is to secure the Uncontrolled Access Area Ventilation supply and exhaust fans at the onset of an accident or if there is a threat of smoke or toxic gas from sources exterior to the plant. The administrative controls are to quickly begin sealing any breach in the boundary at the direction of the Control Room Operator. The resulting seal must be sufficient to restore the ability of one CREFS train to pressurize the boundary to 0.125 inches water gauge at less than or equal to 800 cfm. This can be accomplished with methods as simple as draping heavy duty plastic over the affected area and applying duct tape to seal the boundary. With respect to the breach pathway evaluated above, the administrative action to seal the boundary is strictly to restore the Control Room Envelope to design status and provide a defense in depth compensatory measure; there is no worst-case credible accident and associated required time to complete the boundary seal closure in order to still meet the operator protection objectives. The changes requested in this submittal for TS 3.7.10 do not violate any GDC 19 requirement nor do they affect any radiological dose analysis.

Emergency Procedures and Administrative Controls to Assure GDC-19 Requirements

In addition to the above discussion of the breach pathway and Design Basis Accidents (DBAs), CPSES has administrative controls in place to assure that GDC-19 continues to be met during accident conditions. Emergency procedures are written (EPP-305 "Emergency Exposure Guidelines and Personnel Dosimetry"; EPP-306 "Use of Thyroid Blocking Agents"; EPP-309 "Onsite/In-Plant Radiological Surveys and Offsite Radiological Monitoring") that direct temporary compensatory measures and work in conjunction to protect all CPSES personnel during severe radiological conditions. These procedures, other administrative controls and pre-staged emergency response equipment/supplies provide for the use of potassium iodide and self-contained breathing apparatus to reduce the thyroid dose to the control room operators in the event of a DBA during the time the Control Room boundary is inoperable. Other measures to reduce radiological dose such as monitoring, protective clothing to reduce beta skin dose, special dosimetry, and evacuation of affected areas are available and provided.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

TXU Power has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   This is a revision to the Technical Specifications for the Control Room Emergency/Filtration System which is a mitigation system designed to minimize in leakage and to filter the control room atmosphere to protect the operator following accidents previously analyzed. An important part of the system is the Control Room boundary. The Control Room boundary integrity is not an initiator or precursor to any accident previously evaluated. Therefore, the probability of any accident previously evaluated is not increased. The analysis of the consequences of analyzed accident scenarios under the control room breach conditions along with the compensatory actions for restoration of control room integrity demonstrate that the consequences of any accident previously evaluated are not increased. Therefore, it is concluded that this change does not significantly increase the probability of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change will not impact the accident analysis. The change will not alter the requirements of the Control Room Emergency/Filtration System or its function during accident conditions. The administrative controls and compensatory actions will ensure the control room emergency/filtration system will perform its safety function. No new or different accidents result from performing the new actions and surveillance required. The change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The change does not alter assumptions made in the safety analysis. The proposed change is consistent with the safety analysis assumptions and current plant operating practice. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

   Response: No

   The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by these changes. The

proposed change will not result in plant operation in a configuration outside the design basis for an unacceptable period of time without compensatory actions and administrative controls. The proposed change does not affect systems that respond to safely shutdown the plant and to maintain the plant in a safe shutdown condition. Therefore the proposed change does not involve a reduction in a margin of safety.

Based on the above evaluations, TXU Power concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10CFR50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The proposed change to the CPSES Technical Specifications will ensure that the requirements contained in 10 CFR 50, Appendix A, GDC 19 are maintained, as described above in sections 1, 3 and 4.

In conclusion, based on the considerations discussed above, (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 approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

TXU Power has determined, by review of the above documentation, that the proposed change would not change a requirement with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would not change an inspection or surveillance requirement. TXU Power has evaluated the proposed changes and has determined that the change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0. REFERENCES

1. License Amendment Number 108 for CPSES Units 1 and 2 (Facility Operating Licenses No. NPF-87 and NPF-89) dated October 2, 2003.

2. Letter from D. R. Woodlan to the NRC Document Control Desk, "Strategic Teaming and Resource Sharing (STARS) Demonstration of the Component Test Method for Determining Control Room In-leakage" (STARS-02008) June 7, 2002

3. TXU Power letter from M. R. Blevins to the NRC Document Control Desk, "Response to Request For Information On Generic Letter 2003-01, "Control Room Habitability" (TXX-03158) dated December 4, 2003

4. 10 CFR 50, Appendix A, General Design Criterion 19 "Control Room"

8.0. PRECEDENTS

1. License Amendment Number 108 for CPSES Units 1 and 2 (Facility Operating Licenses No. NPF-87 and NPF-89) dated October 2, 2003.

ATTACHMENT 2 TO TXX-04102

MARKED-UP TECHNICAL SPECIFICATION PAGES

PAGES 3.7-23
3.7-24
3.7-25

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

LCO 3.7.10 Two CREFS trains shall be OPERABLE

---NOTE---
The Control Room boundary may be opened intermittently under administrative controls.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable for reasons other than Condition B.	A.1 Restore CREFS train to OPERABLE status.	7 days
B. Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening (breach) to the Cable Spreading Room.	B.1 Restore control room boundary to OPERABLE status.	14 days
BC. Two CREFS Trains inoperable due to inoperable Control Room boundary in MODES 1, 2, 3, and 4 for reasons other than Condition B.	BC.1 Restore control room boundary to OPERABLE status.	24 hours OR ~~14 days for a one time implementation for each unit of the Turbine Control Digital Modification to be completed during 2RF07 and 1RF10~~

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time of Condition B not met in MODE 5 or 6, or during movement of irradiated fuel assemblies. OR E. Two CREFS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies for reasons other than Condition B~~except for up to 14 days for a one time implementation for each unit of the Turbine Control Digital Modification to be completed during 2RF07 and 1RF10~~.	ED.1 AND ED.2	Suspend CORE ALTERATIONS. Suspend movement of irradiated fuel assemblies.	Immediately Immediately
CE. Required Action and associated Completion Time of Condition A, B or C not met in MODE 1, 2, 3, or 4.	CE.1 AND CE.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
F. Two CREFS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B or C.	F.1	Enter LCO 3.0.3.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~DG~~.Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	~~DG~~.1 Place OPERABLE CREFS train in emergency recirculation mode.	Immediately
	OR	
	~~DG~~.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	~~DG~~.2.2 Suspend movement of irraidated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREFS train's Emergency Pressurization Unit for × 10 continuous hours with the heaters operating and Emergency Filtration Unit × 15 minutes.	31 days
SR 3.7.10.2	Perform required CREFS testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3	Verify each CREFS train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.10.4	Verify one CREFS train can maintain a positive pressure of × 0.125 inches water gauge, relative to the adjacent areas during the emergency recirculation mode of operation at a makeup flow rate of/ 800 cfm.	18 months on a STAGGERED TEST BASIS

ATTACHMENT 3 TO TXX-04102

MARKED-UP TECHNICAL SPECIFICATION BASES B.3.7.10

(FOR INFORMATION ONLY)

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

BASES

BACKGROUND

The CREFS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity.

The CREFS consists of two independent, redundant trains that pressurize, recirculate and filter the control room air. Each train contains two filtration units: an emergency pressurization unit and an emergency filtration unit. Each filtration unit consists of a prefilter, high efficiency particulate air (HEPA) filters, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system, as well as demisters to remove water droplets from the air stream. A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case of failure of the main HEPA filter bank. In addition, the emergency pressurization units contain a demister and a heater to maintain the humidity of the incoming air below 70%.

The CREFS is an emergency system wholly contained within the Control Room Air Conditioning System, parts of which operate during normal unit operations. Upon receipt of the actuating signal(s), normal air supply fans to the control room are isolated, and the stream of ventilation air is provided by the emergency pressurization units and then recirculated through the emergency filtration units. The demisters and heaters in the emergency pressurization units remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train's emergency pressurization unit for at least 10 hours per month, with the heaters on, reduces moisture buildup on the HEPA filters and adsorbers. Both the demister and heater are important to the effectiveness of the charcoal adsorbers.

(continued)

BASES (continued)

BACKGROUND (continued)

Actuation of the CREFS by a Safety Injection, Loss of Offsite Power or Intake Vent High Radiation signal places the system in the emergency recirculation mode. Actuation of the system to the emergency recirculation mode of operation, closes the unfiltered outside air supply path and the system exhaust dampers, stops normal supply and exhaust fans, and aligns the system for recirculation of the control room air through the redundant trains of HEPA and the charcoal filters. The emergency recirculation mode also initiates pressurization and filtered ventilation of the air supply to the control room.

Outside air is filtered, and added to the air being recirculated from the control room. Pressurization of the control room prevents infiltration of unfiltered air from the surrounding areas of the plant.

The air entering the control room is continuously monitored by radiation detectors. One detector output above the setpoint will cause actuation of the emergency recirculation mode.

A single train will pressurize the control room to about 0.125 inches water gauge. The CREFS operation in maintaining the control room habitable is discussed in the FSAR, Sections 2.2, 6.4, 6.5, 7.3, and 9.4 (Ref. 1).

The CPSES CREFS design is zone isolation, with filtered recirculation air, and with a positive pressure. This design maximizes the iodine protection factors and minimizes the dose from iodine. The total unfiltered infiltration rate in the control room is conservatively assumed to be 12 cfm, including 10 cfm due to ingress/egress and 2 cfm leakage from the ductwork passing through the control room pressure boundary. Filtered inleakage through the closed dampers due to the pressure differential is also included. The damper leakage air will be filtered by the recirculation filtration units.

Because the control room door ingress/egress is to a stairwell which is equivalent to a two-door vestibule, backflow will not occur with the CPSES CREFS design and the 10 cfm is not applicable per SRP 6.4. The ductwork has all welded joints which were leak tested prior to operation. Therefore, the assumed unfiltered inleakage from adjacent areas is conservative with respect to the SRP review criteria.

The Control Room Habitability is maintained by limiting the inleakage of potentially contaminated air into the Control Room Envelope. The potential leakage paths for the Control Room Envelope include the control room enclosure (e.g., walls, penetrations, floors, ceilings, joints, etc.), and other potential paths such as pressurized ductwork from other HVAC systems, pressurized air systems (e.g., instrument air) or isolated HVAC intakes.

The periodic surveillance pressurization tests verify the integrity of the control room enclosure with respect to potentially contaminated adjacent

(continued)

BASES (continued)

BACKGROUND (continued)

areas in accordance with SRP 6.4. It does not verify filtered inleakage internal to the filtration units and ductwork nor does it verify unfiltered inleakage from internal pressurized sources (e.g. instrument air). These sources of inleakage are addressed separately from TS surveillances.

Redundant supply and recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. The CREFS is designed in accordance with Seismic Category I requirements.

The CREFS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose or its equivalent to any part of the body.

APPLICABLE SAFETY ANALYSES

The CREFS components are arranged in redundant, safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access. The CREFS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design basis loss of coolant accident, fission product release presented in the FSAR, Chapter 15 (Ref. 2).

The Control Room post accident mode of operation is the emergency recirculation mode. In the emergency recirculation mode, both the Emergency Filtration and Emergency Pressurization Units are functioning and they operate in series. In other words, all air which passes through the Emergency Pressurization Unit in each train will pass through the corresponding Emergency Filtration Unit before it is released into the Control Room. The safety analysis which confirmed the CREFS design took credit for no more than 99% filter efficiency of the Emergency Filtration Units only. If the Emergency Pressurization Units do not meet the surveillance requirement criteria for filtration the safety analyses and the associated acceptance criteria continue to be met by the Emergency Filtration Units. Thus, the operators will continue to be provided the protection identified in the licensing bases for CPSES.

The analysis of toxic gas releases demonstrates that the toxicity limits are not exceeded in the control room following a toxic chemical release, as presented in Reference 1. Isolation of the control room is not automatic for a toxic chemical release event.

The worst case single active failure of a component of the CREFS, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

The CREFS satisfies Criterion 3 of 10CFR50.36(c)(2)(ii).

(continued)

BASES (continued)

LCO

Two independent and redundant CREFS trains are required to be OPERABLE to ensure that at least one is available assuming a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operator in the event of a large radioactive release.

The CREFS is considered OPERABLE when the individual components necessary to limit operator exposure are OPERABLE in both trains. A CREFS train is OPERABLE when both filtration units (i.e., the emergency pressurization unit (EPU) and emergency filtration unit (EFU)) are OPERABLE. A filtration unit is OPERABLE when the associated:

a. Fan is OPERABLE;

b. HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions (the EFU must meet Ventilation Filter Testing Program (VFTP) requirements; the EPU must meet VFTP requirements, except for filtration requirements); and

c. Heater (EPU only), demister (EPU only), ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

The LCO is modified by a Note allowing the Control Room boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when needed for control room isolation.

(continued)

BASES

APPLICABILITY

In MODES 1, 2, 3, 4, 5, 6, and during movement of irradiated fuel assemblies CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

A.1

When one CREFS train is inoperable for reasons other than Condition B, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREFS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREFS train could result in loss of CREFS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

B.1

If the control room boundary is inoperable due to an opening (breach) to the Cable Spreading Room, the CREFS trains can not establish or maintain the required pressure and action must be taken to restore an OPERABLE control room boundary within 14 days. Implementation of Action B.1 assumes that an evaluation has been performed to identify and implement administrative controls and/or compensatory measures to assure that the operator protection requirements of GDC 19 of Appendix A to 10 CFR Part 50 will continue to be met. The operator protection requirements are verified to be met by limiting dose from radioactive gas, and exposure to toxic gas and smoke, to levels that support control room habitability, crediting, if necessary, the administrative controls and compensatory measures implemented. A technical engineering analysis has been performed which provides verification that a breach in the control room boundary to the Cable Spreading Room will not significantly affect existing accident analyses or control room habitability requirements. Specific breach activities that do not utilize an existing evaluation should reference and confirm applicability to this analysis and document the breach circumstances (e.g., reason for breach, size, estimated time for closure, etc.).

(continued)

BASES

ACTIONS

B.1 (continued)

As a minimum compensatory measure while in the condition, provisions should be in place to secure the Uncontrolled Access Area Ventilation supply and exhaust fans at the onset of an accident or to implement an alternative measure. Other administrative controls or compensatory measures may be implemented on a case basis as deemed necessary. The administrative controls and/or compensatory measures should be preplanned for implementation upon entry into the condition.

If a control room boundary opening (breach) to the Cable Spreading Room is discovered without the necessary administrative controls and/or compensatory measures in place, Action C.1 (for MODE 1, 2, 3, and 4) or Actions D.1 and D.2 (for MODE 5, 6, or during movement of irradiated fuel assemblies) should be followed until the appropriate evaluation has been performed and the necessary administrative controls and/or compensatory measures are in place. At that time, Condition B may be applied from time of discovery of the breach. Operational procedures will be used to identify the necessary administrative controls and/or compensatory measures and to implement entry into LCO Action B.1.

For a breach in the Control Room boundary to the Cable Spreading Room, the 14 day Completion Time is a reasonable time to implement any planned modifications, or to diagnose, plan and repair most problems that may be involved with the breach.

CB.1

For reasons other than Condition B, if the control room boundary is inoperable in MODES 1, 2, 3, and 4 such that the CREFS trains can not establish or maintain the required pressure, action must be taken to restore an OPERABLE control room boundary within 24-hours. The 24 hour completion time is reasonable based on the low probability of a DBA occurring during this time period, and the availability of CREFs to provide a filtered environment (albeit with potential control room inleakage).

~~A temporary Completion Time is connected to the Completion Time requirements of 24 hours. The temporary Completion Time is 14 days and applies to the implementation of the Turbine Control Digital Modification for each unit during 2RF07 and 1RF10.~~

(continued)

BASES

ACTIONS (continued)

~~E~~C.1 and ~~E~~C.2

In MODE 1, 2, 3, or 4, if the inoperable CREFS train or control room boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

~~G~~D.1, G~~D~~.2.1, and ~~G~~D.2.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, if the inoperable CREFS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to immediately place the OPERABLE CREFS train in the emergency mode. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure would be readily detected.

An alternative to Required Action ~~G~~D.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position.

~~D~~E.1 and ~~D~~E.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, with either the Required Action and associated Completion Time of Condition B not met or two CREFS trains inoperable for reasons other than Condition B ~~except for up to 14 days for a one time implementation for each unit of the Turbine Control Digital Modification to be completed during 2RF07 and 1RE10~~, action must be taken immediately to suspend activities that could result in a release of radioactivity that might enter the control room. This places the unit in a condition that minimizes accident risk. This does not preclude the movement of fuel to a safe position.

(continued)

BASES

ACTIONS (continued)

F.1

If both CREFS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than an inoperable control room boundary (i.e., Condition B or C), the CREFS may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, each train once every month provides an adequate check of this system. Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. Filtration units with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Filtration units without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

The VFTP filtration testing requirements of Sections 5.5.11a, b, and c are not required for an Emergency Pressurization Unit when being testing (1) during a periodic test (e.g., 18 months or after 720 hours of operation), (2) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (3) following painting, fire, or chemical release for the corresponding CREFS train to be OPERABLE.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.10.3

This SR verifies that each CREFS train starts and operates on an actual or simulated Safety Injection, Loss-of-Offsite Power, or Intake Vent-High Radiation actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3). Each actuation signal must be verified (overlapping testing is acceptable).

SR 3.7.10.4

This SR verifies the capability of the CREFS to pressurize the control room envelope. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify this function of the CREFS. During the emergency recirculation mode of operation, the CREFS is designed to pressurize the control room $\geq$ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to minimize unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one train at a makeup flow rate of $\leq$ 800 cfm. The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

1. FSAR, Sections 2.2, 6.4, 6.5, 7.3, and 9.4.
2. FSAR, Chapter 15.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.

ATTACHMENT 4 TO TXX-04102

RETYPED TECHNICAL SPECIFICATION PAGES

PAGES 3.7-23
3.7-24
3.7-25

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

LCO 3.7.10 Two CREFS trains shall be OPERABLE

---NOTE---
The Control Room boundary may be opened intermittently under administrative controls.

APPLICABILITY: MODES 1, 2, 3, 4, 5, and 6,
During movement of irradiated fuel assemblies

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One CREFS train inoperable for reasons other than Condition B.	A.1	Restore CREFS train to OPERABLE status.	7 days
B. Two CREFS trains inoperable due to inoperable Control Room boundary involving an opening (breach) to the Cable Spreading Room.	B.1	Restore control room boundary to OPERABLE status.	14 days
C. Two CREFS Trains inoperable due to inoperable Control Room boundary in MODES 1, 2, 3, and 4 for reasons other than Condition B.	C.1	Restore control room boundary to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time of Condition B not met in MODE 5 or 6, or during movement of irradiated fuel assemblies. OR Two CREFS trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies for reasons other than Condition B.	D.1 AND D.2	Suspend CORE ALTERATIONS. Suspend movement of irradiated fuel assemblies.	Immediately Immediately
E. Required Action and associated Completion Time of Condition A, B or C not met in MODE 1, 2, 3, or 4.	E.1 AND E.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
F. Two CREFS trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B or C.	F.1	Enter LCO 3.0.3.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
G. Required Action and associated Completion Time of Condition A not met in MODE 5 or 6, or during movement of irradiated fuel assemblies.	G.1	Place OPERABLE CREFS train in emergency recirculation mode.	Immediately
	OR		
	G.2.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	G.2.2	Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CREFS train's Emergency Pressurization Unit for × 10 continuous hours with the heaters operating and Emergency Filtration Unit × 15 minutes.	31 days
SR 3.7.10.2	Perform required CREFS testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3	Verify each CREFS train actuates on an actual or simulated actuation signal.	18 months
SR 3.7.10.4	Verify one CREFS train can maintain a positive pressure of × 0.125 inches water gauge, relative to the adjacent areas during the emergency recirculation mode of operation at a makeup flow rate of/ 800 cfm.	18 months on a STAGGERED TEST BASIS

ATTACHMENT 5 TO TXX-04102

RETYPED TECHNICAL SPECIFICATION BASES B.3.7.10

(FOR INFORMATION ONLY)

B 3.7 PLANT SYSTEMS

B 3.7.10 Control Room Emergency Filtration/Pressurization System (CREFS)

BASES

BACKGROUND

The CREFS provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity.

The CREFS consists of two independent, redundant trains that pressurize, recirculate and filter the control room air. Each train contains two filtration units: an emergency pressurization unit and an emergency filtration unit. Each filtration unit consists of a prefilter, high efficiency particulate air (HEPA) filters, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. Ductwork, valves or dampers, and instrumentation also form part of the system, as well as demisters to remove water droplets from the air stream. A second bank of HEPA filters follows the adsorber section to collect carbon fines and provide backup in case of failure of the main HEPA filter bank. In addition, the emergency pressurization units contain a demister and a heater to maintain the humidity of the incoming air below 70%.

The CREFS is an emergency system wholly contained within the Control Room Air Conditioning System, parts of which operate during normal unit operations. Upon receipt of the actuating signal(s), normal air supply fans to the control room are isolated, and the stream of ventilation air is provided by the emergency pressurization units and then recirculated through the emergency filtration units. The demisters and heaters in the emergency pressurization units remove any large particles in the air, and any entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. Continuous operation of each train's emergency pressurization unit for at least 10 hours per month, with the heaters on, reduces moisture buildup on the HEPA filters and adsorbers. Both the demister and heater are important to the effectiveness of the charcoal adsorbers.

(continued)

BASES (continued)

BACKGROUND (continued)

Actuation of the CREFS by a Safety Injection, Loss of Offsite Power or Intake Vent High Radiation signal places the system in the emergency recirculation mode. Actuation of the system to the emergency recirculation mode of operation, closes the unfiltered outside air supply path and the system exhaust dampers, stops normal supply and exhaust fans, and aligns the system for recirculation of the control room air through the redundant trains of HEPA and the charcoal filters. The emergency recirculation mode also initiates pressurization and filtered ventilation of the air supply to the control room.

Outside air is filtered, and added to the air being recirculated from the control room. Pressurization of the control room prevents infiltration of unfiltered air from the surrounding areas of the plant.

The air entering the control room is continuously monitored by radiation detectors. One detector output above the setpoint will cause actuation of the emergency recirculation mode.

A single train will pressurize the control room to about 0.125 inches water gauge. The CREFS operation in maintaining the control room habitable is discussed in the FSAR, Sections 2.2, 6.4, 6.5, 7.3, and 9.4 (Ref. 1).

The CPSES CREFS design is zone isolation, with filtered recirculation air, and with a positive pressure. This design maximizes the iodine protection factors and minimizes the dose from iodine. The total unfiltered infiltration rate in the control room is conservatively assumed to be 12 cfm, including 10 cfm due to ingress/egress and 2 cfm leakage from the ductwork passing through the control room pressure boundary. Filtered inleakage through the closed dampers due to the pressure differential is also included. The damper leakage air will be filtered by the recirculation filtration units.

Because the control room door ingress/egress is to a stairwell which is equivalent to a two-door vestibule, backflow will not occur with the CPSES CREFS design and the 10 cfm is not applicable per SRP 6.4. The ductwork has all welded joints which were leak tested prior to operation. Therefore, the assumed unfiltered inleakage from adjacent areas is conservative with respect to the SRP review criteria.

The Control Room Habitability is maintained by limiting the inleakage of potentially contaminated air into the Control Room Envelope. The potential leakage paths for the Control Room Envelope include the control room enclosure (e.g., walls, penetrations, floors, ceilings, joints, etc.), and other potential paths such as pressurized ductwork from other HVAC systems, pressurized air systems (e.g., instrument air) or isolated HVAC intakes.

The periodic surveillance pressurization tests verify the integrity of the control room enclosure with respect to potentially contaminated adjacent

(continued)

BASES (continued)

BACKGROUND (continued)

areas in accordance with SRP 6.4. It does not verify filtered inleakage internal to the filtration units and ductwork nor does it verify unfiltered inleakage from internal pressurized sources (e.g. instrument air). These sources of inleakage are addressed separately from TS surveillances.

Redundant supply and recirculation trains provide the required filtration should an excessive pressure drop develop across the other filter train. The CREFS is designed in accordance with Seismic Category I requirements.

The CREFS is designed to maintain the control room environment for 30 days of continuous occupancy after a Design Basis Accident (DBA) without exceeding a 5 rem whole body dose or its equivalent to any part of the body.

APPLICABLE SAFETY ANALYSES

The CREFS components are arranged in redundant, safety related ventilation trains. The location of components and ducting within the control room envelope ensures an adequate supply of filtered air to all areas requiring access. The CREFS provides airborne radiological protection for the control room operators, as demonstrated by the control room accident dose analyses for the most limiting design basis loss of coolant accident, fission product release presented in the FSAR, Chapter 15 (Ref. 2).

The Control Room post accident mode of operation is the emergency recirculation mode. In the emergency recirculation mode, both the Emergency Filtration and Emergency Pressurization Units are functioning and they operate in series. In other words, all air which passes through the Emergency Pressurization Unit in each train will pass through the corresponding Emergency Filtration Unit before it is released into the Control Room. The safety analysis which confirmed the CREFS design took credit for no more than 99% filter efficiency of the Emergency Filtration Units only. If the Emergency Pressurization Units do not meet the surveillance requirement criteria for filtration the safety analyses and the associated acceptance criteria continue to be met by the Emergency Filtration Units. Thus, the operators will continue to be provided the protection identified in the licensing bases for CPSES.

The analysis of toxic gas releases demonstrates that the toxicity limits are not exceeded in the control room following a toxic chemical release, as presented in Reference 1. Isolation of the control room is not automatic for a toxic chemical release event.

The worst case single active failure of a component of the CREFS, assuming a loss of offsite power, does not impair the ability of the system to perform its design function.

The CREFS satisfies Criterion 3 of 10CFR50.36(c)(2)(ii).

(continued)

BASES (continued)

LCO

Two independent and redundant CREFS trains are required to be OPERABLE to ensure that at least one is available assuming a single failure disables the other train. Total system failure could result in exceeding a dose of 5 rem to the control room operator in the event of a large radioactive release.

The CREFS is considered OPERABLE when the individual components necessary to limit operator exposure are OPERABLE in both trains. A CREFS train is OPERABLE when both filtration units (i.e., the emergency pressurization unit (EPU) and emergency filtration unit (EFU)) are OPERABLE. A filtration unit is OPERABLE when the associated:

a. Fan is OPERABLE;

b. HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions (the EFU must meet Ventilation Filter Testing Program (VFTP) requirements; the EPU must meet VFTP requirements, except for filtration requirements); and

c. Heater (EPU only), demister (EPU only), ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

The LCO is modified by a Note allowing the Control Room boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when needed for control room isolation.

(continued)

BASES

APPLICABILITY

In MODES 1, 2, 3, 4, 5, 6, and during movement of irradiated fuel assemblies CREFS must be OPERABLE to control operator exposure during and following a DBA.

During movement of irradiated fuel assemblies the CREFS must be OPERABLE to cope with the release from a fuel handling accident.

ACTIONS

A.1

When one CREFS train is inoperable for reasons other than Condition B, action must be taken to restore OPERABLE status within 7 days. In this Condition, the remaining OPERABLE CREFS train is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE CREFS train could result in loss of CREFS function. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

B.1

If the control room boundary is inoperable due to an opening (breach) to the Cable Spreading Room, the CREFS trains can not establish or maintain the required pressure and action must be taken to restore an OPERABLE control room boundary within 14 days. Implementation of Action B.1 assumes that an evaluation has been performed to identify and implement administrative controls and/or compensatory measures to assure that the operator protection requirements of GDC 19 of Appendix A to 10 CFR Part 50 will continue to be met. The operator protection requirements are verified to be met by limiting dose from radioactive gas, and exposure to toxic gas and smoke, to levels that support control room habitability, crediting, if necessary, the administrative controls and compensatory measures implemented. A technical engineering analysis has been performed which provides verification that a breach in the control room boundary to the Cable Spreading Room will not significantly affect existing accident analyses or control room habitability requirements. Specific breach activities that do not utilize an existing evaluation should reference and confirm applicability to this analysis and document the breach circumstances (e.g., reason for breach, size, estimated time for closure, etc.).

(continued)

BASES

ACTIONS

B.1 (continued)

As a minimum compensatory measure while in the condition, provisions should be in place to secure the Uncontrolled Access Area Ventilation supply and exhaust fans at the onset of an accident or to implement an alternative measure. Other administrative controls or compensatory measures may be implemented on a case basis as deemed necessary. The administrative controls and/or compensatory measures should be preplanned for implementation upon entry into the condition.

If a control room boundary opening (breach) to the Cable Spreading Room is discovered without the necessary administrative controls and/or compensatory measures in place, Action C.1 (for MODE 1,2,3 and 4) or Actions D.1 and D.2 (for MODE 5,6 or during movement of irradiated fuel assemblies) should be followed until the appropriate evaluation has been performed and the necessary administrative controls and/or compensatory measures are in place. At that time, Condition B may be applied from time of discovery of the breach. Operational procedures will be used to identify the necessary administrative controls and/or compensatory measures and to implement entry into LCO Action B.1.

For a breach in the Control Room boundary to the Cable Spreading Room, the 14 day Completion Time is a reasonable time to implement any planned modifications, or to diagnose, plan and repair most problems that may be involved with the breach.

C.1

For reasons other than Condition B, if the control room boundary is inoperable in MODES 1, 2, 3, and 4 such that the CREFS trains can not establish or maintain the required pressure, action must be taken to restore an OPERABLE control room boundary within 24-hours. The 24 hour completion time is reasonable based on the low probability of a DBA occurring during this time period, and the availability of CREFs to provide a filtered environment (albeit with potential control room inleakage).

(continued)

BASES

ACTIONS (continued)

D.1 and D.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, with either the Required Action and associated Completion Time of Condition B not met or two CREFS trains inoperable for reasons other than Condition B, action must be taken immediately to suspend activities that could result in a release of radioactivity that might enter the control room. This places the unit in a condition that minimizes accident risk. This does not preclude the movement of fuel to a safe position.

E.1 and E.2

In MODE 1, 2, 3, or 4, if the inoperable CREFS train or control room boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

F.1

If both CREFS trains are inoperable in MODE 1, 2, 3, or 4, for reasons other than an inoperable control room boundary (i.e., Condition B or C), the CREFS may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

G.1, G.2.1, and G.2.2

In MODE 5 or 6, or during movement of irradiated fuel assemblies, if the inoperable CREFS train cannot be restored to OPERABLE status within the required Completion Time, action must be taken to immediately place the OPERABLE CREFS train in the emergency mode. This action ensures that the remaining train is OPERABLE, that no failures preventing automatic actuation will occur, and that any active failure would be readily detected.

An alternative to Required Action G.1 is to immediately suspend activities that could result in a release of radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, each train once every month provides an adequate check of this system. Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. Filtration units with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Filtration units without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

The VFTP filtration testing requirements of Sections 5.5.11a, b, and c are not required for an Emergency Pressurization Unit when being testing (1) during a periodic test (e.g., 18 months or after 720 hours of operation), (2) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (3) following painting, fire, or chemical release for the corresponding CREFS train to be OPERABLE.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.10.3

This SR verifies that each CREFS train starts and operates on an actual or simulated Safety Injection, Loss-of-Offsite Power, or Intake Vent-High Radiation actuation signal. The Frequency of 18 months is specified in Regulatory Guide 1.52 (Ref. 3). Each actuation signal must be verified (overlapping testing is acceptable).

SR 3.7.10.4

This SR verifies the capability of the CREFS to pressurize the control room envelope. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify this function of the CREFS. During the emergency recirculation mode of operation, the CREFS is designed to pressurize the control room $\geq$ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to minimize unfiltered inleakage. The CREFS is designed to maintain this positive pressure with one train at a makeup flow rate of $\leq$ 800 cfm. The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

1. FSAR, Sections 2.2, 6.4, 6.5, 7.3, and 9.4.
2. FSAR, Chapter 15.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.